

GLASS-TO-METAL SEAL

HERMETIC CONNECTORS

MILITARY QPL AND COMMERCIAL CONNECTORS FOR HARSH ENVIRONMENT AIR-TIGHT-SEAL APPLICATIONS

APRIL 2013

MISSION CRITICAL HIGH PRESSURE

HERMETICS

Resolve gas, moisture, and particle ingress problems with advanced performance glass-sealed hermetic connectors—the world's largest selection and best availability.



Features

- **DSCC qualified Mil-DTL-38999 Series I, II, III and IV hermetics in both pin and socket configurations plus QPL MIL-DTL-24308 QPL D-sub miniatures**
- **MIL-DTL-24308 QPL D-sub miniature hermetics**
- **Available sealing (helium leak rate) from <1X10^{-7} cc/sec to 1X10^{-10}**
- **No material breakdown or aging over time**
- **Matched and compression seal glass-to-metal technologies**
- **Pressure resistance to 32,000+ PSI**
- **Stainless steel, titanium, Kovar® and Inconel® shell material options**

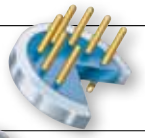
GLASS-SEALED Hermetic CONNECTORS

Glenair®

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MIL-QPL and Commercial Glass-Sealed Hermetic Connectors

Introduction to Hermetic Connectors



MIL-DTL-38999 QPL and Glenair Commercial Hermetic Connectors



Series 80 Mighty Mouse Hermetic Connectors



MIL-DTL-26482 Series I and II Type Hermetic Connectors



MIL-DTL-83723 Series III Type Hermetic Connectors



MIL-DTL-26500 Type Hermetic Receptacle Connectors



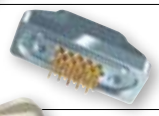
MIL-DTL-5015 Type Hermetic Connectors



Series 22 Geo-Marine® Hermetic Connectors



MIL-DTL-24308 QPL D-Subminiature Hermetic Connectors



MIL-DTL-83513 Type Micro-D Hermetic Connectors



Series 79 Micro-Crimp Hermetic Connectors



Series 970 PowerTrip™ Hermetic Connectors



Special Hermetic Connectors



Part Number Index

Dimensions are subject to change without notice

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U.S. CAGE Code 06324

Printed in U.S.A.

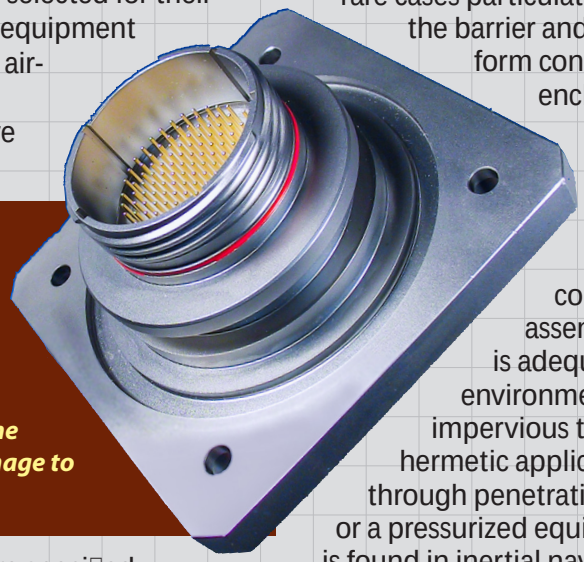
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Glenair In-House Hermetic Solutions

Hermetic connectors are designed for use in harsh application environments. Sensitive photographic, sensor and surveillance equipment mounted in the tactical Unmanned Aerial Vehicle for example, must be able to operate in severe weather conditions, at high altitudes, under extremes of atmospheric pressure and in rapidly changing temperature gradients. Hermetic connector devices interconnecting the vacuum sealed black box equipment are selected for their ability to protect the controlled equipment environment by maintaining an air-tight seal between severe flight conditions and aircraft's sensitive payload.



Glenair typically specifies stainless steel, titanium or Kovar® for its hermetic products to provide an effective barrier against gas ingress and corrosion caused by dew point condensation. The hermetic sealing prevents damage to sensitive electronic systems.

Hermetic connectors are specified for applications as divergent as submarines and orbiting satellites. They are deployed to resist moisture ingress in underground applications and to withstand pressure differentials in vacuum chambers, laboratory equipment and commercial and military aircraft. Hermetic connectors, such as the MIL-DTL-38999 Series I, II, III and IV supplied by Glenair, are principally designed for use in military aerospace—in fact, the requirement for connector hermeticity was originally driven by military electronic applications. But the products are equally at home in commercial applications such as oil-patch logging equipment or medical devices.

Hermeticity is generally defined as the state or condition of being air or gas tight. In interconnect applications, hermetic refers to packaging technology designed to prevent gasses from passing through pressure barriers via the connector. The reason this is important is to prevent any moisture in the leaked gas from condensing inside the pressurized enclosure. The point at which moisture will condense is called the "dew point"—or the precise moment when humidity, pressure, and temperature allows condensation to form.

When an electric current must pass through a high-pressure differential barrier, the potential exists for gases, moisture, and in some rare cases particulate matter, to also penetrate the barrier and, as described above, to form condensation in the equipment enclosure. In the receptacle cabling on the pressurized side of the barrier this may result in dielectric breakdown, corrosion, and loss of insulation resistance between conductors (a properly built plug assembly on the non-vacuum side is adequately sealed with conventional environmental protections and so is impervious to moisture ingress). The classic hermetic application is a receptacle feed-through penetrating a pressurized bulkhead, or a pressurized equipment housing—such as is found in inertial navigation units in aircraft. The introduction of moisture-laden air into such an enclosure may be enough to produce false readings and other malfunctions in the device. The ultimate purpose of hermetic sealing then is not merely to "avert the ingress of air or gas into pressurized environments to prevent corrosion resulting from dew point condensation," but more precisely to insure malfunctions do not occur in sensitive electronic systems due to said ingress. Hermetic connectors must perform their magic at extremely high pressure differentials, often as high as 20,000 psi, in order to prevent fluids and high pressure in one area from impacting normal

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Introduction to Glenair Hermetic Connector Products



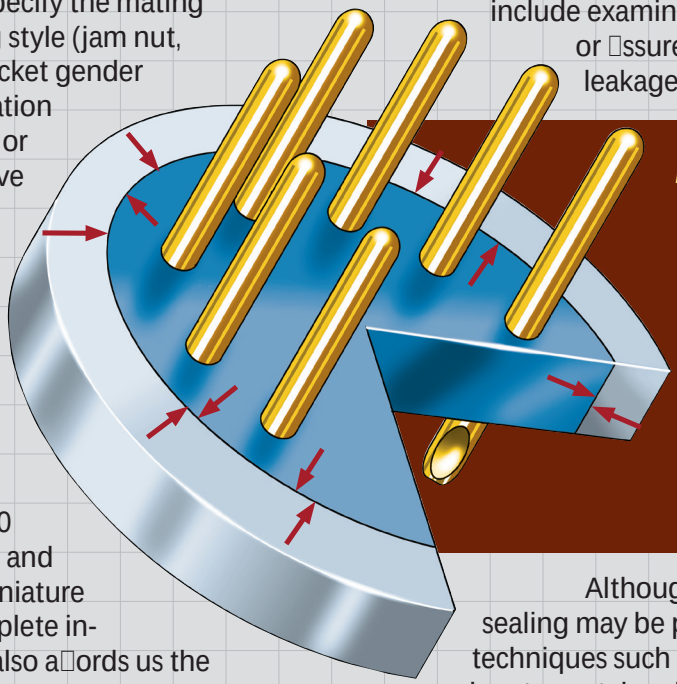
The connectors enter the furnace on a conveyor belt and a gas-tight hermetic seal is formed around all contacts, and between the glass seal and the connector shell, when the vitreous glass is melted in the furnace and then cooled under controlled conditions.

environmental conditions and pressures in another. Hermetic customers may specify the mating connector series, mounting style (jam nut, weld mount, etc.), pin or socket gender and layout, contact termination type (solder cup, □at eyelet or PCB termination), conductive or non-conductive □nish, polarization and so on. Glenair customers may also choose from a broad range of contact densities and package sizes, including standard-density MIL-DTL-38999 Series I, II, III and IV, our .76 in. contact spacing Series 80 "Mighty Mouse" Connector, and both Micro-D and D-Subminiature rectangulars. Glenair's complete in-house hermetic capability also a□ords us the ability to produce a wide-range of special purpose hermetic connectors designed to meet individual and unique customer speci□cations.

Connector Hermeticity

Connector Hermeticity may be negatively a□ected both by the permeability of shell materials and the quality of the sealing technology.

Metal materials are chosen due to their relative impermeability to gas, although certain plastics may also be used. Glenair typically speci□es stainless steel, titanium or Kovar® for its hermetic products, as all three base materials provide an e□ective barrier against gas ingress and are able to withstand the high heat of the fabrication process. But even metal materials are permeable to gas leakage, and their permeability can be compromised when weld and solder joints are formed between connector shell materials and the base material of the bulkhead. Electrode coatings used in welding readily attract moisture in the work which can result in micro-cracks and □ssures. If other stresses are present, such as vibration and shock, micro-cracking can progress to □ssures which are visible to the human eye. Optimizing hermeticity should therefore always include examination of welds for any cracks or □ssures that could provide a leakage path.



In Matched Seal hermetics, thermal expansion of the glass and metal materials is relatively small—an important factor in the design of Micro-D hermetic connectors, due to varying degrees of stress on the glass caused by the rectangular shape.

Although moderately e□ective sealing may be produced with simple techniques such as epoxy potting, fused glass-to-metal seals are usually speci□ed in high-pressure applications. Glass is an excellent insulator, bonds well to metallic surfaces and is extremely corrosion resistant. And because of its robust mechanical strength and resistance to radical changes in temperature and pressure, glass seals are extremely resistant to any cracking which may introduce leaks into the hermetic package.

Kovar® is a registered trademark of Westinghouse Electric Company.

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Introduction to Glenair Hermetic Connector Products

Series 80 Mighty Mouse Hermetic Connectors



Series 80 Mighty Mouse Hermetic Mighty Mouse Hermetic Receptacles feature stainless steel shells and Alloy 52 iron alloy contacts. The compression glass seal is rated at 1 X 10^{-7} cc/second helium leak rate. Coupling styles include double-start stub acme, quick disconnect and bayonet.

Receptacles are available in four mounting styles:

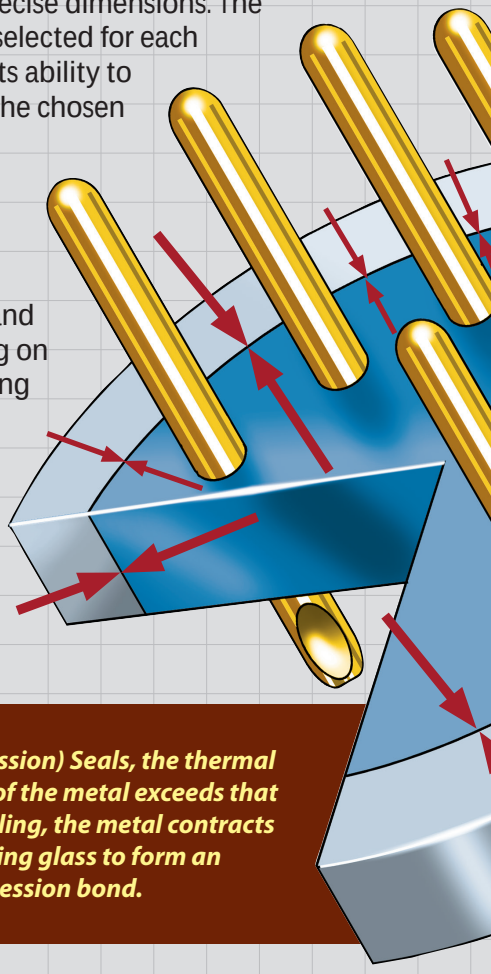
- Solder Mount
- Square Flange
- Jam Nut
- Weld Mount

Technical Specifications

- 3 Through 130 Contacts
- Hermetically Sealed
- 5 Amp Contact for #22 thru #28 Wire
- .076" (1.9) Contact Centers
- 500 Volt AC
- Printed circuit board or solder cup contacts.

Fused glass seals may be produced from various recipes of ground, non-crystalline solids such as silicates, borates and phosphates. When heated to high temperature and then cooled, these materials fuse into an amorphous solid called glass. In hermetic connector manufacturing, the glass material is typically introduced as a pre-formed glass seal insulator tooled to precise dimensions. The glass must be exactingly selected for each application according to its ability to form a strong bond with the chosen metal materials.

Electrical properties, such as dielectric withstanding voltage and strength are also considered as is thermal and shock stability. Depending on the style of connector being produced (rectangular versus circular, for example) two categories of glass-seal hermetics may be specified. These are known as Matched and Mismatched (or Compression) Seals.

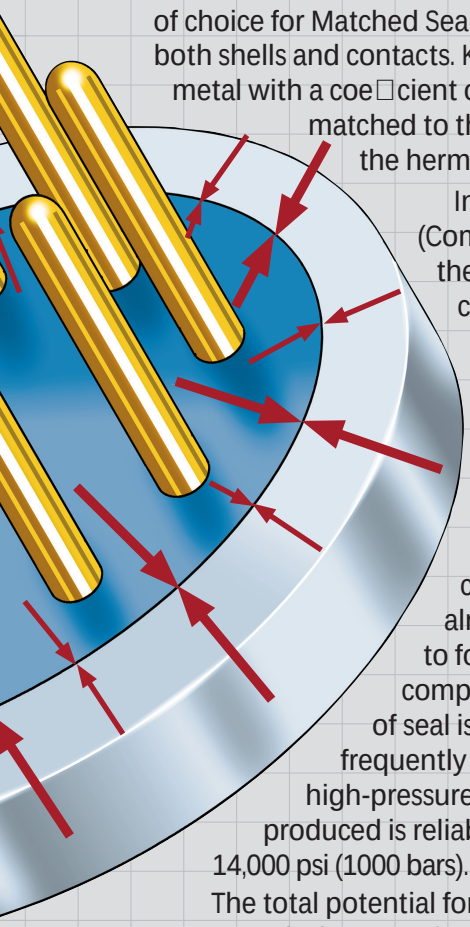


In Mismatched (Compression) Seals, the thermal expansion/contraction of the metal exceeds that of the glass. During cooling, the metal contracts into the already solidifying glass to form an extremely robust compression bond.

In Matched Seal hermetics, the thermal expansion of the glass and metal materials are relatively close, usually within 10% of each other. This results in a product in which the stress in the glass is relatively small, since the expansion and contraction of both materials during manufacture is closely matched. This is extremely important in glass hermetic connectors such as the Micro-d since the rectangular shape of the connector shell

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can exert varying degrees of stress on the glass. At ambient temperatures, the glass is chemically wetted (bonded) to the metal shell and contacts, but under little or no pressure or stress. Matched Seals can withstand high thermal and mechanical shocks, and are generally easier to manufacture than Mismatched (Compression) hermetic seals. Kovar®, a combination of iron, nickel and cobalt, is the material of choice for Matched Seal hermetic receptacles—both shells and contacts. Kovar® is a low-expansion metal with a coe□cient of expansion rating matched to the glass material that forms the hermetic seal.

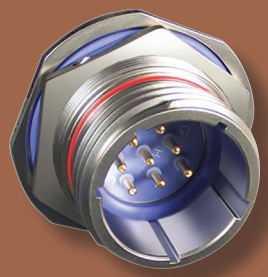


In Mismatched (Compression) Seals, the thermal expansion/contraction of the metal exceeds that of the glass. During the □ring process, the metal materials, usually stainless steel, expand at a greater rate than the glass. During cooling, the metals contract back into the already solidifying glass to form an extremely robust compression bond. This type of seal is consequently the most frequently speci□ed for extreme, high-pressure applications since the seal produced is reliable to pressures as high as 14,000 psi (1000 bars).

The total potential for leakage in a hermetic connector is the sum of any permeation which may occur via the metal materials themselves (through cracks or open pores), and any leakage that may occur via the seal. An additional source of leakage—uncontrolled from the connector manufacturer's perspective—results from sub-standard mounting of the hermetic package on the bulkhead or enclosure. Depending on the surface material of the bulkhead, hermetic receptacles may be welded or soldered in place. Low temperature brazing is also possible in certain applications as is the use of adhesive sealants.

Mil-Aero Cylindricals:

QPL MIL-DTL-38999
MIL-DTL-26482 Type
MIL-DTL-83723 Type
Hermetic Connectors



Various styles of standard and high-density cylindrical connectors are manufactured using glass seal hermetic technology. These hermetic connectors are ideally suited for high-pressure/low leakage applications in air, sea and space environments. Glenair is on the Qualified Product List (QPL) for all families of MIL-DTL-38999 Series I, II, III and IV Hermetic Connectors. We also offer lower density cylindrical connectors from the MIL-DTL-26482 and MIL-DTL-83723 families. The latter two series are non-QPL products.

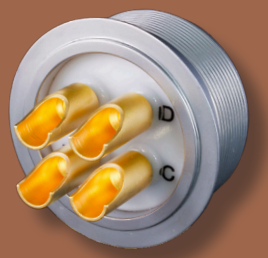
- DSCC Approved MIL-DTL-38999
- Compression Glass Seals
- Alloy 52 Gold-Plated Contacts
- Four Coupling Styles: Scoop-Proof Bayonet, Low-Profile Bayonet, Triple-Start Threaded Coupling, and Scoop-Proof Breach Coupling
- Fluorosilicone Interfacial Seals
- Passivated and Nickel-Plated SS Shells

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Introduction to Glenair Hermetic Connector Products

MIL-DTL-5015 Type "H" Class Hermetic Connectors



Considered the "Granddaddy" of all connector specifications, MIL-DTL-5015 covers power connectors available in contact sizes ranging from #16 up to #0. Operating voltages range from 200 up to 3000 volts AC (rms).

Currently there is not a Qualified Parts List (QPL) with Defense Supply Center Columbus (DSCC) for the MIL-DTL-5015 hermetic product. However, Glenair has designed and tooled these products to meet or exceed the current Mil-Spec requirements.

Features:

- Box Mount and Solder Mount
- Shell sizes 8 through 36
- CRS with Fused Tin plating or stainless steel with a Passivate finish
- All appropriate contacts in solder cup and pierced contact styles
- Supplied with a bonded interfacial seal to improve moisture resistance
- Custom configurations available
- Commercial equivalents available

Finally, mechanical mounting seals such as O-rings found on jam-nut mounts or drilled mounting flanges are used in applications where the cost or difficulty of welding or soldering is impractical. Regardless of the choice of mounting technology, care must be given to ensure inadvertent leakage paths are not introduced to the system. Vapor condensation in pressurized enclosures may also be affected by the material makeup of devices located inside the enclosure. Materials such as silicones, adhesives, lubricants and Teflon insulation can all outgas water vapor, and so contribute to the total vapor pressure inside the housing. As discussed above, this rise in vapor pressure will directly impact the condensation dew point of the protected environment.

Hermetic seals are qualified via various methodologies including helium testing and dye penetrant. The purpose of both types of tests is to detect and measure leakage under pressure. The dye penetrant method has the advantage of revealing the exact location of a full-scale leak, while helium testing measures overall leakage of the hermetic device. In helium testing, a pressure differential between the internal volume of the package and the external environment is created. The resultant pressure gradient causes the helium to diffuse through the connector shell, contacts and/or glass seals. Quantitative and qualitative measurements are then taken using appropriate sensing instruments.

Manufacturing Capability

Hermetic connectors are constructed from a core component-set that includes the connector shell, the vitreous glass insert and the selected contacts. Matched hermetic shells may be machined from Kovar®, an iron-nickel-cobalt alloy with a coefficient of expansion closely balanced to the glass inserts. Stainless and cold-rolled steels with 52 nickel-alloy contacts are suitable for compression-seal hermetics. Contacts used in hermetic connectors must be fabricated from Kovar® or from other high-grade materials that can withstand high-heat and bond effectively to the vitreous glass seal.

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The individual parts are mounted into special fixtures that align them during the exothermic atmosphere firing process. A conveyor belt transports the work through the furnace chamber, where a reducing atmosphere prevents oxidation of the metal components. As discussed above, a gas-tight hermetic seal is formed around all contacts and the glass seal and connector shell when the vitreous glass is melted in the furnace and then cooled under controlled conditions. After firing, helium testing and finish plating are completed and the remaining connector components such interfacial seals, O-rings, jam-nuts and so on are assembled to the connector body.

Quality control is a critical step in hermetic connector manufacturing. Connectors are not only subjected to a rigorous leak test, but are also visually inspected to ensure all components are seated in their correct positions and no surface imperfections or micro-cracking is evident. The connectors are also subjected to electrical testing as required by military and industry standards and by customer requirements.

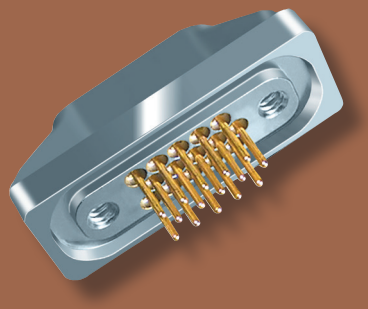
Dating back to our first hermetic order, Glenair has been in the hermetic connector business for over 30 years. Today, our capabilities are an arm and a leg greater than they once were, but our commitment to high-quality and outstanding availability has remained constant. As you can see from the wide range of commercial and military standard hermetic products we now produce, Glenair is positioned to service an incredibly broad range of both commercial and military standard hermetic packaging requirements.

Glenair now offers shells in Inconel® and Titanium; built to meet the demands of extreme pressure differentials and corrosion resistance. Consult the factory for product ordering information.

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MIL-DTL-24308/9

QPL D-Subminiature Hermetic Connectors



These hermetically sealed connectors are specifically designed for applications where conditions of extreme pressure differentials exist, or where an inert gas atmosphere must be maintained.

Glenair is currently qualified for the MIL-DTL-24308/9 -1 through 20 and M24308/9-21 through 40.

Features:

- One-piece machined shell for both the Solid Flange Mount (Type A) and Jackpost Mount (Type B) configurations
- Shell sizes 1 through 5
- CRS with Fused Tin plating, "H" Class, stainless steel with a matte nickel finish ("K" Class), or Aluminum Alloy Electroless Nickel w/ Hermetic Epoxy Seal
- Space Grade Versions
- All appropriate contacts in solder cup or pierced contact styles
- Many custom configurations available

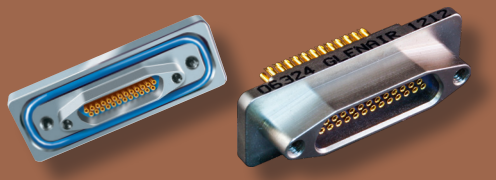
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Introduction to Glenair Hermetic Connector Products

Micro-D

O-Ring Sealed and Weld Mount Hermetic Receptacles



These high contact density hermetic connectors feature .050 inch contact spacing, rugged construction for demanding applications and glass hermetic sealing for severe environmental and pressure differential operating conditions. Designed for use in missile systems and other high altitude aerospace applications, Glenair's Micro-D Hermetic Connectors offer outstanding performance in a lightweight microminiature package. The two basic mounting configurations, a weld-mount or O-ring mount design may be customized for unique application requirements.

Features:

- Socket Receptacles
- Matched, Glass to Metal Seals,
- 1,000 PSI
- 9 through 100 Contacts
- Weld, O-Ring or Solder Mount; Integral Jackposts
- 1.5 AMP; 150 Volt AC
- Solder Cup (#26 Gage Wire), PC Tails, and Special Contacts for Wire Bonding

Hermetic Glossary

Air Leakage

The measure of gas ingress across an hermetic barrier. Total air leakage is the sum of the gas which passes through the seal itself, the permeable shell materials or via cracks or gaps in the mounting area.

Bonding

In hermetic glass-to-metal sealing, the permanent fusing of the constituent connector parts —contacts, connector body and glass seal—to one another using surface preparation techniques and high-heat.

Coefficient of Expansion

A mathematically derived value describing the dimensional change of a material when subjected to a measured change in temperature. Factored into hermetic connector fabrication to insure the glass and metal materials return to a known state of compression after the heating and cooling process is completed.

Compression Seal

The most effective glass-to-metal sealing. It is created by using metal shell and contact materials which expand at a greater rate than the glass during heating. During cooling, the metal materials contract back into the already solidifying glass to form a robust compression bond.

Environmentally Sealed

A class of interconnect components which are sealed against moisture ingress through the use of gaskets, O-rings, grommets or other means. Many applications that could use costlier hermetically-sealed connectors can be adequately protected using simpler environmental sealing techniques. The decision to use hermetics is generally made when the ability to withstand high-pressure differentials (32psi and up) is added to the application performance specifications.

Feedthrough

A double-sided receptacle connector device, mounted in a bulkhead or wall, used in interconnect

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systems to pass wires through barriers without creating an entry point for moisture, dust or chemical pollutants. Hermetic feedthrough connectors are used when the compartments on either side of a bulkhead must be maintained at different pressure levels.

Flange

Disc-shaped projection extending from or around the periphery of a receptacle connector designed to house O-ring sealing devices, fasteners or other mounting hardware. A flange may also be used to provide a greater surface area of metal material to aid in weld or solder mount attachment of receptacle connectors to bulkheads.

Hermeticity

The measure of a connector's permeability to gas ingress. In general terms, it means how "airtight" the device is when measured using a helium mass spectrometer leakage test. Since all materials are ultimately permeable to gas ingress at some point, hermeticity ratings are used to define acceptable performance levels as required by each individual application.

Hermetic Connector

Any of various forms of interconnect devices which are outfitted with specialized seals to prevent moisture and gas from passing through the connector and damaging sensitive electronic equipment. Glass sealed hermetic connectors are the most effective, with compression-glass sealed connectors providing the highest levels of protection.

Kovar®

An iron-nickel-cobalt alloy with a coefficient of expansion closely matched to certain glass seals commonly used in both connector bodies and contacts.

Matched Seal

A category of glass-to-metal sealing. In matched seals, the coefficient of expansion for the glass seal, contacts and connector body are relatively the same, resulting in a finished product with little or no built-in stress between the constituent parts.

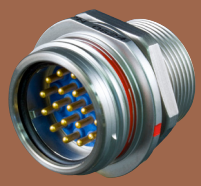
Mismatched Seal

Also known as compression sealing, the different material coefficient of expansion values in the glass and metal materials result in an hermetic seal that is under significant compression stress after cooling. Hermetics of this type can withstand higher-pressure differentials than matched seals.

Solder or Weld Mount

One of the most common mounting configurations for hermetic connectors, especially for electronic equipment such as switches and transducers. Unlike jam-nut mounted connectors, weld mount hermetics are permanently attached to the pressurized bulkhead, typically with laser, TIG or MIG welding technology.

Series 22
Geo-Marine® Hermetic Connectors



Series 22 Geo-Marine® Connectors offer high-density insert arrangements for a variety of oceanographic, geophysical and other severe commercial applications. The mated stainless steel plug and receptacle have a hydrostatic pressure sealing capability of up to 5000 psi (345 bar) and are available in either glass-seal hermetic or rigid dielectric environmental insulators.

- **Single-start, stub-Acme thread reduces thread fouling and binding due to dirt, grit and other foreign matter. Castellated and knurled coupling ring provides easy mating and unmating—even with arctic gloves.**

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Glenair Hermetic Connector Products Space Grade Application Guidelines

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA specification EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space flight projects.

What screening level is required?

NASA defines three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional inspection.

How To Order Space Grade Connectors

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level or 38999 Class G

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

Fluorosilicone rubber seals are commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors; along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Modification Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429J***

Screening and Outgassing Modification Codes

Screening Level	Special Screening Only	48 Hour Oven Bake 175° C	Special Screening and Thermal Vacuum Outgassing	
			24 Hour 125° C	48 Hour 175° C
NASA, Level 1 Highest Reliability	429B	429J	429C	
NASA, Level 2 High Reliability	429	429K	429A	
NASA, Level 3 Standard Reliability	Use Standard Part Number		429L	
38999, Class G (No Screening)				186T

Inspection is not performed/required for MIL-DTL-38999, Class G

Table II: NASA EEE-INST-02, Table 2A Screening Levels

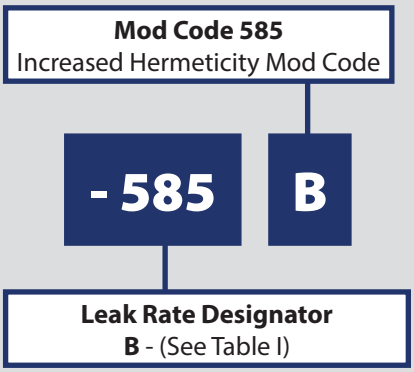
Inspection	Level 1	Level 2	Level 3
Visual	100%	100%	100%
Mechanical	2	2	
Dielectric Withstanding Voltage	2	2	
Insulation Resistance	2	2	
Contact Engagement & Separation Force	2		
Hermeticity (Sealed Receptacles Only)	100%	100%	100%
Coupling Force	2		

Required inspection quantity shown. Zero acceptance of failures allowed for all quantities inspected.

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Connector Modification Codes and Catalog Notes

SPECIAL LEAK RATE MODIFICATION CODE 585

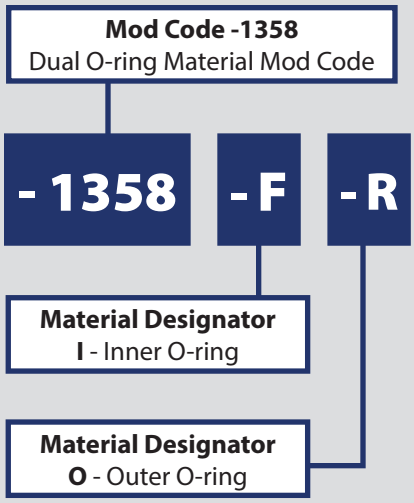


An array of hermetic connectors with more stringent leak rate requirements. By adding "**–585**" and the designator letter "**A**", "**B**", "**C**", "**D**"—depending on the hermeticity desired—to the end of a standard part number, connectors will be built to exceed the standard 1 x 10^{-7} cc Helium per second leak rate specified on most Glenair hermetics.

TABLE I: HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
A	1 x 10^{-10} cc's Helium per second
B	1 x 10^{-9} cc's Helium per second
C	1 x 10^{-8} cc's Helium per second
D	1 x 10^{-7} cc's Helium per second

DUAL O-RING MATERIAL DESIGNATION MOD CODE 1358



Mod Code 1358 can be added to to any part number of any connector with dual O-ring flanges to specify an alternate material better suited for a specific applications.

TABLE II: MATERIAL DESIGNATOR

Designator	Material	Durometer	Designator	Material	Durometer
B	Butyl	70	P	Cho-Seal 1289 or Equivalent	70
C	Nitrile (Buna-N)	70	R	Cho-Seal 1285 or Equivalent	65
E	EPDM	70	S	Silicone	60
EE	EPDM	80	SS	Silicone	70
F	Fluorosilicone	60	T	Cho-Seal 6307 or Equivalent	80
G	Cho-Seal 6435 or Equivalent	80	V	Viton	75
H	Cho-Seal 1215 or Equivalent	65	VV	Viton	90
N	Neoprene	70	Z	FEKM Perfluoroelastomer	75
NN	Neoprene	90			

CATALOG NOTES

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:

  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

Glenair Hermetic Connector Products
Helium Leak Rates and Testing

A

Hermeticity

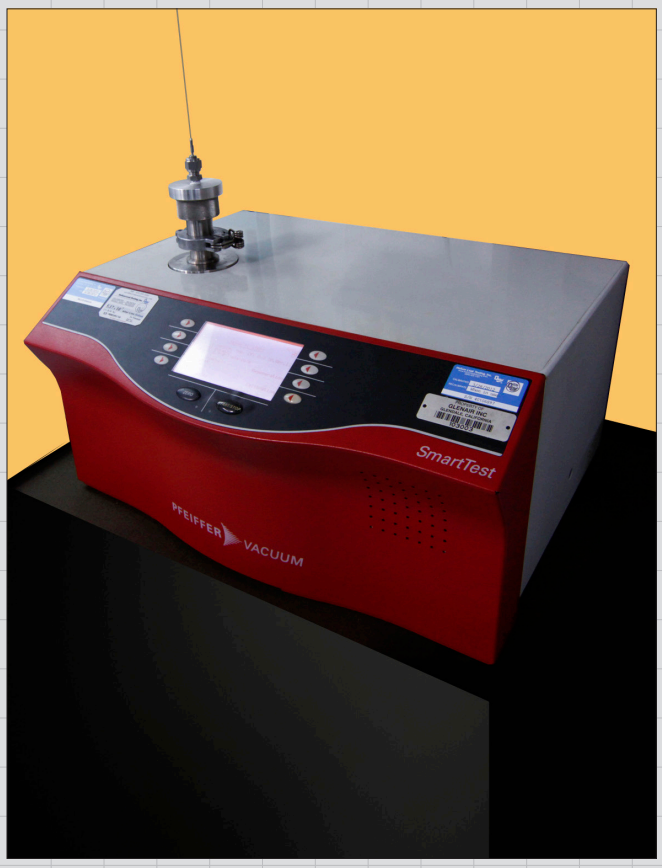
Hermeticity is de□ned as "the state or condition of being airtight". Sophisticated military electronics enclosures can experience electrical failure from ingress of moisture. System engineers can design the enclosure to withstand exposure to moisture and condensation by using "moisture-hardened" components and conformal coatings, but often the most practical approach is to install hermetically sealed electrical I/O connectors. Glass-to-metal seals provide assurance that, over the life of the enclosure, the accumulated amount of water vapor inside the box will not exceed the amount necessary to form condensation. Other applications for Micro-D hermetic connectors include vacuum chambers, cryogenics, and enclosures □lled with inert gas.

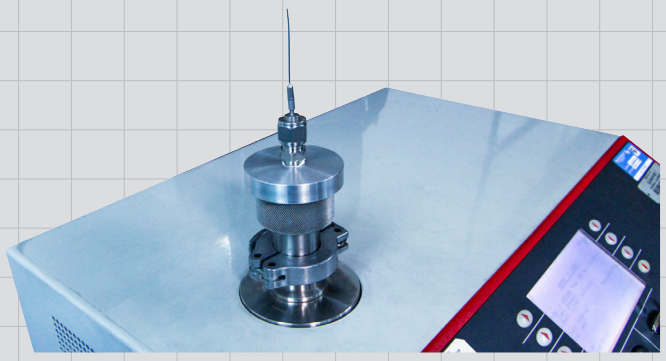
Hermetic Testing

All hermetic connectors are 100% tested prior to shipment. A helium leak test is performed to certify the hermetic seal. This test is conducted by inducing a 1 ATM vacuum on one side of the connector. Helium gas is released on the other side, and a mass spectrometer "counts" the number of helium molecules that penetrate the connector seal. Helium leak testing takes advantage of the small size of a helium molecule compared to air or water vapor. Helium is inert, rare in our atmosphere, and is easy to detect with a mass spectrometer.

Helium Leak Rates

Std cc/sec Approximate	Approximate Bubble Equivalent
1×10^{-1}	1 cc/10 sec
1×10^{-2}	1 cc/100 sec
1×10^{-3}	3 cc/hour
1×10^{-4}	1 cc/3 hours
1×10^{-5}	1 cc/24 hours
1×10^{-6}	1 cc/2 weeks
1×10^{-7}	3 cc/year
1×10^{-8}	1 cc/3 year
1×10^{-9}	1 cc/30 years
1×10^{-11}	1 cc/3000 years





Close up of gas tube assembly undergoing helium leak test at the Glenair Factory in Glendale, CA

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Hermetic Connector Designer's Application Checklist

Name _____

Company Name _____

Address _____

City and State _____

Country and Postal Code/Zip _____

Telephone _____ E-mail _____

Specification Reference:

- ❑ MIL-DTL-38999
- ❑ MIL-DTL-5015
- ❑ MIL-DTL-26482
- ❑ MIL-DTL-83723
- ❑ MIL-DTL-83513
- ❑ MIL-DTL-24308
- ❑ Glenair Series 80
- ❑ Other (i.e. Series 79, Geo-Marine)

Shell Style:

- ❑ Jam Nut
- ❑ Box Mount
- ❑ Solder Mount
- ❑ Weld Mount
- ❑ Flange Mount
- ❑ Dual Flange PCB
- ❑ Wall Mount
- ❑ Connector Adaptor

Shell Size/Insert Arrangement: _____

Pin Count: _____

Contact Gender:

- ❑ Pin
- ❑ Socket

Shell Rotation/Clocking Position: _____

Shell Material and Finish: _____

Termination (PC tails, Solder Cup, Radius, Eyelet, etc.): _____

_____

_____

Pressure Requirement (PSI): _____

Temperature Requirement: _____

Hermeticity Requirement (1x10-* Cc/he) _____

IR: _____ **DWV:** _____

Marking: _____

Connector Application: _____

QPL Req'd: Yes _____ No _____

What material(s) will the connector be in contact with, i.e, fluid, steam, mating connector material:

_____

_____

_____

Special Instructions/Notes:

_____

_____

_____

_____

Note: Connectors can be NASA screened, outgassed or be rated for higher hermeticity. Titanium and Inconel® materials additionally are available as well as thermocouple contacts, quadrax, and co-ax contacts.

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Mil Qualified D38999 Series I, II, III and IV Hermetic Receptacles—Pin and Socket—Plus Glenair Commercial Equivalents • Built-In Maximim Design Flexibility

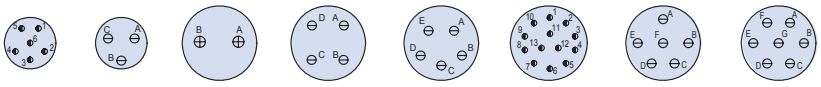
Quick Selection Guide

Part number	Description	Page
	MIL-DTL-38999 Series I, II, III and IV Hermetic Class Insert Arrangements	B-2 – B-3
	MIL-DTL-38999 Series I, II, III and IV Hermetic Class Layouts and Pin Counts	B-4
	MIL-DTL-38999 Hermetic Class Material Speci□cations and Finishes	B-5
	MIL-DTL-38999 Connector Performance Speci□cations	B-6 – B-8
	MIL-DTL-38999 Contact Performance Speci□cations	B-9
	MIL-DTL-38999 Series I – IV Alternate Keyway Positions	B-10 - B-12
	Recommended Torque Values	B-13
	MIL-DTL-38999 Hermetic Connectors and Environmental Mates	B-14 – B-15
MS27469 / 231-100-H0	Wall Mount Hermetic Receptacle, Series I	B-16 – B-17
MS27470 / 231-100-H7	Jam Nut Mount Hermetic Receptacle, Series I	B-18 – B-19
MS27471 / 231-100-H5	Solder Mount Hermetic Receptacle, Series I	B-20 – B-21
231-103-H7	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series I	B-22 – B-23
231-103-H9	Sav-Con® Jam Nut Mount Bulkhead Feed-Thru, Series I	B-24 – B-25
257-255	Jam Nut Mount Hermetic Receptacle, Series I	B-26 – B-27
947-117	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series I	B-28 – B-29
MS27475 / 232-100-H0	Wall Mount Hermetic Receptacle, Series II	B-30 – B-31
MS27476 / 232-100-H2	Box Mount Hermetic Receptacle, Series II	B-32 – B-33
MS27477 / 232-100-H7	Jam-Nut Mount Hermetic Receptacle, Series II	B-34 – B-35
MS27478 / 232-100-H5	Solder Mount Hermetic Receptacle, Series II	B-36 – B-37
232-103-H7	Jam Nut Mount Hermetic Bulkhead Feedthrough, Series II Type	B-38 – B-39
232-103-H9	"Sav-Con®" Connector Saver Jam Nut Mount Hermetic Bulkhead Feedthrough, Series II Type	B-40 – B-41
237-280	Special Weld-Mount Hermetic Receptacle, Series II	B-42 – B-43
947-120	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series II	B-44 - B-45
947-278	Jam Nut Mount Hermetic Bulkhead Feed-Thru	B-46 – B-47
D38999/21 / 233-100-H2	Box Mount Hermetic Receptacle, Series III	B-48 – B-49
D38999/23 / 233-100-H7	Jam Nut Mount Hermetic Receptacle, Series III	B-50 – B-51
D38999/25 / 233-100-H5	Solder Mount Hermetic Receptacle, Series III	B-52 – B-53
D38999/27 / 233-100-H8	Weld Mount Hermetic Receptacle, Series III	B-54 – B-55
233-103-H7	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series III	B-56
233-103-H9	Jam Nut Mount Hermetic Plug/Receptacle Bulkhead Feed-Thru, Series III	B-57
237-033	Jam Nut Mount Hermetic with Double O-Rings, Series III	B-58 – B-59
237-063	Special Hermetic Jam Nut Mount Receptacle, Series III	B-60 – B-61
237-153	Hermetic Dual Flange Jam Nut Mount Receptacle, Series III	B-62 – B-63
257-093	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series III	B-64 - B-65
257-121	Special Jam Nut Mount Hermetic Receptacle with Accessory Threads, Series III	B-66 – B-67
257-215	Jam Nut Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-68 – B-69
257-216	Jam Nut Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-70 – B-71
257-288	Box Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-72 - B-73
257-332	Hermetic Jam Nut Receptacle w/ Crimp Removable Socket Contacts, Series III	B-74 – B-75
257-333	Hermetic Jam Nut Receptacle w/ Crimp Removable Contacts, Series III	B-76 – B-77
947-082	Jam Nut Hermetic Bulkhead Feed-Thru, Series III	B-78
947-115	Jam Nut Hermetic Bulkhead Feed-Thru, Series III	B-79
947-282	Flange Mount Hermetic Bulkhead Feed-Thru, Series III	B-80 – B-81
D38999/41 / 234-100-H2	Box Mount Hermetic Receptacle, Series IV	B-82 – B-83
D38999/43 / 234-100-H7	Jam Nut Mount Hermetic Receptacle, Series IV	B-84 – B-85
D38999/45 / 234-100-H5	Solder Mount Hermetic Receptacle, Series IV	B-86 – B-87
D38999/48 / 234-100-H8	Weld Mount Hermetic Receptacle, Series IV	B-88 – B-89
980-002	Non-Environmental Rear Accessory Thread Adapter for MIL-DTL-38999/23 and /43	B-90 – B-91

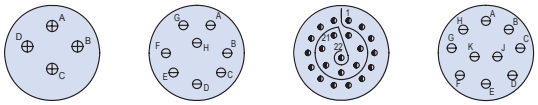
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MIL-DTL-38999 Series I, II, III, and IV
Hermetic Class Connectors
Insert Arrangements (IAW MIL-STD-1560)

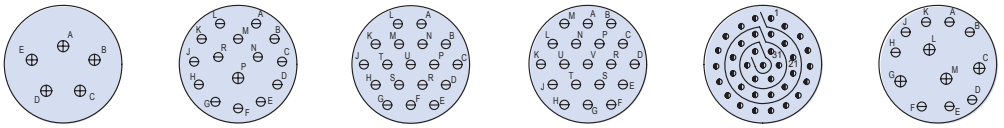
All views are pin face



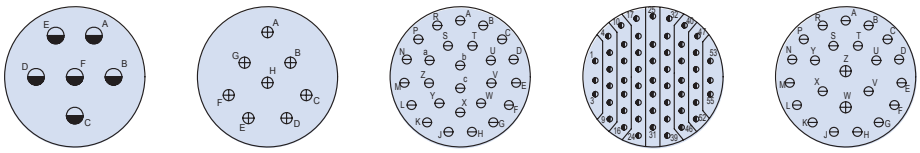
Series I	9-35	9-98	11-2	11-4	11-5	11-35	11-98	11-99
Series II	8-35	8-98	10-2		10-5	10-35	10-98	10-99
Series III	A35	A98	B2	B4	B5	B35	B98	B99
Series IV	---	---	B2	B4	B5	B35	B98	B99



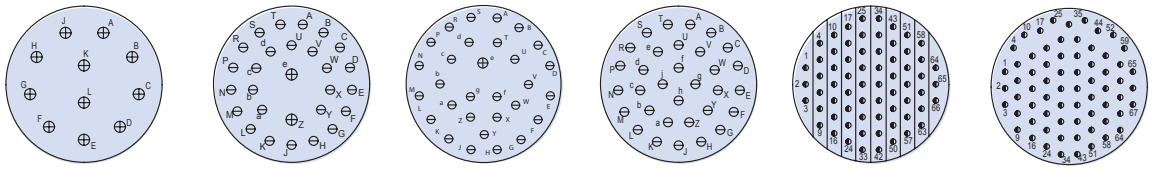
Series I	13-4	13-8	13-35	13-98
Series II	12-4	12-8	12-35	12-98
Series III	C4	C8	C35	C98
Series IV	C4	C8	C35	C98



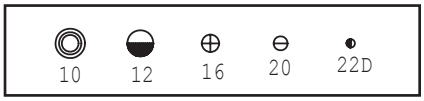
Series I	15-5	15-15	15-18	15-19	15-35	15-97
Series II	14-5	14-15	14-18	14-19	14-35	14-97
Series III	D5	D15	D18	D19	D35	D97
Series IV	D5	D15	D18	D19	D35	D97



Series I	17-6	17-8	17-26	17-35	17-99
Series II	16-6	16-8	16-26	16-35	16-99
Series III	E6	E8	E26	E35	E99
Series IV	E6	E8	E26	E35	E99



Series I	19-11	19-28	19-30	19-32	19-35	19-45
Series II	18-11	18-28	18-30	18-32	18-35	18-45
Series III	F11	F28	F30	F32	F35	F45
Series IV	F11	F28	F30	F32	F35	F45

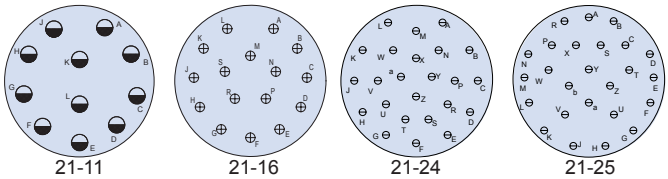


Dimensions in Inches (millimeters) are subject to change without notice.

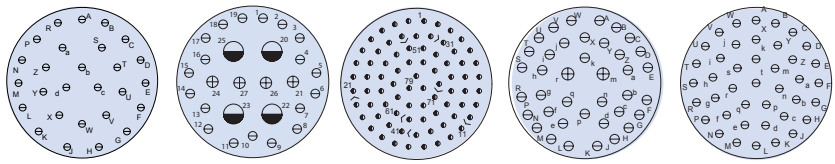
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MIL-DTL-38999 Series I, II, III, and IV
Hermetic Class Connectors
Insert Arrangements (IAW MIL-STD-1560)

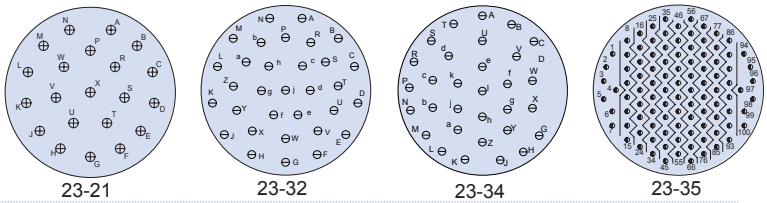
All views are pin face



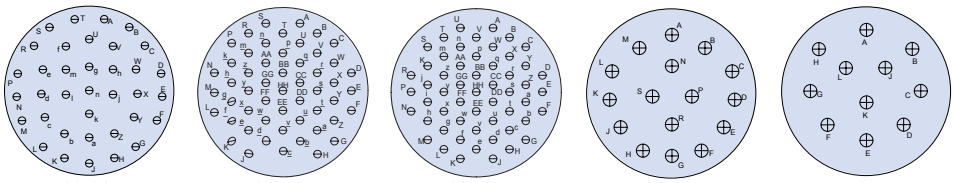
Series I	21-11	21-16	21-24	21-25
Series II	20-11	20-16	20-24	20-25
Series III, IV	G11	G16	G24	G25



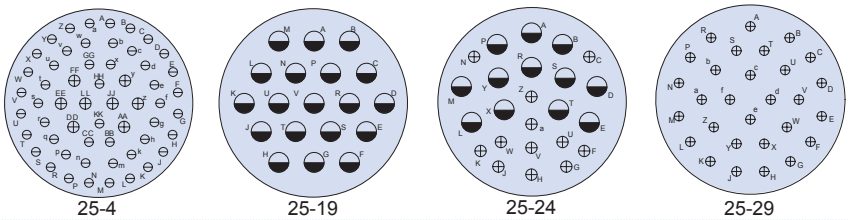
Series I	21-27	21-29	21-35	21-39	21-41
Series II	20-27	20-29	20-35	20-39	20-41
Series III, IV	G27	G29	G35	G39	G41



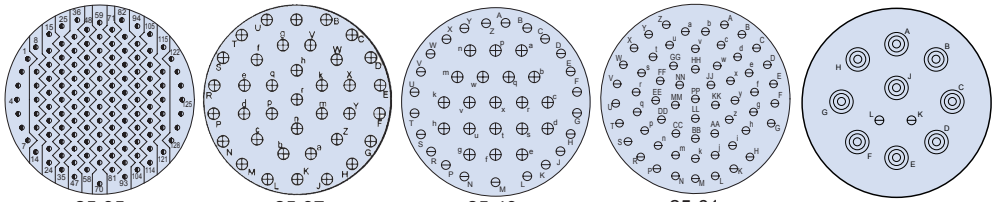
Series I	23-21	23-32	23-34	23-35
Series II	22-21	22-32	22-34	22-35
Series III, IV	H21	H32	H34	H35



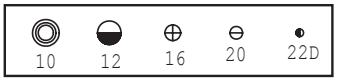
Series I	23-36	23-53	23-55	23-97	23-99
Series II	22-36	22-53	22-55	22-97	22-99
Series III, IV	H36	H53	H55	H97	H99



Series I	25-4	25-19	25-24	25-29
Series II	24-4	24-19	24-24	24-29
Series III, IV	J4	J19	J24	J29



Series I	25-35	25-37	25-43	25-61	
Series II	24-35	25-37	24-43	24-61	(Series IV Only)
Series III, IV	J35	J37	J43	J61	J-11



Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-38999 Series I, II, III, and IV
Hermetic Class Connectors
Layouts and Pin Counts

Shell Size and Insert Arrangements				Number of Pins			
MS Series I	MS Series II	D38999 Series III and IV	Service Rating	22D	20	16	12
9-35	8-35	A35	M	6			
9-98	8-98	A98	I		3		
11-2	10-2	B2	I			2	
11-4		B4	I		4		
11-5	10-5	B5	I		5		
11-35	10-35	B35	M	13			
11-98	10-98	B98	I		6		
11-99	10-99	B99	I		7		
13-4	12-4	C4	I			4	
13-8	12-8	C8	I		8		
13-35	12-35	C35	M	22			
13-98	12-98	C98	I		10		
15-5	14-5	D5	II			5	
15-15	14-15	D15	I		14	1	
15-18	14-18	D18	I		18		
15-19	14-19	D19	I		19		
15-35	14-35	D35	M	37			
15-97	14-97	D97	I		8	4	
17-6	16-6	E6	I				6
17-8	16-8	E8	II			8	
17-26	16-26	E26	I		26		
17-35	16-35	E35	M	55			
17-99	16-99	E99	I		21	2	
19-11	18-11	F11	II			11	
19-28	18-28	F28	I		26	2	
19-30	18-30	F30	I		29	1	
19-32	18-32	F32	I		32		
19-35	18-35	F35	M	66			

Shell Size and Insert Arrangements				Number of Pins			
MS Series I	MS Series II	D38999 Series III and IV	Service Rating	22D	20	16	12
19-45	18-45	F45	M	67			
21-11	20-11	G11	I				11
21-16	20-16	G16	II			16	
21-24	20-24	G24	I		24		
21-25	20-25	G25	I		25		
21-29		G29	I		19	4	4
21-27	20-27	G27	I		27		
21-35	20-35	G35	M	79			
21-39	20-39	G39	I		37	2	
21-41	20-41	G41	I		41		
23-21	22-21	H21	II			21	
23-32	22-32	H32	I		32		
23-34	22-34	H34	I		34		
23-35	22-35	H35	M	100			
23-36	22-36	H36	I		36		
23-53	22-53	H53	I		53		
23-55	22-55	H55	I		55		
23-97	22-97	H97	I			16	
23-99	22-99	H99	II			11	
25-4	24-4	J4	I		48	8	
25-19	24-19	J19	I				19
25-24	24-24	J24	I			12	12
25-29	24-29	J29	I			29	
25-35	24-35	J35	M	128			
25-37	N/A	J37				37	
25-43	24-43	J43	I		23	20	
25-61	24-61	J61	I		61		

Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: HERMETIC CLASS MATERIALS	
Shell, Barrel Coupling and Jam Nut (Hermetic)	Stainless steel per AMS-QQ-S-763
Shell, Barrel, Coupling Nut and Jam Nut (Hermetic)	Carbon steel per ASTM-A108, Tin plated per ASTM-B545
Front and Rear Insulators	Glass-filled liquid crystal polymer (LCP) in accordance with MIL-M-24519, Type GLP-30F
Grommet, Peripheral Seal and Interfacial Seal	Blended elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Hermetic Insert	Vitreous glass
Pin Contact (Hermetic)	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Socket Contact (Hermetic)	Copper Alloy, Gold Plated IAW ASTM B488, Type 3, Code C
Adhesives	Silicone and epoxy
Potting Compound, PCB and Solder Cup Versions	Environmental and Hermetic Connectors: High-strength epoxy, Hysol EE4215. Filter Connectors: Stycast 2850FT/Catalyst 11 thermally conductive epoxy encapsulant.

TABLE II: HERMETIC CLASS FINISHES			
Plating Code	**Material**	**Finish**	**Specification**
Glenair Commercial Equivalent Plating Codes			
Z1	Stainless Steel	Passivate	AMS-QQ-P-35
FT	Carbon Steel	Fused Tin Plate	ASTM-B545 or ASTM-B339
ZL	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2
MIL-DTL-38999 Plating Codes			
D	Carbon Steel	Fused Tin Plate	ASTM-B545 or ASTM-B339
Y	Stainless Steel	Passivate	AMS-QQ-P-35
N	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2

*Additional materials are available, including titanium and Inconel®. Consult factory for ordering information.

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MIL-DTL-38999
Connector Performance Specifications

<table>
<tr><th>Requirement</th><th>Performance Specifications</th></tr>
<tr><td>Insert Arrangements</td><td>(Meets MIL-DTL-38999, paragraph 3.4.1.4)
For hermetic connectors, the engaging end of pin and socket contacts shall be located within .004 inch (0.10 mm) diameter of true position. Test voltages for service ratings shall be as specified in table below
<table>
<tr><th colspan="5">Test Voltages, ac rms, 60 Hz</th></tr>
<tr><th>Altitude</th><th>Service Rating M</th><th>Service Rating N</th><th>Service Rating I</th><th>Service Rating II</th></tr>
<tr><td>Sea level</td><td>1300</td><td>1000</td><td>1800</td><td>2300</td></tr>
<tr><td>50,000 feet</td><td>550</td><td>400</td><td>600</td><td>800</td></tr>
<tr><td>70,000 feet</td><td>350</td><td>260</td><td>400</td><td>500</td></tr>
<tr><td>100,000 feet</td><td>200</td><td>200</td><td>200</td><td>200</td></tr>
</table></td></tr>
<tr><td>Supported Wire Size</td><td>(Per MIL-DTL-38999, paragraph 3.4.3.1)
<table>
<tr><th>Contact Size</th><td>23-22</td><td>22D</td><td>20</td><td>16</td><td>12</td><td>10</td></tr>
<tr><th>Wire Gauge</th><td>26, 24, 22</td><td>28, 26, 24, 22</td><td>24, 22, 20</td><td>20, 18, 16</td><td>14, 12</td><td>10</td></tr>
</table></td></tr>
<tr><td>Thermal Shock</td><td>(Meets MIL-DTL-38999, paragraph 3.7)
After cycling the connector between two water baths of approximately 1 cubic foot, not to exceed +4°C for the first and no less than +90°C for the second, it will meet all applicable electrical and mechanical requirements.</td></tr>
<tr><td>Air Leakage</td><td>(Meets MIL-DTL-38999, paragraph 3.10)
There shall be no evidence of leakage in excess of .01 micron ft^3/h (1E-7 cm^3/s)</td></tr>
<tr><td>Coupling and Uncoupling Torque</td><td>(Meets MIL-DTL-38999, paragraph 3.11)
Coupling torque for mating and the uncoupling torque for unmating of counterpart plugs and receptacles, mating of connectors to and from protective covers, and mating plugs to and from dummy stowage receptacles, shall meet the requirements in Coupling and Uncoupling Torque table.
<table>
<tr><th colspan="3">Coupling and Uncoupling Torque</th></tr>
<tr><th rowspan="2">Shell size</th><th>Maximum engagement and disengagement</th><th>Minimum disengagement</th></tr>
<tr><th>Pound inch</th><th>Pound inch</th></tr>
<tr><td>8</td><td>8</td><td>2</td></tr>
<tr><td>9</td><td>8</td><td>2</td></tr>
<tr><td>10</td><td>12</td><td>2</td></tr>
<tr><td>11</td><td>12</td><td>2</td></tr>
<tr><td>12</td><td>16</td><td>2</td></tr>
<tr><td>13</td><td>16</td><td>2</td></tr>
<tr><td>14</td><td>20</td><td>4</td></tr>
<tr><td>15</td><td>20</td><td>3</td></tr>
<tr><td>16</td><td>24</td><td>4</td></tr>
<tr><td>17</td><td>24</td><td>3</td></tr>
<tr><td>18</td><td>28</td><td>5</td></tr>
<tr><td>19</td><td>28</td><td>3</td></tr>
<tr><td>20</td><td>32</td><td>6</td></tr>
<tr><td>21</td><td>32</td><td>5</td></tr>
<tr><td>22</td><td>36</td><td>7</td></tr>
<tr><td>23</td><td>36</td><td>5</td></tr>
<tr><td>24</td><td>36</td><td>7</td></tr>
<tr><td>25</td><td>40</td><td>5</td></tr>
</table></td></tr>
<tr><td>Durability</td><td>(Meets MIL-DTL-38999, paragraph 3.12)
Not applicable to lanyard release plugs. No electrical or mechanical defects after 500 cycles of engagement and disengagement.</td></tr>
</table>

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<table>
<tr><th>Requirement</th><th>Performance Specifications</th></tr>
<tr><td>Insulation Resistance</td><td>(Meets MIL-DTL-38999, paragraph 3.14.1)
At Ambient Temperature insulation resistance between any pair of contacts and between any contact and the shell shall be greater than 5,000 megohms. Insulation resistance after altitude immersion shall be 1,000 megohms minimum. Insulation resistance after humidity shall be 100 megohms minimum. IAW EIA-364-21.
(Meets MIL-DTL-38999, paragraph 3.14.2)
At Elevated Temperature Unmated connectors shall be tested in accordance with test procedure EIA/ECA-364-21</td></tr>
<tr><td>Dielectric Withstanding Voltage</td><td>(Meets MIL-DTL-38999, paragraph 3.15)
Wired, unmated connector, maximum leakage current shall be 2 milliamperes, and there shall be no evidence of electric breakdown or flashover. IAW EIA-364-20 method A. Magnitude of the test voltage shall be as specified per insert arrangement requirement, Test Voltages Table (See MIL-STD-1560 for service rating of insert arrangement).</td></tr>
<tr><td>Insert Retention</td><td>(Meets MIL-DTL-38999, paragraph 3.16)
When tested IAW EIA-364-35, unmated connectors shall retain their inserts in their proper location in the shell and there shall be no evidence of cracking, breaking, separation from the shell, or loosening of parts when subjected to 100 PSI (25 PSI minimum) force</td></tr>
<tr><td>Salt Spray (Corrosion)</td><td>(Meets MIL-DTL-38999, paragraph 3.17)
When tested in accordance with EIA-364-26, meets appropriate electrical and mechanical requirements and shows no exposure of base metal after 500 hours of salt spray.</td></tr>
<tr><td>Contact Resistance at 25° C</td><td>(Meets MIL-DTL-38999, paragraph 3.18) Hermetic connectors with sockets only
Contacts in the mated condition shall meet the contact resistance requirements of the table shown below. Appropriate compensation may be made for resistance in the measured value which is due to an additional length of wire included in the measurement.
<table>
<tr><th rowspan="2">Class</th><th rowspan="2">Contact Size</th><th rowspan="2">Wire Size</th><th rowspan="2">Test Amperes</th><th colspan="2">Millivolt Drop Maximum</th></tr>
<tr><th>Initial</th><th>After Conditioning</th></tr>
<tr><td rowspan="5">H, N and Y</td><td>12</td><td>12</td><td>17</td><td>85</td><td>100</td></tr>
<tr><td>16</td><td>16</td><td>10</td><td>85</td><td>100</td></tr>
<tr><td>20</td><td>20</td><td>5</td><td>60</td><td>75</td></tr>
<tr><td>22D</td><td>22</td><td>3</td><td>85</td><td>95</td></tr>
<tr><td>23-22</td><td>22</td><td>3</td><td>85</td><td>95</td></tr>
</table></td></tr>
<tr><td>Bayonet Coupling Pin Strength</td><td>(Meets MIL-DTL-38999, paragraph 3.21)
Applicable to series I and II only. Bayonet coupling pins shall withstand a load of 50 +5/-0 pounds without displacement or perceptible loosening of coupling pins.</td></tr>
<tr><td>Environmental Contact Retention Connectors</td><td>(Meets MIL-DTL-38999, paragraph 3.24)
The axial displacement of the contact shall not exceed .012 inch (0.30 mm).
No damage to contacts or inserts shall result.</td></tr>
<tr><td>Vibration</td><td>(Meets MIL-DTL-38999, paragraph 3.27)
There shall be no electrical discontinuity and there shall be no disengagement of mated connectors, backing off of the coupling mechanism, evidence of cracking, breaking, or loosening of parts.</td></tr>
</table>

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MIL-DTL-38999
Connector Performance Specifications

<table>
<tr><th>Requirement</th><th>Performance Specifications</th></tr>
<tr><td>Shock</td><td>(Meets MIL-DTL-38999, paragraph 3.28)
There shall be no electrical discontinuity and there shall be no disengagement of mated connectors, evidence of cracking, breaking, or loosening of parts.
Standard shock (all series). Connectors shall be tested in accordance with test procedure EIA-364-27 and any additional details noted.
High-impact shock. Applicable to series I, III and IV only. Wired and mated connectors shall be tested in accordance with MIL-S-901, grade A and in accordance with any modifications or additions noted. The wire bundle shall be provided with a straight, environmental, backshell, category 2B in accordance with SAE-AS85049, the longest length available per shell size. Discontinuity monitoring shall be performed in accordance with EIA-364-46.</td></tr>
<tr><td>EMI Shielding</td><td>(Meets MIL-DTL-38999, paragraph 3.32)
EMI shielding, low frequencies Applicable frequency range is 100 to 1,000 MHz only.
EMI shielding, high frequencies. Applicable frequency range is 1,000 to 10,000 MHz only. The EMI shielding effectiveness of mated connectors with EMI backshells shall be measured using the mode-stirred technique in accordance with test procedure EIA-364-66.
EMI shielding capabilities of mated shells with spring fingers shall not be less than that specified in table at the specified frequencies below.
<table>
<tr><th rowspan="2">Frequency MHz</th><th colspan="4">Leakage Attenuation (dB) Minimum</th></tr>
<tr><th>Series I</th><th>Series II</th><th>Series III & IV (Class N)</th><th>Series III & IV (Class H &Y)</th></tr>
<tr><td>100</td><td>90</td><td>65</td><td>90</td><td>80</td></tr>
<tr><td>200</td><td>88</td><td>60</td><td>88</td><td>75</td></tr>
<tr><td>300</td><td>88</td><td>55</td><td>88</td><td>73</td></tr>
<tr><td>400</td><td>87</td><td>55</td><td>87</td><td>71</td></tr>
<tr><td>800</td><td>85</td><td>45</td><td>85</td><td>66</td></tr>
<tr><td>1,000</td><td>85</td><td>45</td><td>85</td><td>65</td></tr>
<tr><td>1,500</td><td>69</td><td>—</td><td>76</td><td>59</td></tr>
<tr><td>2,000</td><td>65</td><td>—</td><td>70</td><td>55</td></tr>
<tr><td>3,000</td><td>61</td><td>—</td><td>69</td><td>52</td></tr>
<tr><td>4,000</td><td>58</td><td>—</td><td>68</td><td>50</td></tr>
<tr><td>6,000</td><td>55</td><td>—</td><td>66</td><td>48</td></tr>
<tr><td>10,000</td><td>50</td><td>—</td><td>65</td><td>45</td></tr>
</table></td></tr>
<tr><td>Fluid Immersion</td><td>(Meets MIL-DTL-38999, paragraph 3.34)
Designed to function in all fluids encountered in any modern military or aerospace environment. Tested in accordance with test procedure EIA-364-10. Connectors shall be tested for coupling torque and dielectric withstanding voltage at sea level within 3 hours of fluid immersion cycles.</td></tr>
<tr><td>Contact engagement and separating force</td><td>(Meets MIL-DTL-38999, paragraph 3.42)
Applicable to hermetic connectors with sockets only
When tested as specified in 4.5.38, contact engagement and separating forces shall be within the limits specified in SAE-AS39029.</td></tr>
<tr><td>Resistance to Probe Damage</td><td>(Meets MIL-DTL-38999, paragraph 3.43)
Applicable to hermetic connectors with sockets only
Contacts shall withstand the bending moment and depth of test probe insertion without evidence of damage that would interfere with the mechanical or electrical performance.</td></tr>
<tr><td>Fungus</td><td>(Meets MIL-DTL-38999, paragraph 4.2.2)
Materials used in the construction of these connectors shall be fungus inert per certification of method 508.4 of MIL-STD-810.</td></tr>
</table>

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MIL-DTL-38999
Contact Materials and Performance Specifications

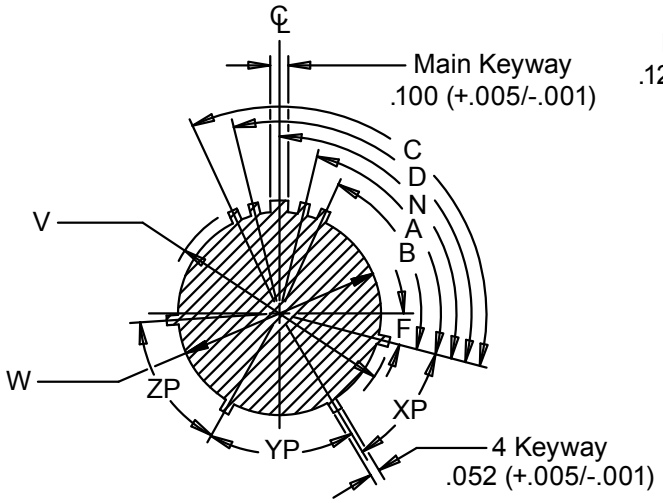
MIL-DTL-38999 Contact Materials		
Component	**Material**	**Notes**
Pin Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Approved for Space Flight
Pin Contact, Hermetic	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Ferromagnetic material.
Socket Contact	Beryllium copper alloy per ASTM B197, 50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches.	Approved for Space Flight
Socket Contact Hood	Stainless steel, passivated per AMS-QQ-P-35.	Approved for Space Flight

<table>
<tr><th>Requirement</th><th colspan="2">Contact Performance Specifications</th></tr>
<tr><td>Current Rating</td><td>(Per SAE-AS39029, Paragraph 3.5.4)</td><td>
<table>
<tr><th rowspan="2">Contact Size</th><th colspan="2">Maximum Amps</th></tr>
<tr><th>Crimp</th><th>Hermetic</th></tr>
<tr><td>23-22</td><td>5</td><td>3</td></tr>
<tr><td>22D</td><td>5</td><td>3</td></tr>
<tr><td>20</td><td>7.5</td><td>5</td></tr>
<tr><td>16</td><td>13</td><td>10</td></tr>
<tr><td>12</td><td>23</td><td>17</td></tr>
<tr><td>10</td><td>33</td><td>24</td></tr>
</table>
</td></tr>
<tr><td>Contact Resistance, Type A</td><td>(Per SAE-AS39029, Paragraph 3.5.4.1)
The contact voltage drop of each mated copper alloy contact pair shall not exceed the applicable values specified.</td><td>
<table>
<tr><th>Wire Size</th><th>Test Current Amperes</th><th>Maximum Voltage Drop (Millivolts) at 25°C ±3°C</th></tr>
<tr><td>10</td><td>33</td><td>33</td></tr>
<tr><td>12</td><td>23</td><td>42</td></tr>
<tr><td>16</td><td>13</td><td>49</td></tr>
<tr><td>20</td><td>7.5</td><td>55</td></tr>
<tr><td>22</td><td>22</td><td>73</td></tr>
</table>
</td></tr>
<tr><td>Contact Resistance, Type B</td><td>(Per SAE-AS39029, Paragraph 3.5.4.2)
The contact voltage drop of each ferrous alloy contact with its applicable mating copper alloy contact shall not exceed the applicable values specified.</td><td>
<table>
<tr><th>Wire Size</th><th>Test Current Amperes</th><th>Maximum Voltage Drop (Millivolts) at 25°C ±3°C</th></tr>
<tr><td>10</td><td>23</td><td>363</td></tr>
<tr><td>12</td><td>17</td><td>462</td></tr>
<tr><td>16</td><td>10</td><td>539</td></tr>
<tr><td>20</td><td>55</td><td>605</td></tr>
<tr><td>22</td><td>3</td><td>803</td></tr>
</table>
</td></tr>
</table>

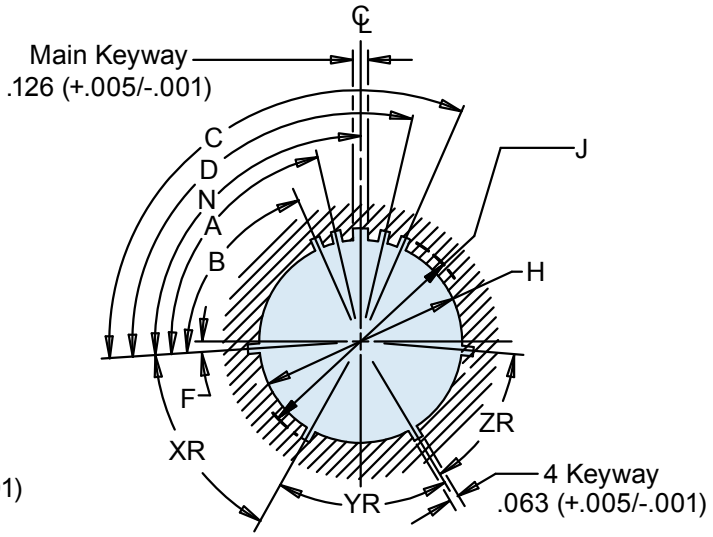
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MIL-DTL-38999 Series I and II
Alternate Keyway Positions



Plugs



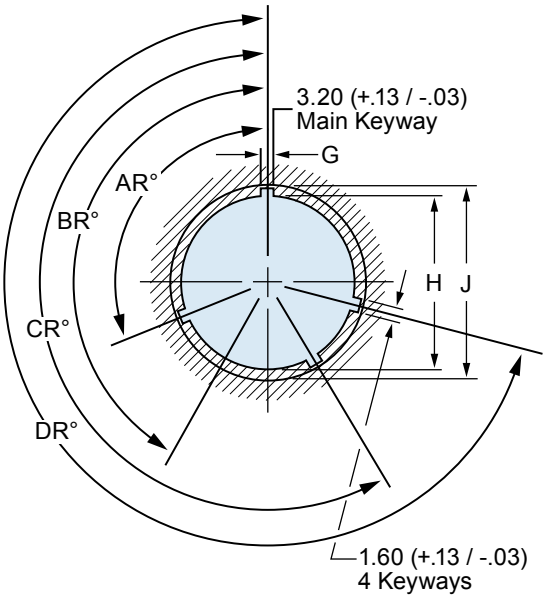
Receptacles

SERIES I ALTERNATE KEY POLARIZATION									
Shell Size	**F**	**Normal Rotation**				**Letter Designation**			
		N	**XR XP**	**YR YP**	**ZR ZP**	**A**	**B**	**C**	**D**
9	5°	95°	45°	88°	27°	77°	---	---	113°
11	5°	95°	45°	88°	27°	81°	67°	123°	109°
13	5°	95°	45°	88°	27°	75°	63°	127°	115°
15	5°	95°	45°	88°	27°	74°	61°	129°	116°
17	5°	95°	45°	88°	27°	77°	65°	125°	113°
19	5°	95°	45°	88°	27°	77°	65°	125°	113°
21	5°	95°	45°	88°	27°	77°	65°	125°	113°
23	5°	95°	45°	88°	27°	80°	69°	121°	110°
25	5°	95°	45°	88°	27°	80°	69°	121°	110°

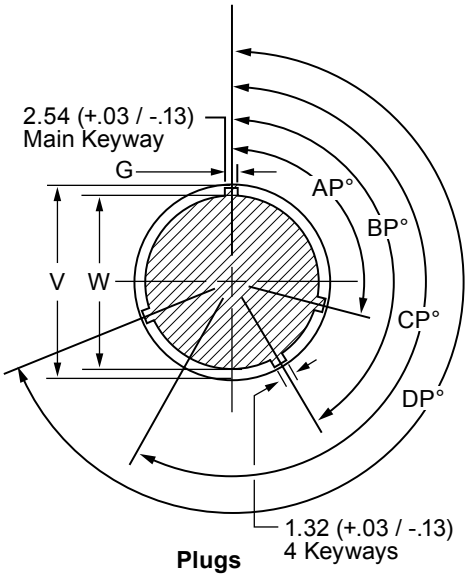
SERIES II ALTERNATE KEY POLARIZATION									
Shell Size	**F**	**Normal Rotation**				**Letter Designation**			
		N	**XR XP**	**YR YP**	**ZR ZP**	**A**	**B**	**C**	**D**
8	10°	100°	28°	100°	37°	82°	---	---	118°
10	10°	100°	28°	100°	37°	86°	72°	128°	114°
12	10°	100°	28°	100°	37°	80°	68°	132°	120°
14	10°	100°	28°	100°	37°	79°	66°	134°	121°
16	10°	100°	28°	100°	37°	82°	70°	130°	118°
18	10°	100°	28°	100°	37°	82°	70°	130°	118°
20	10°	100°	28°	100°	37°	82°	70°	130°	118°
22	10°	100°	28°	100°	37°	85°	74°	126°	115°
24	10°	100°	28°	100°	37°	85°	74°	126°	115°

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Receptacles



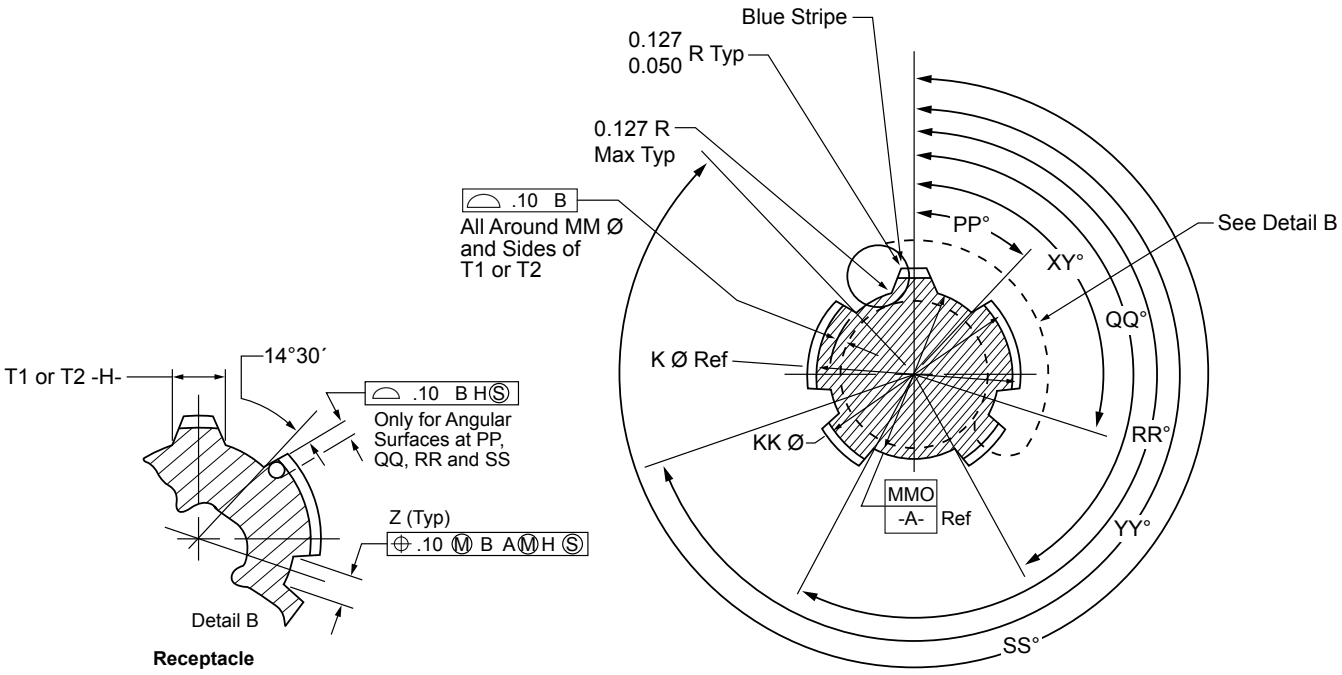
Plugs

SERIES III ALTERNATE KEY POLARIZATION					
Shell Size	**Key and Keyway Arrangement Identification Letter**	**AR° or AP° BSC**	**BR° or BP° BSC**	**CR° or CP° BSC**	**DR° or DP° BSC**
9	N	105	140	215	265
	A	102	132	248	320
	B	80	118	230	312
	C	35	140	205	275
	D	64	155	234	304
	E	91	131	197	240
11 13 and 15	N	95	141	208	236
	A	113	156	182	292
	B	90	145	195	252
	C	53	156	220	255
	D	119	146	176	298
	E	51	141	184	242
17 and 19	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272
21 23 and 25	N	80	142	196	293
	A	135	170	200	310
	B	49	169	200	244
	C	66	140	200	257
	D	62	145	180	280
	E	79	153	197	272

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MIL-DTL-38999 Series IV
Alternate Keyway Positions



SERIES IV ALTERNATE KEY POLARIZATION										
Shell Size Code	Receptacle Main Key and Keyway Polarization								Main Key BSC	
	Shell Size	MM Dia BSC	PP°	QQ°	RR°	SS°	Z	Z²	Socket Contact T1	Pin Contact T2
B	11	13.09	44°28'	151°6'	208°54'	315°32'	1.83	2.46	1.90	2.78
C	13	16.51	44°25'	150°31'	209°29'	315°35'	1.52	2.16	1.94	2.85
D	15	19.69	44°33'	150°24'	209°36'	315°27'	2.34	3.23	2.43	3.36
E	17	22.89	44°36'	150°22'	209°38'	315°24'	2.03	2.92	2.45	3.40
F	19	25.79	44°33'	150°27'	209°33'	315°27'	2.85	3.99	2.96	3.91
G	21	28.96	44°34'	150°23'	209°37'	315°26'	2.54	3.68	2.99	3.94
H	23	32.14	44°34'	150°20'	209°40'	315°26'	3.35	4.75	3.50	4.46
J	25	35.31	44°42'	150°22'	209°388'	315°18'	3.04	4.45	3.53	4.49

Dimensions are in Millimeters

SERIES IV ALTERNATE KEY POLARIZATION										
	N	A	B	C	D	K	L	M	R	U
X° XX°	110°	100°	90°	80°	70°	120°	120°	120°	120°	0°
Y° YY°	250°	260°	270°	280°	290°	255°	265°	275°	285°	0°

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Recommended Torque Values

INSTALLATION TORQUE VALUES FOR CIRCULAR ELECTRICAL CONNECTOR ACCESSORIES			
Shell Sizes	Column 1	Column 2	Column 3
	In-Lbs, Min/Max	In-Lbs, Min/Max	In-Lbs, Min/Max
8, 9, A	30/40	51/61	20/25
3, 10, 10SL, 11, B	30/40	71/81	20/30
7, 12, 12S, 13, C	35/45	103/113	25/35
14, 14S, 15, D	35/45	111/121	25/35
16, 16S, 17, E	35/45	111/121	30/40
18, 19, 27, F	35/45	111/121	30/40
20, 21, 37, G	75/85	131/141	35/45
22, 23, H	75/85	131/141	35/45
24, 25, 61, J	75/85	131/141	35/45
28, 29	115/125	143/153	115/125
32, 33	115/125	143/153	115/125
36	115/125	142/153	112/125
40	155/165	159/169	N/A
44	155/165	159/169	N/A
48	155/165	159/169	N/A

Column 1: Light and Medium Duty
AS50151 (AS31001 Series)
MIL-DTL-26482 Series I
MIL-DTL-26500, MIL-DTL-27599
MIL-DTL-38999 Series I and II
MIL-C-81511 Series I, II, III and IV
AS81703 Series I

Column 2: Heavy Duty
AS50151 (AS34001 Series)
MIL-DTL-22992, MIL-DTL-28840
MIL-DTL-26482 Series II
MIL-DTL-38999 Series III and IV
MIL-DTL-83723 Series I, II and III
AS81703 Series III

Column 3: Composite Material Coupling Threads
(See Notes 1 and 2)

RECOMMENDED JAM NUT TORQUE VALUES			
UN Thread Sizes -2B	Torque min/max (in/lbs)	Connector Shell Size Reference	
		Sr I	Sr III
.6875-24 UNEF	28/34	9	--
.8125-20 UNEF	34/40	11	--
.875-20 UNEF	40/46	--	8
1.000-20 UNEF	50/55	13	10
1.125-18 UN	70/75	15	12
1.250-18 UN	80/85	17	14
1.375-18 UNEF	80/85	19	16
1.500-18 UN	105/115	21	18
1.625-18 ENEF	105/115	23	20
1.750-18 UNS	110/120	25	22
1.875-16 UN	120/130	--	24

RECOMMENDED JAM NUT TORQUE VALUES			
Metric Thread Sizes - X1-6H	Torque min/max (in/lbs)	Connector Shell Size Reference	
		Sr III	Sr IV
M17	30/36	9	--
M20	40/46	11	--
M25	50/60	13	11
M28	70/75	15	13
M31	70/75	--	15
M32	80/85	17	--
M34	80/85	--	17
M35	90/95	19	--
M38	100/110	21	19
M41	110/120	23	21
M44	120/130	25	23
M47	120/130	--	25

TORQUE VALUES FOR CABLE CLAMP SCREWS See Note 5 and 6	
Screw Size	In-Lbs Min/Max
2-56	1.5/2.5
4-40	3.5/4.5
6-32	5.0/7.0
8-32	7.0/9.0
10-32	9.0/11.0
.250-20	11.0/13.0

CABLE CLAMP TORQUE VALUES		
Clamp Size	With Grommet See Note 4	Without Grommet
	In-Lbs Min/Max	In-Lbs Min/Max
3	8/12	30/40
4	10/15	30/40
6	10/15	35/55
8	12/20	35/55
10	12/20	35/55
12	15/30	40/60
16	20/40	40/60
20	20/40	40/60
24	25/45	80/100
28	30/50	80/100
32	30/50	80/100
40	40/60	80/100

NOTES
1) Use Glenair 600-091/157 and 600-007 torque tools when tightening hexagonal composite accessory couplings.
2) Metal and composite torque values per SAE AIR 6151. All values provided in Inch-Pounds.
3) For additional guidance or values/conditions not listed, refer to SAE AIR6151.
4) Values are based on lubricated grommets and clamp threads.
5) For stainless-steel or plated steel screws into aluminum or stainless-steel.
6) Not applicable for light-duty saddles unless bottomed on clamp nut.
recommended torque of 35 in-lb.

EMI/RFI shielding terminated with conical metal ferrule(s) should employ a minimum

Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-38999 Hermetic Connectors and Environmental Mates

Hermetic	Environmental
230-003P09-35PN	D38999/26FA35SN
230-003P09-35PN	D38999/26FA35SN
230-003P15-97DN	D38999/26FD97PN
230-003P19-11DN	D38999/26FF11PN
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z113-35PN	MS27467E13F35S
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z115-35PA	MS27467E15F35SA
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7Z117-35PN	MS27467E17F35S
231-100-H7ZL17-35PN	MS27467E17F35S
232-100-H5Z110-35PN	MS27473E10F35S
233-100-H7ZL17-06DN	D38999/26FE6PN
233-100-H7ZL17-06DN	D38999/26FE6PN
D38999/21NA35PN	D38999/26FA35SN
D38999/21NA35PN	D38999/26FA35SN
D38999/21NB35PN	D38999/26FB35SN
D38999/21ND35PA	D38999/26FD35SA
D38999/21NJ19PN	D38999/26FJ19SN
D38999/21NJ19PN	D38999/26FJ19SN
D38999/21NJ35DA	D38999/26FJ35PA
D38999/21NJ35DA	D38999/26FJ35PA
D38999/21NJ35DB	D38999/26FJ35PB
D38999/21NJ35DB	D38999/26FJ35PB
D38999/21NJ35DC	D38999/26FJ35DC
D38999/21NJ35DC	D38999/26FJ35DC
D38999/21YA98PN	D38999/26FA98SN

Hermetic	Environmental
D38999/21YA98PN	D38999/26FA98SN
D38999/21YB35XA	D38999/26FB35SA
D38999/21YB5PN	D38999/26FB5SN
D38999/21YB5PN	D38999/26FB5SN
D38999/21YB98PB	D38999/26FB98SB
D38999/21YB98PC	D38999/26FB98SC
D38999/21YB98PN	D38999/26FB98SN
D38999/21YB99PN	D38999/26FB99SN
D38999/21YC35PN	D38999/26FC35SN
D38999/21YC4PN	D38999/26FC4SN
D38999/21YC4PN	D38999/26FC4SN
D38999/21YC4PN	D38999/26FC4SN
D38999/21YC4SN	D38999/26FC4PN
D38999/21YC4SN	D38999/26FC4PN
D38999/21YC98PA	D38999/26FC98SA
D38999/21YC98PA	D38999/26FC98SA
D38999/21YC98PA	D38999/26FC98SA
D38999/21YD5PN	D38999/26FD5SN
D38999/21YD97PA	D38999/26FD97SA
D38999/21YD97PA	D38999/26FD97SA
D38999/21YD97PN	D38999/26FD97SN
D38999/21YE6XN	D38999/26FE6SN
D38999/21YG16PN	D38999/26FG16SN
D38999/21YG39PN	D38999/26FG39SN
D38999/23NA35PN	D38999/26FA35SN
D38999/23NB5SN	D38999/26FB5PN
D38999/23ND35PA	D38999/26FD35SA
D38999/23ND97DN	D38999/26FD97PN
D38999/23NF11DN	D38999/26FF11PN
D38999/23NG16PN	D38999/26FG16SN
D38999/23NG16PN	D38999/26FG16SN
D38999/23YA35PN	D38999/26FA35SN
D38999/23YA35PN	D38999/26FA35SN
D38999/23YA35PN	D38999/26FA35SN
D38999/23YB35CN	D38999/26FB35SN
D38999/23YB35PA	D38999/26FB35SA
D38999/23YB35PN	D38999/26FB35SN
D38999/23YB35PN	D38999/26FB35SN
D38999/23YB35PN	D38999/26FB35SN
D38999/23YB35SN	D38999/26FB35PN

Dimensions in Inches (millimeters) are subject to change without notice.

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Hermetic	Environmental
D38999/23YB35SN	D38999/26FB35PN
D38999/23YB35SN	D38999/26FB35PN
D38999/23YB98PN	D38999/26FB98SN
D38999/23YC35PC	D38999/26FC35SC
D38999/23YC35PN	D38999/26FC35SN
D38999/23YC35SB	D38999/26FC35PB
D38999/23YC35SB	D38999/26FC35PB
D38999/23YC35SB	D38999/26FC35PB
D38999/23YC35SN	D38999/26FC35PN
D38999/23YC35SN	D38999/26FC35PN
D38999/23YC4PN	D38999/26FC4SN
D38999/23YC98PN	D38999/26FC98SN
D38999/23YC98PN	D38999/26FC98SN
D38999/23YC98PN	D38999/26FC98SN
D38999/23YC98PN	D38999/26FC98SN
D38999/23YE26SA	D38999/26FE26PA
D38999/23YE6SN	D38999/26FE6PN
D38999/23YG41CN	D38999/26FG41SN
D38999/23YH35CN	D38999/26FH35SN
D38999/23YH35PA	D38999/26FH35SA
D38999/23YH35PA	D38999/26FH35SA
D38999/23YJ29SN	D38999/26FJ29PN
D38999/23YJ29SN	D38999/26FJ29PN
D38999/25YH35PN	D38999/26FH35SN
D38999/48YC35PN	D38999/46FC35SN
MS27469Y23N35C	MS27467E23F35S
MS27470Y11D35S	MS27467E11F35P
MS27470Y15E35PA	MS27467E15F35SA
MS27470Y23D21P	MS27467E23F21S
MS27471Y11E35P	MS27467E11F35S
MS27471Y11E35P	MS27467E11F35S
MS27471Y13D98PB	MS27467E13F98SB
MS27475Y10E35P	MS27473E10F35S
MS27477Y14E18PB	MS27473E14F18SB
MS27477Y14N18S	MS27473E14F18P
MS27478Y10E35P	MS27473E10F35S
MS27478Y10N35C	MS27473E10F35S
MS27478Y10N35C	MS27473E10F35S
MS27478Y18N35P	MS27473E18F35S

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MS27469
Wall Mount Hermetic Receptacle
MIL-DTL-38999 Series I

How To Order: *MS*

Shell Style
MS27469 - *Wall Mount, Series I*

Connector Material / Finish
D - Carbon Steel - Fused Tin Finish
E - Stainless Steel - Passivate Finish
N - Stainless Steel - Nickel Finish

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB Flex Feedthrough
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB Flex Feedthrough

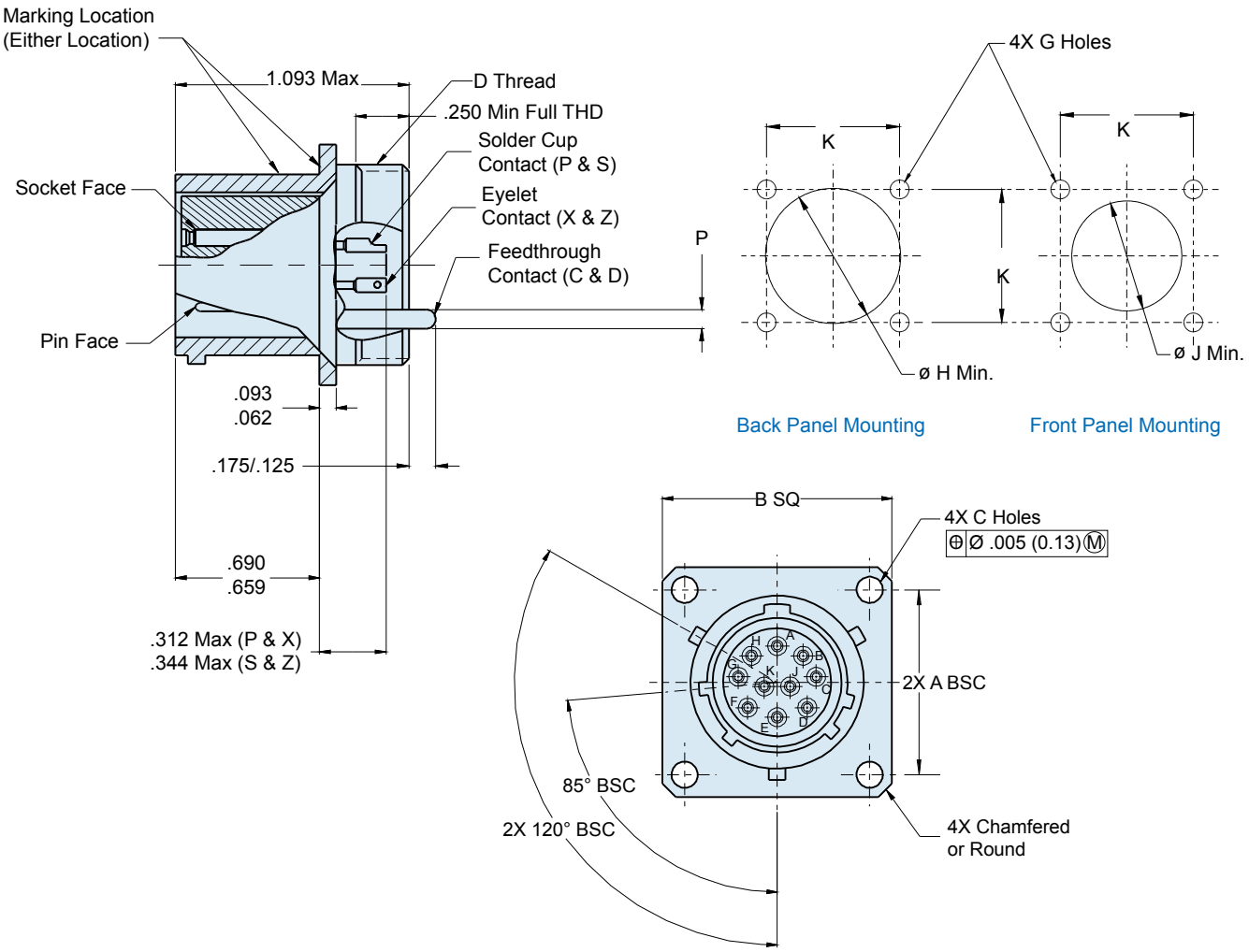
MS27469	Y	11	N	35	P	A

Class
Y- Hermetic

Shell Size
9,11,13,15,17,19,21,23,25

Insert Arrangement
MIL-DTL-38999 Series I
Hermetic Inserts Per
MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)



Dimensions in Inches (millimeters) are subject to change without notice.

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231-100-H0
Wall Mount Hermetic Receptacle
MIL-DTL-38999 Series I Type

How To Order: *Commercial*

Connector Series
231-100 - Series I Type

Shell Style
H0 - Hermetic Wall Mount

Shell Size
09,11,13,15,17,19,21,23,25

Contact Termination
P - Pin, Solder Cup
S - Socket, Solder Cup
X - Pin, Eyelet
Z - Socket, Eyelet
C - Pin, Feedthru
D - Socket, Feedthru

231 - 100 - H0 Z1 11 - 35 P N

Connector Type
100 - Hermetic Receptacle

Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D,
(*N* = Normal)

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A BSC	B SQ ±.016(0.4)	ø C HOLES	D THREADS
9	.719(18.3)	.938(23.8)	.133(3.4) .123(3.1)	.6875-24 UNEF-2A
11	.812(20.6)	1.031(26.2)	.133(3.4) .123(3.1)	.8125-20 UNEF-2A
13	.906(23.0)	1.125(28.6)	.133(3.4) .123(3.1)	.9375-20 UNEF-2A
15	.969(24.6)	1.219(31.0)	.133(3.4) .123(3.1)	1.0625-18 UNEF-2A
17	1.062(27.0)	1.312(33.3)	.133(3.4) .123(3.1)	1.1875-18 UNEF-2A
19	1.156(29.4)	1.438(36.5)	.133(3.4) .123(3.1)	1.3125-18 UNEF-2A
21	1.250(31.8)	1.562(39.7)	.133(3.4) .123(3.1)	1.4375-18 UNEF-2A
23	1.375(34.9)	1.688(42.9)	.157(4.0) .142(3.6)	1.5625-18 UNEF-2A
25	1.500(38.1)	1.812(46.0)	.157(4.0) .142(3.6)	1.6875-18 UNEF-2A

TABLE I (CONTINUED): CONNECTOR DIMENSIONS

SHELL SIZE	ø G HOLES ±.005(0.1)	ø H MIN	ø J MIN	K ±.005(0.1)
9	.128(3.3)	.656(16.7)	.697(17.7)	.719(18.3)
11	.128(3.3)	.796(20.2)	.822(20.9)	.812(20.6)
13	.128(3.3)	.921(23.4)	.947(24.1)	.906(23.0)
15	.128(3.3)	1.047(26.6)	1.072(27.2)	.968(24.6)
17	.128(3.3)	1.218(30.9)	1.197(30.4)	1.062(27.0)
19	.128(3.3)	1.296(32.9)	1.322(33.6)	1.156(29.4)
21	.128(3.3)	1.421(36.1)	1.447(36.8)	1.250(31.8)
23	.154(3.9)	1.546(39.3)	1.572(39.9)	1.375(34.9)
25	.154(3.9)	1.672(42.5)	1.697(43.1)	1.500(38.1)

HERMETIC LEAK RATE MOD CODES

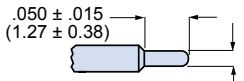
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



SIZE 12 AND SIZE 16



SIZE 22D AND SIZE 20

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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MS27470
Jam Nut Mount Hermetic Receptacle
MIL-DTL-38999 Series I

How To Order: *MS*

Shell Style
MS27470 - *Jam Nut Mount, Series I*

Connector Material / Finish
D - Carbon Steel - Fused Tin Finish
E - Stainless Steel - Passivate Finish
N - Stainless Steel - Nickel Finish

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB Flex Feedthrough
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB Flex Feedthrough

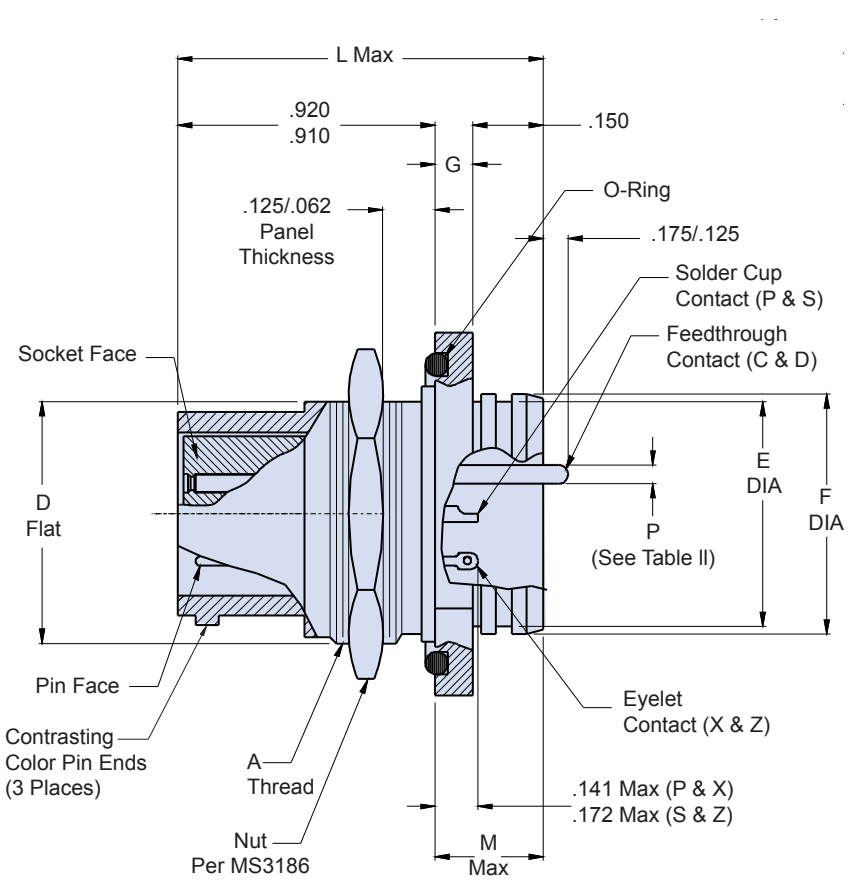
MS27470	Y	11	N	35	P	A

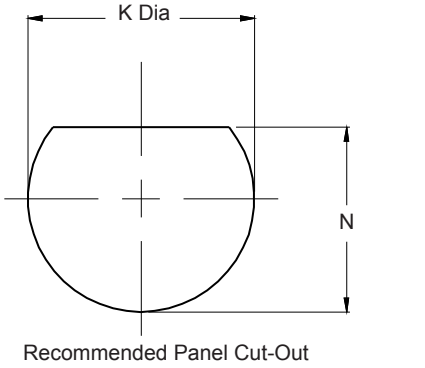
Class
Y- Hermetic

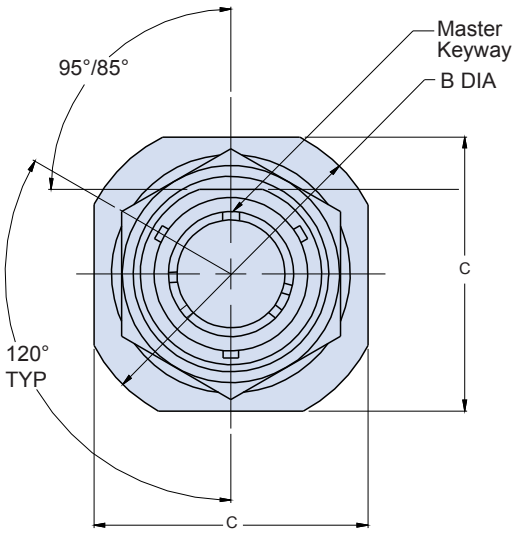
Shell Size
9,11,13,15,17,19,21,23,25

Insert Arrangement
MIL-DTL-38999 Series I Hermetic Inserts Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)







Dimensions in Inches (millimeters) are subject to change without notice.

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231-100-H7
Jam Nut Mount Hermetic Receptacle
MIL-DTL-38999 Series I Type

How To Order: *Commercial*

Connector Series
231-100 - Series I Type Hermetic

Shell Style
H7 - Jam Nut Receptacle

Shell Size
09,11,13,15,17,19,21,23,25

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB

231 - 100 - H7 Z1 11 - 35 P N

Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D,
(*N* = Normal)

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA ±.016(0.4)	C ±.016(0.4)	D FLAT ±.005(0.1)	E DIA ±.011(0.3)	F DIA ±.005(0.1)
9	.6875-24 UNEF	1.188(30.2)	1.062(27.0)	.65(16.5)	.602(15.3)	.648(16.5)
11	.8125-20 UNEF	1.375(34.9)	1.25(31.8)	.75(19.1)	.726(18.4)	.772(19.6)
13	1.000-20 UNEF	1.5(38.1)	1.375(34.9)	.937(23.8)	.852(21.6)	.898(22.8)
15	1.125-18 UNEF	1.625(41.3)	1.5(38.1)	1.061(26.9)	.978(24.8)	1.024(26.0)
17	1.250-18 UNEF	1.75(44.5)	1.625(41.3)	1.186(30.1)	1.102(28.0)	1.148(29.2)
19	1.375-18 UNEF	1.938(49.2)	1.812(46.0)	1.311(33.3)	1.228(31.2)	1.274(32.4)
21	1.500-18 UNEF	2.062(52.4)	1.938(49.2)	1.436(36.5)	1.352(34.3)	1.398(35.5)
23	1.625-18 UNEF	2.188(55.6)	2.062(52.4)	1.561(39.6)	1.478(37.5)	1.524(38.7)
25	1.750-18 UNS	2.312(58.7)	2.188(55.6)	1.686(42.8)	1.602(40.7)	1.648(41.9)

TABLE I (CONTINUED): CONNECTOR DIMENSIONS

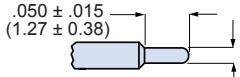
SHELL SIZE	G ±.016(0.4)	K DIA ±.005 (0.1)	L MAX	M MAX	N ± .004 (0.1)
9	.109 (2.8)	.698 (17.7)	1.200 (30.5)	.280 (7.1)	.657 (16.7) +.004(.1)/-.002(.1)
11	.109 (2.8)	.830 (21.1)	1.200 (30.5)	.280 (7.1)	.765 (19.43)
13	.109 (2.8)	1.015 (25.8)	1.200 (30.5)	.280 (7.1)	.949 (24.10)
15	.109 (2.8)	1.140 (29.0)	1.200 (30.5)	.280 (7.1)	1.079 (27.41)
17	.109 (2.8)	1.265 (32.1)	1.200 (30.5)	.280 (7.1)	1.204 (30.58)
19	.140 (3.6)	1.390 (35.3)	1.231 (31.3)	.311 (7.9)	1.329 (33.76)
21	.140 (3.6)	1.515 (38.5)	1.231 (31.3)	.311 (7.9)	1.454 (36.93)
23	.140 (3.6)	1.640 (41.7)	1.231 (31.3)	.311 (7.9)	1.579 (40.11)
25	.140 (3.6)	1.765 (44.8)	1.231 (31.3)	.311 (7.9)	1.704 (43.28)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



SIZE 12 AND SIZE 16



SIZE 22D AND SIZE 20

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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MS27471
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series I

How To Order: *MS*

Shell Style
MS27471 - Solder Mount, Series I

Connector Material / Finish
D - Carbon Steel - Fused Tin Finish
E - Stainless Steel - Passivate Finish
N - Stainless Steel - Nickel Finish

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB Flex Feedthrough
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB Flex Feedthrough

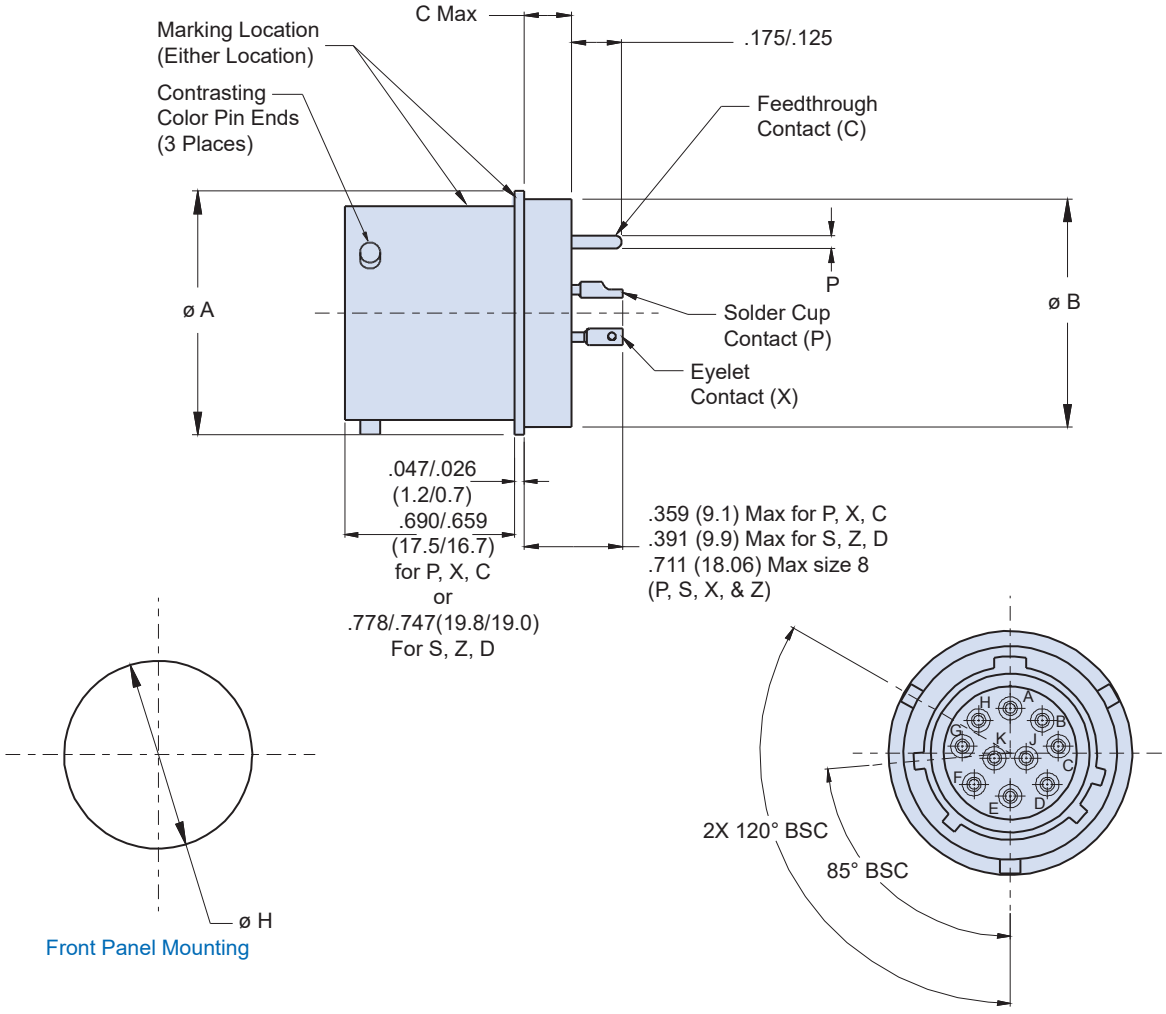
MS27471	Y	11	N	35	P	A

Class
Y- Hermetic

Shell Size
9,11,13,15,17,19,21,23,25

Insert Arrangement
MIL-DTL-38999 Series I Hermetic Inserts Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)



Dimensions in Inches (millimeters) are subject to change without notice.

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231-100-H5
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series I Type

How To Order: *Commercial*

Connector Series
231-100 - Series I Type Hermetic

Shell Style
H5 - Solder Mount

Shell Size
09,11,13,15,17,19,21,23,25

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB

231 - 100 H5 Z1 11 - 35 P N

Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

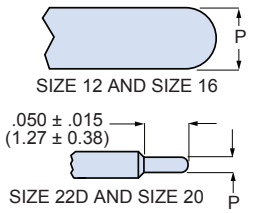
Alternate Key Position
A, B, C, D,
(*N* = Normal)

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	ø A ±.015(0.4)	ø B	C MAX	ø H ±.005(0.1)
9	.750(19.1)	.673(17.1) .667(16.9)	.187(4.7)	.680(17.3)
11	.844(21.4)	.782(19.9) .776(19.7)		.789(20.0)
13	.969(24.6)	.907(23.0) .901(22.9)		.914(23.2)
15	1.094(27.8)	1.032(26.2) 1.027(26.1)		1.038(26.4)
17	1.218(30.9)	1.157(29.4) 1.151(29.2)		1.164(29.6)
19	1.312(33.3)	1.251(31.8) 1.245(31.6)		1.258(32.0)
21	1.438(36.5)	1.376(35.0) 1.370(34.8)		1.383(35.1)
23	1.563(39.7)	1.501(38.1) 1.495(38.0)	.218(5.5)	1.508(38.3)
25	1.688(42.9)	1.626(41.3) 1.620(41.1)		1.643(41.7)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)
10	.126 (3.20) .124 (3.15)
8	.184 (4.67) .180 (4.57)

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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231-103-H7
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series I Type

Connector Series
231 - D38999 Series I Type

Shell Style
H7 - Jam Nut Mount

Shell Size
09
11
13
15
17
19
21
23
25

Insert Arrangement
Per MIL-DTL-38999 Series I
MIL-STD-1560

Alternate Key Position
A, B, C, D
(*N* = Normal)

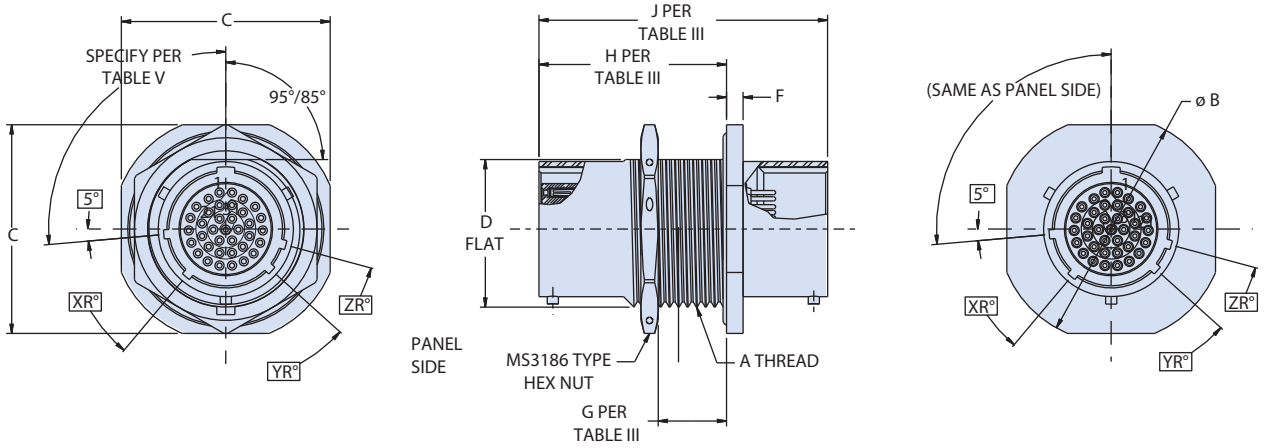
231 - 103 - H7 Z1 11 - 35 P N - 01

Connector Type
103 - Hermetic Bulkhead Feed-Thru

Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side

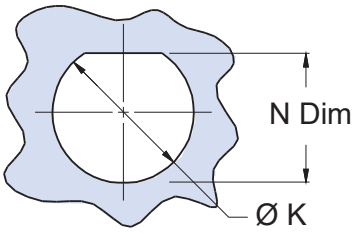
Connector Material and Finish
FT - Carbon Steel, Fused Tin
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

See Table III
Consult factory for additional options.



HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE III: PANEL ACCOMMODATION			
SYM	G	H	J
01	.062-.125	.920 MAX	1.700 MAX
02	.062-.250	1.060 MAX	1.850 MAX
03	.062-.500	1.310 MAX	2.100 MAX



Recommended Panel Cut-Out

Dimensions in Inches (millimeters) are subject to change without notice.

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231-103-H7
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series I Type

Glenair®

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C A/F	D FLATS	F	ØK	N
9	.6875-24 UNEF	1.204 (30.58) 1.172 (29.77)	1.078 (27.38) 1.046 (26.57)	0.655 (16.64) 0.645 (16.38)	0.125 (3.18) 0.093 (2.36)	0.703 (17.86) 0.693 (17.60)	0.661 (16.79) 0.655 (16.64)
11	.8125-20 UNEF	1.391 (35.33) 1.359 (34.52)	1.266 (32.16) 1.234 (31.34)	0.755 (19.18) 0.745 (18.92)	0.125 (3.18) 0.093 (2.36)	0.835 (21.21) 0.825 (20.96)	0.771 (19.58) 0.761 (19.33)
13	1.000-20 UNEF	1.516 (38.51) 1.484 (37.69)	1.391 (35.33) 1.359 (34.52)	0.942 (23.93) 0.932 (23.67)	0.125 (3.18) 0.093 (2.36)	1.020 (25.91) 1.010 (25.65)	0.955 (24.26) 0.945 (24.00)
15	1.125-18 UNEF	1.641 (41.68) 1.609 (40.87)	1.516 (38.51) 1.484 (37.69)	1.066 (27.08) 1.056 (26.82)	0.125 (3.18) 0.093 (2.36)	1.145 (29.08) 1.135 (28.83)	1.085 (27.56) 1.075 (27.30)
17	1.250-18 UNEF	1.766 (44.86) 1.734 (44.04)	1.641 (41.68) 1.609 (40.87)	1.191 (30.25) 1.181 (30.00)	0.125 (3.18) 0.093 (2.36)	1.270 (32.26) 1.260 (32.00)	1.210 (30.73) 1.200 (30.48)
19	1.375-18 UNEF	1.954 (49.63) 1.922 (48.82)	1.828 (46.43) 1.796 (45.62)	1.316 (33.43) 1.306 (33.17)	0.156 (3.96) 0.124 (3.15)	1.395 (35.43) 1.385 (35.18)	1.335 (33.91) 1.325 (33.65)
21	1.500-18 UNEF	2.078 (52.78) 2.046 (51.97)	1.954 (49.63) 1.922 (48.82)	1.441 (36.60) 1.431 (36.35)	0.156 (3.96) 0.124 (3.15)	1.520 (38.61) 1.510 (38.35)	1.460 (37.08) 1.450 (36.83)
23	1.625-18 UNEF	2.204 (55.98) 2.172 (55.17)	2.078 (52.78) 2.046 (51.97)	1.566 (39.78) 1.556 (39.52)	0.156 (3.96) 0.124 (3.15)	1.645 (41.78) 1.635 (41.53)	1.585 (40.26) 1.575 (40.00)
25	1.750-18 UNS	2.328 (59.13) 2.296 (58.32)	2.204 (55.98) 2.172 (55.17)	1.691 (42.95) 1.681 (42.70)	0.156 (3.96) 0.124 (3.15)	1.770 (44.96) 1.760 (44.70)	1.710 (43.43) 1.700 (43.18)

TABLE II: KEYWAY POSITIONS

Shell Size	XR	YR	ZR	Master Keyway Positions				
				N	A	B	C	D
9	45°	88°	27°	95°	77°	---	---	113°
11	45°	88°	27°	95°	81°	67°	123°	109°
13	45°	88°	27°	95°	75°	63°	127°	115°
15	45°	88°	27°	95°	74°	61°	129°	116°
17	45°	88°	27°	95°	77°	65°	125°	113°
19	45°	88°	27°	95°	77°	65°	125°	113°
21	45°	88°	27°	95°	77°	65°	125°	113°
23	45°	88°	27°	95°	80°	69°	121°	110°
25	45°	88°	27°	95°	80[a]	69°	121°	110°

APPLICATION NOTES

1. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
2. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
3. Material/finish:
   Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
   Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
   Insulator – fused vitreous glass/N.A.
   Seals – fluorosilicone rubber/N.A.
4. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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231-103-H9
Jam Nut Mount Hermetic Sav-Con®
MIL-DTL-38999 Series I Type

Connector Series
231 - D38999 Series I Type

Shell Style
H9 - Jam Nut Mount

Shell Size
09
11
13
15
17
19
21
23
25

Insert Arrangement
Per MIL-DTL-38999 Series I
MIL-STD-1560

Alternate Key Position
A, B, C, D
(*N* = Normal)

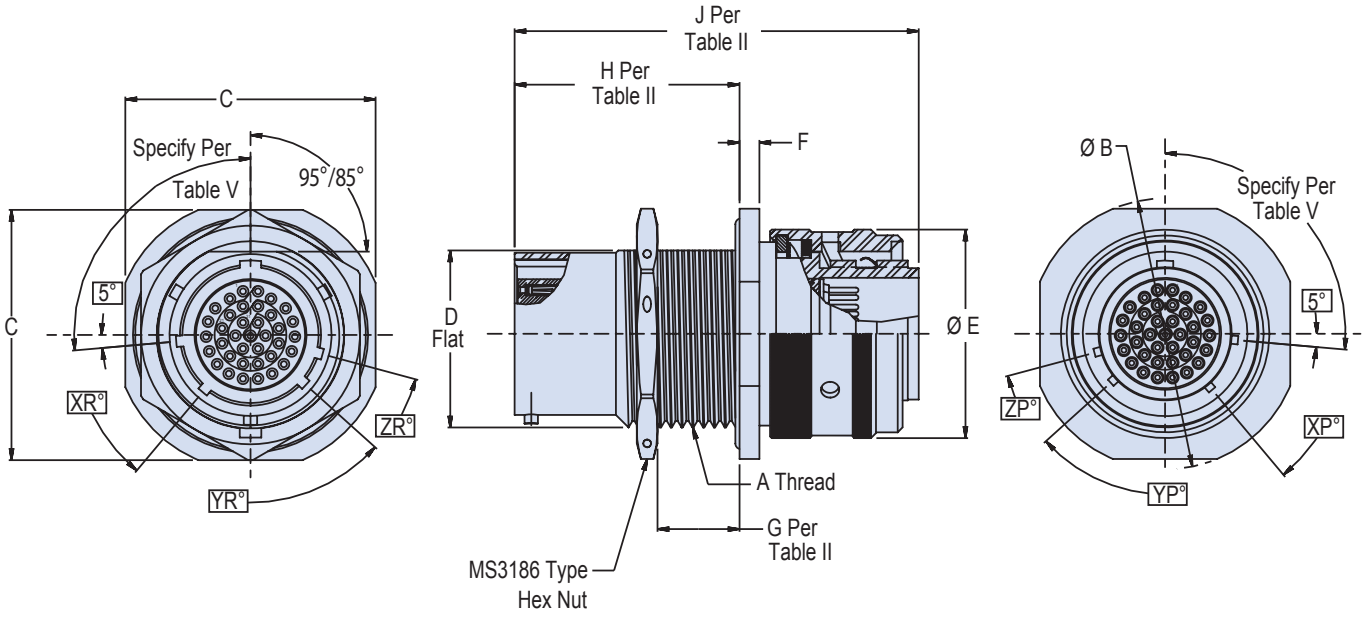
231	-	103	-	H9	Z1	11	-	35	P	N	-	01

Connector Type
103 - Hermetic Bulkhead Feed-Thru

Contact Termination
P - Pin on Plug End
S - Socket on Plug End

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

Panel Accomodation
Per Table II
Consult factory for additional options.



Dimensions in Inches (millimeters) are subject to change without notice.

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231-103-H9
Jam Nut Mount Hermetic Sav-Con®
MIL-DTL-38999 Series I Type

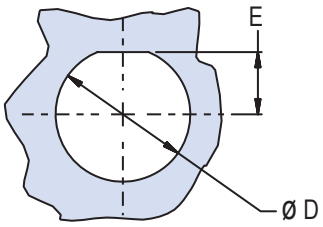
Glenair®

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C A/F	D FLAT	E DIA MAX	F	K DIA	N
9	.6875-24 UNEF	1.204/1.172 (30.58/29.77)	1.078/1.046 (27.38/26.57)	.655/.645 (16.64/16.38)	.859 (21.82)	.125/.093 (3.18/2.36)	.703/.693 (17.86/17.60)	.657/.655 (16.69/16.64)
11	.8125-20 UNEF	1.391/1.359 (35.33/34.52)	1.299/1.234 (32.99/31.34)	.755/.745 (19.18/18.92)	.984 (24.99)	.125/.093 (3.18/2.36)	.835/.825 (21.21/20.96)	.771/.769 (19.58/19.53)
13	1.000-20 UNEF	1.516/1.484 (38.51/37.69)	1.391/1.359 (35.33/34.52)	.942/.932 (23.93/23.67)	1.156 (29.36)	.125/.093 (3.18/2.36)	1.020/1.010 (25.91/25.65)	.955/.953 (24.26/24.21)
15	1.125-18 UNEF	1.641/1.609 (41.68/40.87)	1.516/1.484 (38.51/37.69)	1.066/1.056 (27.08/26.82)	1.281 (32.54)	.125/.093 (3.18/2.36)	1.145/1.135 (29.08/28.83)	1.085/1.083 (27.56/27.51)
17	1.250-18 UNEF	1.766/1.734 (44.86/44.04)	1.641/1.609 (41.68/40.87)	1.191/1.181 (30.35/30.00)	1.406 (35.71)	.125/.093 (3.18/2.36)	1.270/1.260 (32.26/32.00)	1.210/1.208 (30.73/30.68)
19	1.375-18 UNEF	1.954/1.922 (49.63/48.82)	1.828/1.796 (46.43/45.62)	1.316/1.306 (33.43/33.17)	1.516 (38.5)	.156/.124 (3.96/3.15)	1.395/1.385 (35.43/35.18)	1.335/1.333 (33.91/33.86)
21	1.500-18 UNEF	2.078/2.046 (52.78/51.97)	1.954/1.922 (49.63/48.82)	1.441/1.431 (36.60/36.35)	1.641 (41.68)	.156/.124 (3.96/3.15)	1.520/1.510 (38.61/38.35)	1.460/1.458 (37.08/37.03)
23	1.625-18 UNEF	2.204/2.172 (55.98/55.17)	2.078/2.046 (52.78/51.97)	1.566/1.556 (39.78/39.52)	1.766 (44.86)	.156/.124 (3.96/3.15)	1.645/1.635 (41.8/41.53)	1.585/1.583 (40.26/40.21)
25	1.750-18 UNS	2.328/2.296 (59.13/58.32)	2.204/2.172 (55.98/55.17)	1.691/1.681 (42.95/42.70)	1.891 (48.03)	.156/.124 (3.96/3.15)	1.770/1.760 (44.96/44.70)	1.710/1.708 (43.43/43.38)

TABLE IV: MASTER KEY/KEYWAY POSITIONS

SHELL SIZE	XP YP	YP YR	ZP ZR	N	A	B	C	D
9	45°	88°	27°	95°	77°	—	—	113°
11	45°	88°	27°	95°	81°	67°	123°	109°
13	45°	88°	27°	95°	75°	63°	127°	115°
15	45°	88°	27°	95°	74°	61°	129°	116°
17	45°	88°	27°	95°	77°	65°	125°	113°
19	45°	88°	27°	95°	77°	65°	125°	113°
21	45°	88°	27°	95°	77°	65°	125°	113°
23	45°	88°	27°	95°	80°	69°	121°	110°
25	45°	.88°	27°	95°	80°	69°	121°	110°



Recommended Panel Cut-out

TABLE III: DWV VOLTAGE LEVELS

SERVICE RATING	VOLTAGE AC RMS 60HZ
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE II: DIMENSIONS

SYM	G	H	J
01	.062-.125 (1.57-3.18)	.920 MAX (23.37 MAX)	2.050 MAX (52.07 MAX)
02	.062-.250 (1.57-6.35)	1.050 MAX (26,67 MAX)	2.150 MAX (54.61 MAX)
03	.062-.500 (1.57-12.7)	1.300 MAX (33.02 MAX)	2.400 MAX (60.96 MAX)

APPLICATION NOTES

1. Material/finish:
   - Shell, jam-nut – 300 Series CRES/see P/N development.
   - Contacts, pin – Nickel-iron alloy/Gold plate.
   - Contacts, socket – Copper alloy/Gold plate.
   - Insulator, pin – Vitreous glass/N.A.
   - Insulator, sockets – Hi-grade rigid dielectric/N.A.
   - Grounding springs – Copper alloy/Gold plate.
   - O-Rings and seals – Fluorosilicone blend/N/A.
2. Assembly identified with manufacturer's name and part number, space permitting.
3. Test requirements:
   - D.W.V. – Per Table IV
   - I.R. – 5 GigOhms @ 500 VDC
   - Hermeticity – <1 x 10^{A-7} sccHe/sec @ 1 ATM differential.
4. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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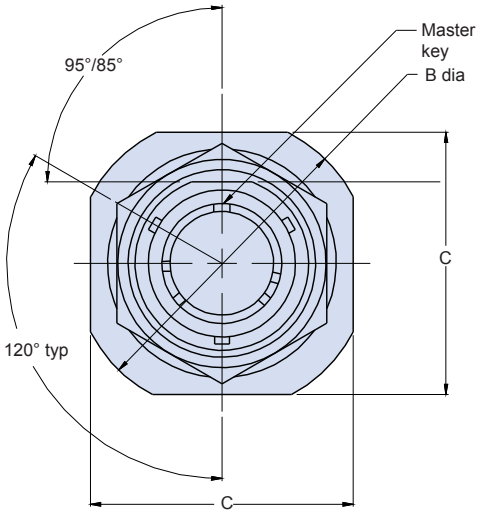
257-255
Jam Nut Mount Hermetic Receptacle
with Crimp Removable Socket Contacts, MIL-DTL-38999 Series I Type

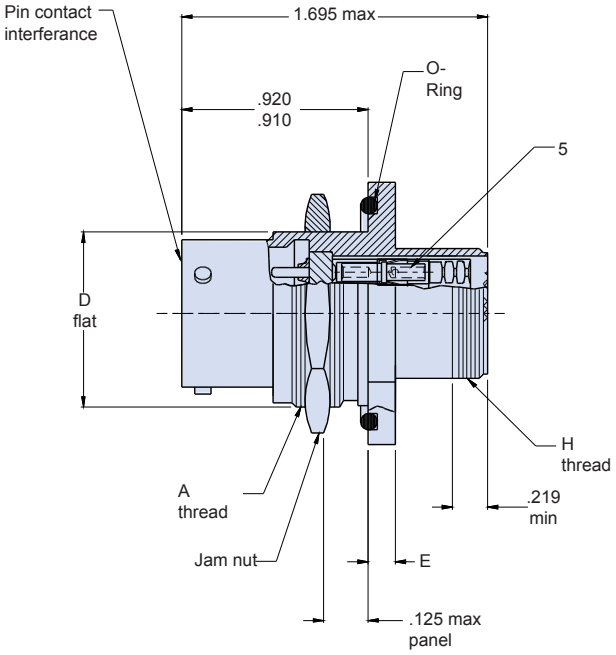
Basic Number	Shell Size		Alternate Key Position	
257-255	Z1	9 -	35	N

Material and Finish
Z1 - CRES, Passivated

Insert Arrangement
Per MIL-STD-1560

Alternate Key Position
A, B, C, D, E
(*N* = Normal)





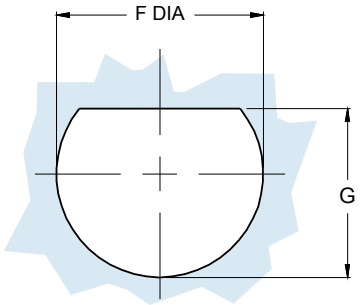
APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Insert arrangements in accordance with MIL-STD-1560.
3. Glenair 257-255 receptacle connector is designed to mate with any QPL manufacturer's MIL-DTL-38999 Series I plug connector having the same insert arrangement & polarization.
4. Material/finish:
   Shell, jam nut—CRES/passivated
   Pin contacts—nickel-iron alloy 52/gold
   Socket contacts—copper alloy/gold
   Insulator—fused vitreous glass/N.A.
   Insulators—high grade rigid dielectric/ N.A.
   Seals—pure fluorosilicone rubber/ N.A.
5. Supplied crimp removal socket contacts conform to M39029/57
6. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



Recommended Panel
Cut-Out

TABLE I: CONNECTOR DIMENSIONS				
SHELL SIZE	**A THREAD CLASS 2A**	**B DIA ±.016(0.4)**	**C FLATS ±.016(0.4)**	**D FLAT ±.005(0.1)**
9	.6875-24 UNEF	1.188(30.2)	1.062(27.0)	.650(16.5)
11	.8125-20 UNEF	1.375(34.9)	1.250(31.8)	.750(19.1)
13	1.000-20 UNEF	1.500(38.1)	1.375(34.9)	.937(23.8)
15	1.125-18 UNEF	1.625(41.3)	1.500(38.1)	1.061(26.9)
17	1.250-18 UNEF	1.750(44.5)	1.625(41.3)	1.186(30.1)
19	1.375-18 UNEF	1.938(49.2)	1.812(46.0)	1.311(33.3)
21	1.500-18 UNEF	2.062(52.4)	1.938(49.2)	1.436(36.5)
23	1.625-18 UNEF	2.188(55.6)	2.062(52.4)	1.561(39.6)
25	1.750-18 UNS	2.312(58.7)	2.188(55.6)	1.686(42.8)

TABLE I (CONTINUED): CONNECTOR DIMENSIONS				
SHELL SIZE	**E DIA ±.016(0.4)**	**F DIA ±.005 (0.1)**	**G ±.005 (0.1)**	**H THREAD CLASS 2A**
9	.109(2.8)	.693 (17.60)	.657 (16.70)	.4375-28 UNEF
11	.109(2.8)	.825 (20.96)	.771 (19.59)	.5625-24 UNEF
13	.109(2.8)	1.010 (25.65)	.955 (24.26)	.6875-24 UNEF
15	.109(2.8)	1.135 (28.83)	1.085 (27.56)	.8125-20 UNEF
17	.140(3.6)	1.260 (32.01)	1.210 (30.73)	.9375-20 UNEF
19	.140(3.6)	1.385 (35.18)	1.335 (33.91)	1.0625-18 UNEF
21	.140(3.6)	1.510 (38.35)	1.460 (37.08)	1.1875-18 UNEF
23	.140(3.6)	1.635 (41.53)	1.585 (40.26)	1.3125-18 UNEF
25	.140(3.6)	1.760 (44.70)	1.710 (43.43)	1.4375-18 UNEF

Dimensions in Inches (millimeters) are subject to change without notice.

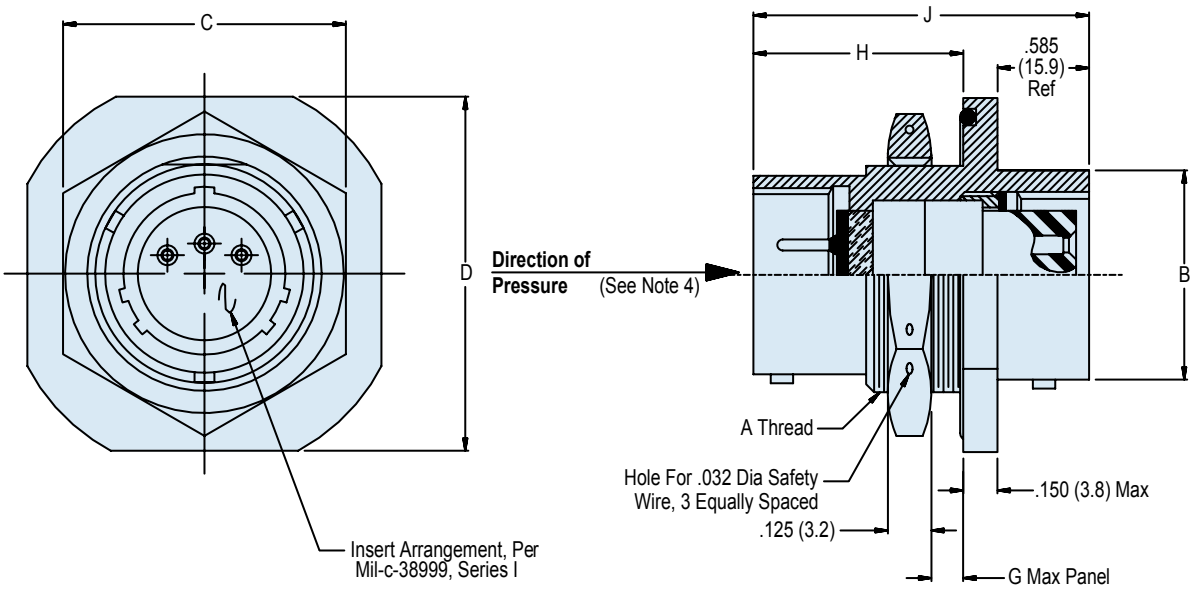
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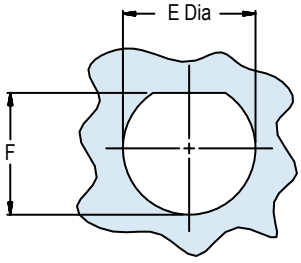
947-117
Jam Nut Mount Hermetic Bulkhead Feed-Thru
for MIL-DTL-38999 Series I Type

Product Series	Material/Finish	Insert Arrangement	Dash Number
947	– = CRES Passivate P = CRES/Nickel Plated	Per MIL-STD-1560	Panel Thickness (See Table II)

947	-	117	–	25	-	35	B	P	01

Basic Number	Shell Size	Alternate Key Position	Contact Termination
	Table I	A, B, C, D (Omit for Normal)	P - Pin on Jam Nut Side S - Socket on Jam Nut Side PP - Pin to Pin





Recommended Panel Cut-out

Dimensions in Inches (millimeters) are subject to change without notice.

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947-117
Jam Nut Mount Hermetic Bulkhead Feed-Thru
for MIL-DTL-38999 Series I Type

Glenair®

TABLE I: CONNECTOR DIMENSIONS						
Shell Size	**A Thread Class 2A**	**B Dia Max**	**C Hex**	**D Flats**	**E Dia ± .005 (0.13)**	**F +.000 -.005 (+0.0 -0.13)**
9	11/16-24 UNEF	.573 (14.6)	.875 (22.1)	1.062 (27.0)	.703 (17.9)	.669 (17.0)
11	13/16-20 UNEF	.701 (17.8)	1.000 (25.4)	1.250 (31.8)	.827 (21.0)	.769 (19.5)
13	1-20 UNEF	.851 (21.6)	1.188 (30.2)	1.375 (34.9)	1.015 (25.8)	.955 (24.3)
15	1 1/8-18 UNEF	.976 (24.8)	1.312 (33.3)	1.500 (38.1)	1.140 (29.0)	1.084 (27.5)
17	1 1/4-18 UNEF	1.101 (28.0)	1.438 (37.7)	1.625 (41.3)	1.265 (32.1)	1.208 (30.7)
19	1 3/8-18 UNEF	1.208 (30.7)	1.562 (39.7)	1.812 (46.0)	1.390 (35.3)	1.333 (33.9)
21	1 1/2-18 UNEF	1.333 (33.9)	1.688 (42.9)	1.938 (49.2)	1.515 (38.5)	1.459 (37.1)
23	1 5/8-18 UNEF	1.458 (37.0)	1.812 (46.0)	2.062 (52.4)	1.640 (41.7)	1.580 (40.1)
25	1 3/4-18 UNS	1.583 (40.2)	2.000 (50.8)	2.188 (55.6)	1.765 (44.8)	1.709 (43.4)

TABLE II: PANEL THICKNESS			
DASH NO	**G MAX**	**H MAX**	**J MAX**
01	.250 (6.4)	1.060 (26.9)	1.790 (45.5)
02	.500 (12.7)	1.310 (33.3)	2.040 (51.8)
03	.750 (19.1)	1.560 (39.6)	2.290 (58.2)
04	1.000 (25.4)	1.810 (46.0)	2.540 (64.5)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and PN, space permitting.
2. For pin/pin and skt/skt, symmetrical layouts only, consult factory for available insert arrangements.
3. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
4. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
5. Electrical safety limits must be established by user, peak voltage, switching surge, transient, etc. should be used to determine the safety of the application.
6. Material/finish:
   Shell, lock ring, jam nut—CRES/see part no. development.
   Contacts—copper alloy/gold plate and alloy 52/gold plate
   Insulators—high-grade rigid dielectric/N.A. and full glass.
   Seals—fluorosilicone/ N.A.
7. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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MS27475
Wall Mount Hermetic Receptacle
MIL-DTL-38999 Series II

How To Order: *MS*

Shell Style
MS27475 **-** *Wall Mount, Series II*

Connector Material / Finish
D *- Carbon Steel - Fused Tin Finish*
E *- Stainless Steel - Passivate Finish*
N *- Stainless Steel - Nickel Finish*

Contact Termination
P *- Pin, Solder Cup*
X *- Pin, Eyelet*
C *- Pin, PCB Flex Feedthrough*
S *- Socket, Solder Cup*
Z *- Socket, Eyelet*
D *- Socket, PCB Flex Feedthrough*

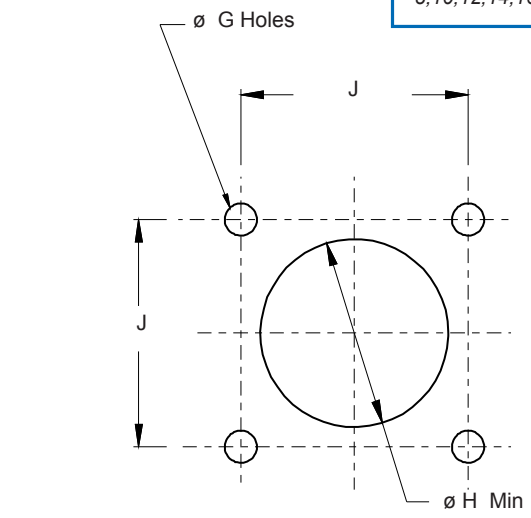
MS27475	Y	10	N	35	P	A

Class
Y- *Hermetic*

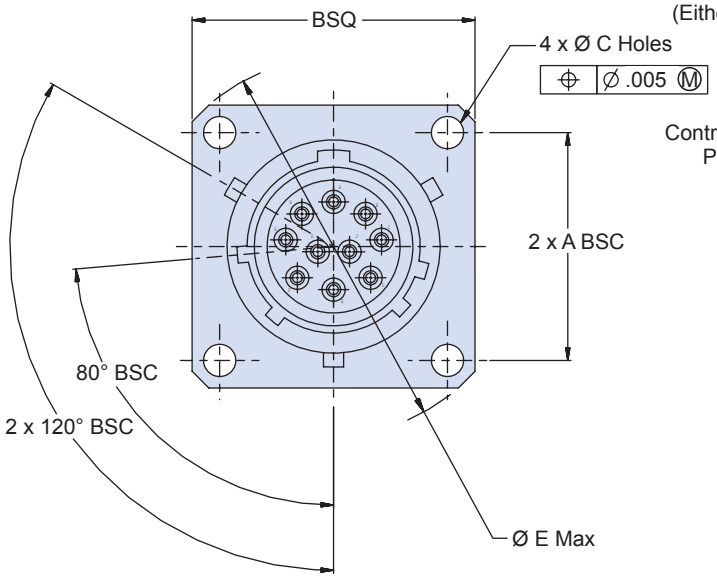
Shell Size
8,10,12,14,16,18,20,22,24

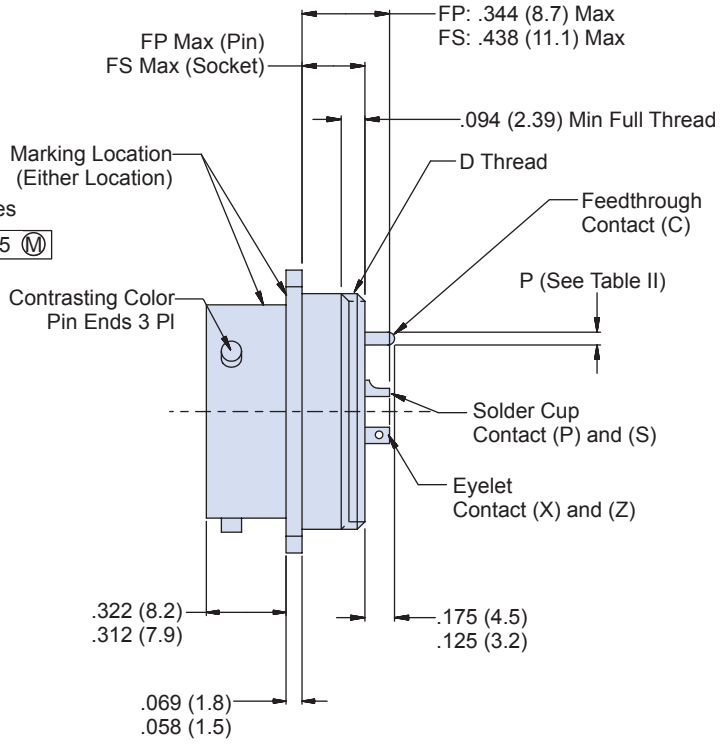
Insert Arrangement
MIL-DTL-38999 Series II Hermetic Inserts Per MIL-STD-1560; See Pages B-2 - B4

Alternate Key Position
A, B, C, D (Omit for Normal)



Front Panel Mounting





Dimensions in Inches (millimeters) are subject to change without notice.

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232-100-H0
Wall Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type

How To Order: *Commercial*

Connector Series
232-100 - Series II Type Hermetic

Shell Style
H0 - Wall Mount

Shell Size
08,10,12,14,16,18,20,22,24

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB

232 - 100 - H0 Z1 8 - 35 P N

Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D,
(*N* = Normal)

TABLE I: CONNECTOR DIMENSIONS

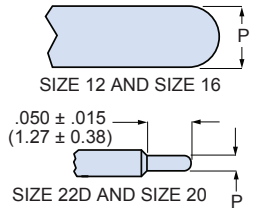
SHELL SIZE	A BSC	B SQ MAX	ø C HOLES	D Threads (UNEF-2A)	ø E MAX	FP MAX	FS MAX
8/08	.594(15.1)	.828(21.0)	.130(3.3) .115(2.9)	.5625-24	1.078(27.4)	.250 (6.35)	.375 (9.5)
10	.719(18.3)	.954(24.2)		.6875-24	1.256(31.9)		
12	.812(20.6)	1.047(26.6)		.8125-20	1.391(35.3)		
14	.906(23.0)	1.141(29.0)		.9375-20	1.516(38.5)		
16	.969(24.6)	1.234(31.3)		1.0625-18	1.641(41.7)		
18	1.062(27.0)	1.328(33.7)		1.1875-18	1.766(44.9)		
20	1.156(29.4)	1.453(36.9)		1.3125-18	1.891(48.0)		
22	1.250(31.8)	1.578(40.1)		1.4375-18	2.016(51.2)		
24	1.375(34.9)	1.703(43.3)	.157(4.0) .142(3.6)	1.5625-18	2.204(56.0)	.375 (9.53)	.406 (10.3)

TABLE I (CONTINUED): CONNECTOR DIMENSIONS

SHELL SIZE	ø G HOLES	ø H MIN	ø J BSC
8	.133(3.4) .123(3.1)	.570(14.5)	.594(15.1)
10		.690(17.5)	.719(18.3)
12		.820(20.8)	.812(20.6)
14		.940(23.9)	.906(23.0)
16		1.070(27.2)	.969(24.6)
18		1.190(30.2)	1.062(27.0)
20		1.320(33.5)	1.156(29.4)
22	.159(4.0) .149(3.8)	1.440(36.6)	1.250(31.8)
24		1.570(39.9)	1.375(34.9)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

Dimensions in Inches (millimeters) are subject to change without notice.

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U.S. CAGE Code 06324

Printed in U.S.A.

MS27476
Box Mount Hermetic Receptacle
MIL-DTL-38999 Series II

How To Order: *MS*

Shell Style
MS27476 - *Box Mount, Series II*

Connector Material / Finish
D - *Carbon Steel - Fused Tin Finish*
E - *Stainless Steel - Passivate Finish*
N - *Stainless Steel - Nickel Finish*

Contact Termination
P - *Pin, Solder Cup*
X - *Pin, Eyelet*
C - *Pin, PCB Flex Feedthrough*
S - *Socket, Solder Cup*
Z - *Socket, Eyelet*
D - *Socket, PCB Flex Feedthrough*

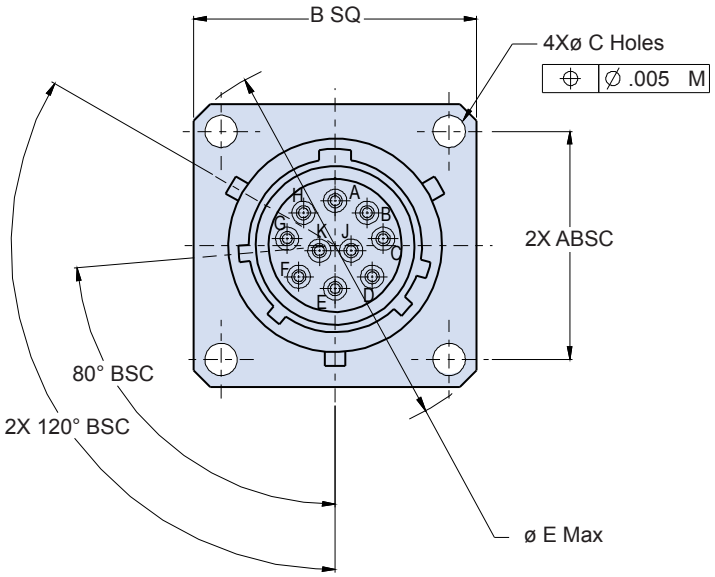
MS27476	Y	10	N	35	P	A

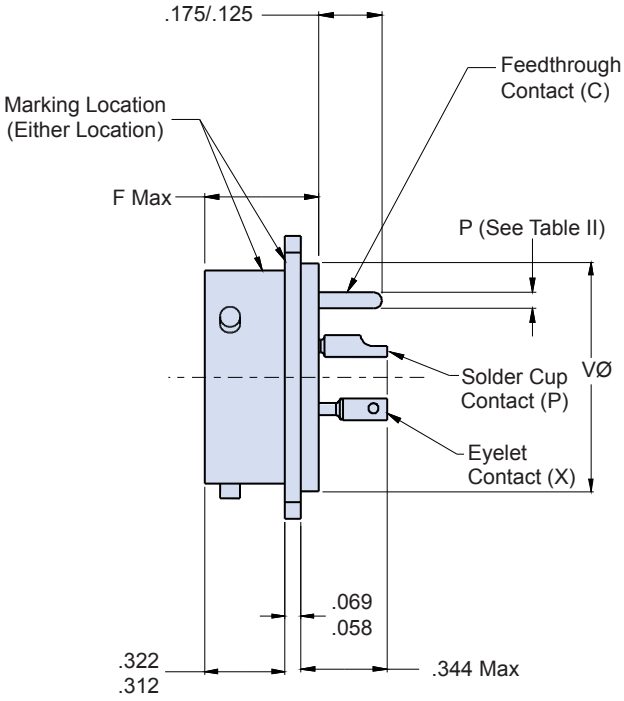
Class
Y- Hermetic

Shell Size
8,10,12,14,16,18,20,22,24

Insert Arrangement
MIL-DTL-38999 Series II Hermetic Inserts Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)





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232-100-H2
Box Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type

How To Order: *Commercial*

Connector Series
233-002 - Series II Type Hermetic

Shell Style
H2 - Box Mount Hermetic Receptacle

Shell Size
08,10,12,14,16,18,20,22,24

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB

232 - 100 - H2 Z1 8 - 35 P N

Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

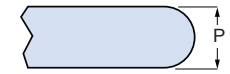
Alternate Key Position
A, B, C, D,
(*N* = Normal)

TABLE I: CONNECTOR DIMENSIONS

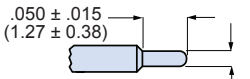
SHELL SIZE	A BSC	B SQ MAX	ø C HOLES	ø E MAX	F MAX	V Diameter
8/08	.594(15.1)	.828(21.0)	.130(3.3) .115(2.9)	1.078(27.4)	.453(11.5)	.562(14.3)
10	.719(18.3)	.954(24.2)		1.266(32.2)		.672(17.1)
12	.812(20.6)	1.047(26.6)		1.391(35.3)		.781(19.8)
14	.906(23.0)	1.141(29.0)		1.516(38.5)		.906(23.0)
16	.969(24.6)	1.234(31.3)		1.641(41.7)		1.031(26.2)
18	1.062(27.0)	1.328(33.7)		1.766(44.9)		1.156(29.4)
20	1.156(29.4)	1.453(36.9)		1.891(48.0)		1.250(31.8)
22	1.250(31.8)	1.578(40.1)		2.016(51.2)		1.375(34.9)
24	1.375(34.9)	1.703(43.3)	.157(4.0) .142(3.6)	2.204(56.0)	.484(12.3)	1.500(38.1)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



SIZE 12 AND SIZE 16

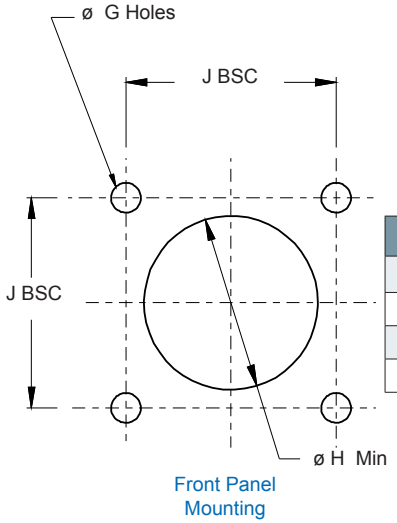


SIZE 22D AND SIZE 20

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

TABLE I (CONTINUED): CONNECTOR DIMENSIONS

SHELL SIZE	ø G HOLES	ø H MIN	ø J BSC
8/08	.133(3.4) .123(3.1)	.570(14.5)	.594(15.1)
10		.690(17.5)	.719(18.3)
12		.820(20.8)	.812(20.6)
14		.940(23.9)	.906(23.0)
16		1.070(27.2)	.969(24.6)
18		1.190(30.2)	1.062(27.0)
20		1.320(33.5)	1.156(29.4)
22	.159(4.0) .149(3.8)	1.440(36.6)	1.250(31.8)
24		1.570(39.9)	1.375(34.9)



HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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MS27477
Jam Nut Mount Hermetic Receptacle
MIL-DTL-38999 Series II

How To Order: *MS*

Shell Style
MS27477 **-** *Jam Nut Mount, Series II*

Connector Material / Finish
D *- Carbon Steel - Fused Tin Finish*
E *- Stainless Steel - Passivate Finish*
N *- Stainless Steel - Nickel Finish*

Contact Termination
P *- Pin, Solder Cup*
X *- Pin, Eyelet*
C *- Pin, PCB Flex Feedthrough*
S *- Socket, Solder Cup*
Z *- Socket, Eyelet*
D *- Socket, PCB Flex Feedthrough*

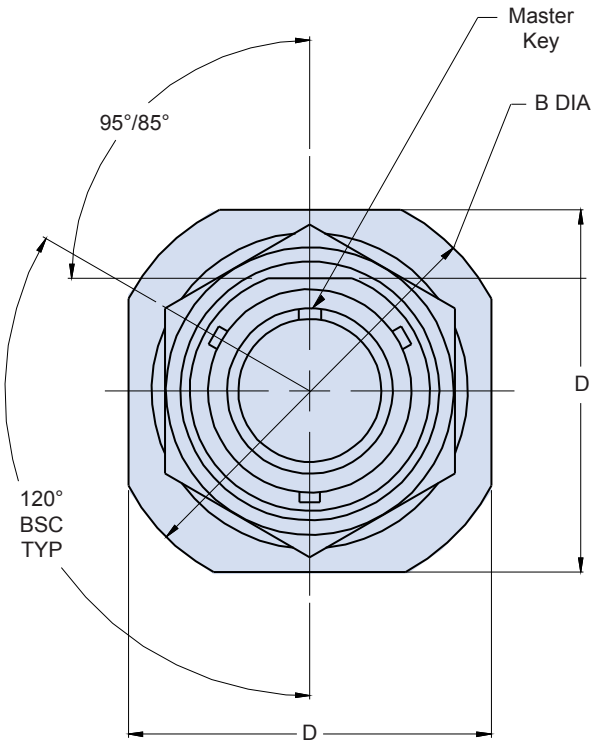
MS27477	Y	10	N	35	P	A

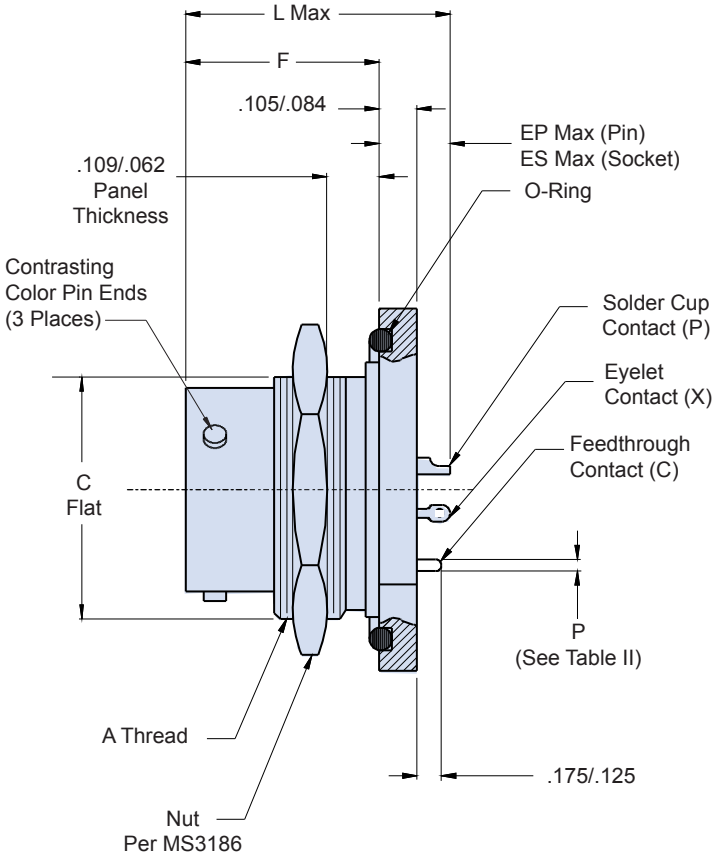
Class
Y*- Hermetic*

Shell Size
8,10,12,14,16,18,20,22,24

Insert Arrangement
MIL-DTL-38999 Series II Hermetic Inserts Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)





Dimensions in Inches (millimeters) are subject to change without notice.

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232-100-H7
Jam Nut Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type

How To Order: *Commercial*

Connector Series
232-100 - Series II Type Hermetic

Shell Style
H7 - Jam-Nut Mount Receptacle

Shell Size
08,10,12,14,16,18,20,22,24

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet
C - Pin, PCB
S - Socket, Solder Cup
Z - Socket, Eyelet
D - Socket, PCB

232	-	100	-	H7	Z1	8	-	35	C	N

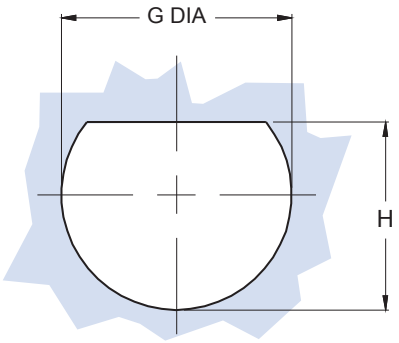
Connector Material / Finish
ZL - CRES, Nickel
Z1 - CRES, Passivated
FT - Carbon Steel, Fused Tin

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

Alternate Key Position
A, B, C, D,
(*N* = Normal)

WIRE ACCOMODATION	
Contact Size	**Wire Guage**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS

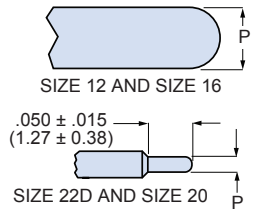
SHELL SIZE	A THREAD CLASS 2A	B DIA ±.016(0.4)	C FLAT ±.004(0.1)	D A/F ±.016(0.4)
8/08	.875-20 UNEF	1.375(34.9)	.815(20.7)	1.25(31.8)
10	1.000-20 UNEF	1.5(38.1)	.939(23.9)	1.375(34.9)
12	1.125-18 UNEF	1.625(41.3)	1.063(27.0)	1.5(38.1)
14	1.250-18 UNEF	1.75(44.5)	1.188(30.2)	1.625(41.3)
16	1.375-18 UNEF	1.938(49.2)	1.318(33.5)	1.781(45.2)
18	1.500-18 UNEF	2.016(51.2)	1.438(36.5)	1.890(48.0)
20	1.625-18 UNEF	2.141(54.4)	1.563(39.7)	2.016(51.2)
22	1.750-18 UNS	2.265(57.5)	1.688(42.9)	2.140(54.4)
24	1.875-16 UN	2.39(60.7)	1.813(46.1)	2.265(57.5)

TABLE I (CONTINUED): CONNECTOR DIMENSIONS

SHELL SIZE	EP MAX	ES MAX	F ±.005(0.1)	G DIA ±.005(0.1)	H ±.005(0.1)	L MAX
8/08	.281 (7.1)	.359 (9.1)	.438(11.1)	.885(22.48)	.830(21.08)	.724(18.4)
10	.281 (7.1)	.359 (9.1)	.438(11.1)	1.010(25.65)	.955(24.26)	.724(18.4)
12	.281 (7.1)	.359 (9.1)	.438(11.1)	1.135(28.83)	1.085(27.56)	.724(18.4)
14	.281 (7.1)	.359 (9.1)	.438(11.1)	1.260(32.01)	1.210(30.73)	.724(18.4)
16	.281 (7.1)	.359 (9.1)	.438(11.1)	1.385(35.18)	1.335(33.91)	.724(18.4)
18	.281 (7.1)	.359 (9.1)	.438(11.1)	1.510(38.35)	1.460(37.08)	.724(18.4)
20	.250 (6.4)	.344 (8.7)	.464(11.8)	1.635(41.53)	1.585(40.26)	.719(18.3)
22	.250 (6.4)	.344 (8.7)	.464(11.8)	1.760(44.70)	1.709(43.42)	.719(18.3)
24	.250 (6.4)	.344 (8.7)	.464(11.8)	1.885(47.88)	1.835(46.61)	.719(18.3)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Dimensions in Inches (millimeters) are subject to change without notice.

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MS27478
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series II

How To Order: *MS*

Shell Style
MS27478 - *Solder Mount, Series II*

Connector Material / Finish
D - *Carbon Steel - Fused Tin Finish*
E - *Stainless Steel - Passivate Finish*
N - *Stainless Steel - Nickel Finish*

Contact Termination
P - *Pin, Solder Cup*
X - *Pin, Eyelet*
C - *Pin, PCB Flex Feedthrough*
S - *Socket, Solder Cup*
Z - *Socket, Eyelet*
D - *Socket, PCB Flex Feedthrough*

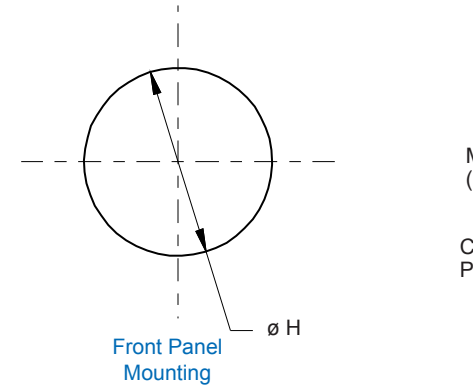
MS27478	Y	10	N	35	P	A

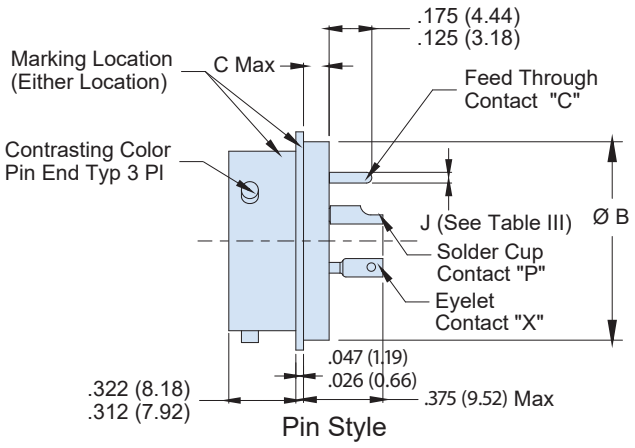
Class
Y- Hermetic

Shell Size
8,10,12,14,16,18,20,22,24

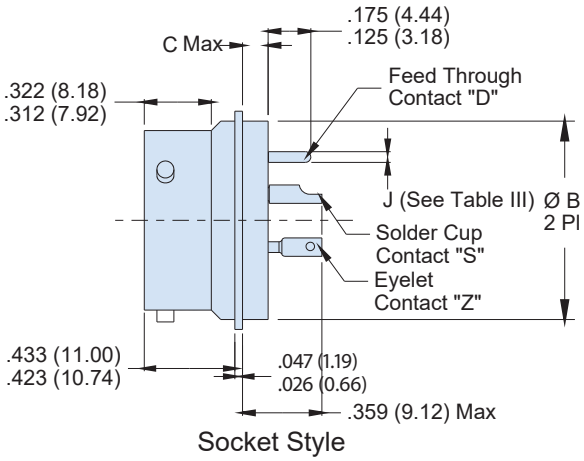
Insert Arrangement
MIL-DTL-38999 Series II Hermetic Inserts Per MIL-STD-1560; See Pages B-2 - B-4

Alternate Key Position
A, B, C, D
(Omit for Normal)





Pin Style



Socket Style

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232-100-H5
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type

How To Order: *Commercial*

Connector Series	Shell Style	Shell Size	Contact Termination
232-100 - *Series II Type*	***H5*** - *Solder Mount*	*08,10,12,14,16,18,20,22,24*	***P*** - *Pin, Solder Cup* ***S*** - *Socket, Solder Cup* ***X*** - *Pin, Eyelet* ***Z*** - *Socket, Eyelet* ***C*** - *Pin, PCB* ***D*** - *Socket, PCB*

232	-	100	-	H5	Z1	10	-	35	P	N

Connector Material / Finish
FT - *Carbon Steel/Fused Tin*
ZL - *CRES, Nickel Finish*
Z1 - *CRES, Passivated*
Z1S - *CRES, Passivated (Space Grade)*

Insert Arrangement
Per MIL-STD-1560;
See Pages B-2 - B-4

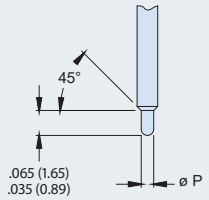
Alternate Key Position
A, B, C, D,
(***N*** = Normal)

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	ø A	ø B	C MAX	ø H
8/08	0.698 (17.73) 0.677 (17.20)	0.563 (14.30) 0.557 (14.15)	0.125 (3.18)	0.575 (14.60) 0.565 (14.35)
10	0.808 (20.52) 0.787 (19.99)	0.673 (17.09) 0.667 (16.94)		0.685 (17.40) 0.675 (17.15)
12	0.917 (23.29) 0.896 (22.76)	0.782 (19.86) 0.776 (19.71)		0.794 (20.17) 0.784 (19.91)
14	1.042 (26.47) 1.021 (25.93)	0.907 (23.04) 0.901 (22.89)		0.919 (23.34) 0.909 (23.09)
16	1.167 (29.64) 1.146 (29.11)	1.032 (26.21) 1.026 (26.06)		1.044 (26.52) 1.034 (26.26)
18	1.292 (32.82) 1.271 (32.28)	1.157 (29.39) 1.151 (29.24)		1.169 (29.69) 1.159 (29.44)
20	1.386 (35.20) 1.365 (34.67)	1.251 (31.78) 1.245 (31.62)		1.263 (32.08) 1.253 (31.83)
22	1.511 (38.38) 1.490 (37.85)	1.376 (34.95) 1.370 (34.80)	0.156 (3.96)	1.388 (35.26) 1.378 (35.00)
24	1.511 (38.38) 1.490 (37.85)	1.501 (38.13) 1.495 (37.97)		1.513 (38.43) 1.503 (38.18)

TABLE II: CONTACT SIZE



FOR #22D AND 20 CONTACTS ONLY (#20 INACTIVE FOR NEW DESIGN)

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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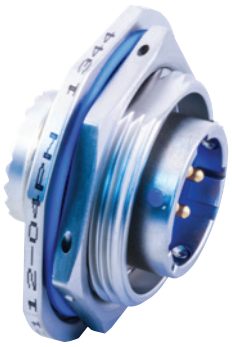
232-101-H7
Jam Nut Mount Hermetic Receptacle with Series III Accessory Threads, Low Profile
MIL-DTL-38999 Series II Type

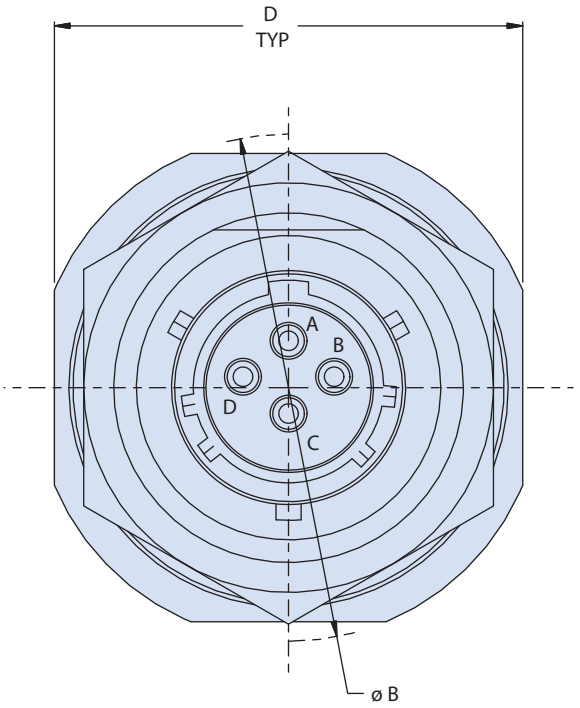
How To Order: *Commercial*

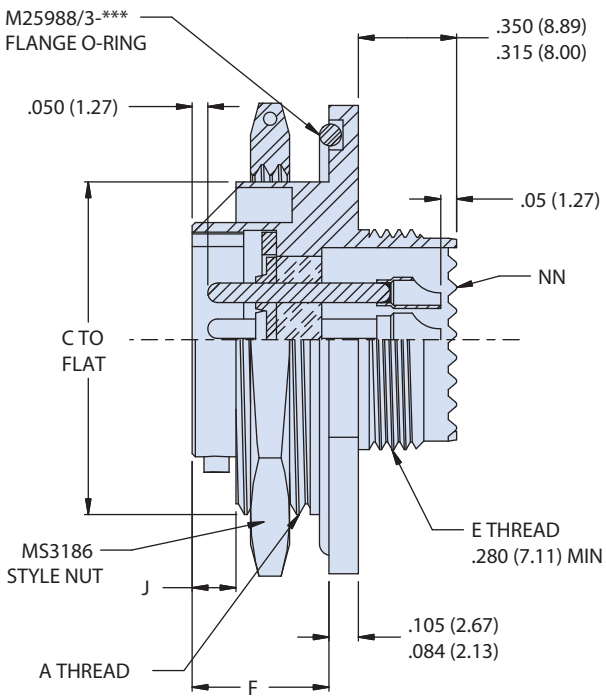
Connector Series	Shell Style	Shell Size	Contact Termination
232 - *Series II Type*	***H7*** - *Hermetic Jam Nut Mount*	*08,10,12,14,16,18,20,22,24*	***P*** - *Pin, Solder Cup* ***S*** - *Socket, Solder Cup*

232	-	101	-	H7	Z1	12	-	04	P	N

Connector Type	Connector Material / Finish	Insert Arrangement	Alternate Key Position
101 - *Hermetic Receptacle*	***ZL*** - *CRES, Nickel* ***Z1*** - *CRES, Passivated* ***FT*** - *Carbon Steel, Fused Tin*	Per MIL-STD-1560; See Pages B-2 - B-4	***A, B, C, D,*** (***N*** = Normal)







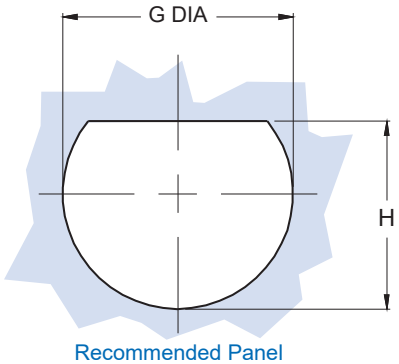
Dimensions in Inches (millimeters) are subject to change without notice.

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232-101-H7
Jam Nut Mount Hermetic Receptacle with Series III Accessory Threads, Low Profile
MIL-DTL-38999 Series II Type

WIRE ACCOMODATION	
Contact Size	**Wire Guage**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

HERMETIC LEAK RATE MODE CODES	
Designator	**Required Leak Rate**
-585A	1 x 10^{-10} cc helium per second
-585B	1 x 10^{-9} cc helium per second
-585C	1 x 10^{-8} cc helium per second



Recommended Panel Cut-Out

TABLE III: DWV VOLTAGE LEVELS	
SERVICE RATING	**VOLTAGE AC RMS 60HZ**
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

TABLE I

SHELL SIZE	A THREAD CLASS 2A	B DIA	C FLAT	D A/F	E THREAD 0.100 R	F	G DIA	H	J	NN TEETH
8	.875-20 UNEF	1.391 (35.33) 1.359 (34.52)	0.818 (20.78) 0.811 (20.60)	1.266 (32.16) 1.234 (31.34)	M12 x 1.0-6g	0.443 (11.25) 0.433 (11.00)	0.895 (22.73) 0.885 (22.48)	0.830 (21.08) 0.820 (20.83)	0.145 (3.68) 0.140 (3.56)	12
10	1.000-20 UNEF	1.516 (38.51) 1.484 (37.69)	0.942 (23.93) 0.935 (23.75)	1.391 (35.33) 1.359 (34.52)	M15 x 1.0-6g	0.443 (11.25) 0.433 (11.00)	1.020 (25.91) 1.010 (25.65)	0.955 (24.26) 0.945 (24.00)	0.145 (3.68) 0.140 (3.56)	16
12	1.125-18 UNEF	1.641 (41.68) 1.609 (40.87)	1.066 (27.08) 1.059 (26.90)	1.516 (38.51) 1.484 (37.69)	M18 x 1.0-6g	0.443 (11.25) 0.433 (11.00)	1.145 (29.08) 1.135 (28.83)	1.085 (27.56) 1.075 (27.30)	0.145 (3.68) 0.140 (3.56)	20
14	1.250-18 UNEF	1.766 (44.86) 1.734 (44.04)	1.191 (30.25) 1.184 (30.07)	1.641 (41.68) 1.609 (40.87)	M22 x 1.0-6g	0.443 (11.25) 0.433 (11.00)	1.270 (32.26) 1.260 (32.00)	1.210 (30.73) 1.200 (30.48)	0.145 (3.68) 0.140 (3.56)	24
16	1.375-18 UNEF	1.954 (49.63) 1.922 (48.82)	1.321 (33.55) 1.314 (33.38)	1.797 (45.64) 1.765 (44.83)	M25 x1.0-6g	0.443 (11.25) 0.433 (11.00)	1.395 (35.43) 1.385 (35.18)	1.335 (33.91) 1.325 (33.65)	0.145 (3.68) 0.140 (3.56)	28
18	1.500-18 UNEF	2.032 (51.61) 2.000 (50.80)	1.441 (36.60) 1.434 (36.42)	1.906 (48.41) 1.874 (47.60)	M28 x 1.0-6g	0.443 (11.25) 0.433 (11.00)	1.520 (38.61) 1.510 (38.35)	1.460 (37.08) 1.450 (36.83)	0.145 (3.68) 0.140 (3.56)	32
20	1.625-18 UNEF	2.157 (54.79) 2.125 (53.97)	1.566 (39.78) 1.559 (39.60)	2.032 (51.61) 2.000 (50.80)	M31 x 1.0-6g	0.469 (11.91) 0.459 (11.66)	1.645 (41.78) 1.635 (41.53)	1.585 (40.26) 1.575 (40.00)	0.171 (4.34) 0.166 (4.22)	36
22	1.750-18 UNS	2.281 (57.94) 2.249 (57.12)	1.691 (42.95) 1.684 (42.77)	2.156 (54.76) 2.124 (53.95)	M34 x 1.0-6g	0.469 (11.91) 0.459 (11.66)	1.770 (44.96) 1.760 (44.70)	1.709 (43.41) 1.699 (43.15)	0.171 (4.34) 0.166 (4.22)	40
24	1.875-16 UN	2.406 (61.11) 2.374 (60.30)	1.816 (46.13) 1.809 (45.95)	2.281 (57.94) 2.249 (57.12)	M37 x 1.0-6g	0.469 (11.91) 0.459 (11.66)	1.895 (48.13) 1.885 (47.88)	1.835 (46.61) 1.825 (46.36)	0.171 (4.34) 0.166 (4.22)	44

Dimensions in Inches (millimeters) are subject to change without notice.

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232-103-H7
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series II Type

Connector Series
232 - D38999 Series II Type

Shell Style
H7 - Jam Nut Mount

Shell Size
08
10
12
14
16
18
20
22
24

Insert Arrangement
Per MIL-DTL-38999 Series II
MIL-STD-1560

Alternate Key Position
A, B, C, D
(*N* = Normal)

232 - 103 - H7 Z1 10 - 35 P N - 01

Connector Type
103 - Hermetic Bulkhead Feed-Thru

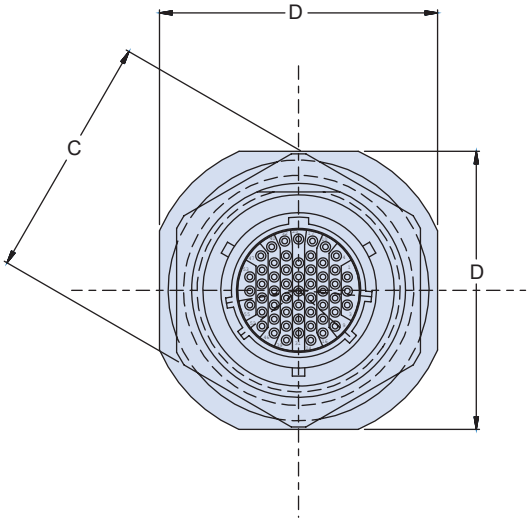
Connector Material and Finish
FT - Carbon Steel, Fused Tin
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

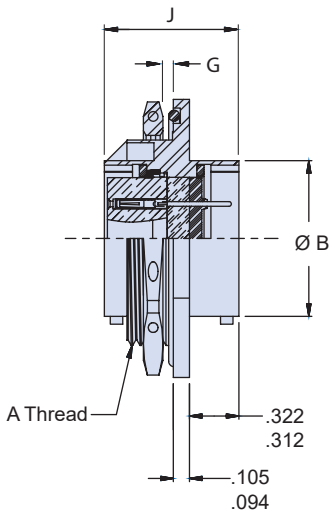
Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side

Panel Accomodation
See Table I
Consult factory for additional options.

Table I: Panel Accomodation

Symbol	G Panel Thickness	J
01	.0625 -.125	.900 max
02	.0625 -.250	1.155 max
03	.0625 -.500	1.270 max

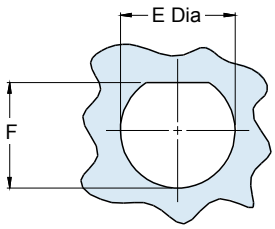




Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: CONNECTOR DIMENSIONS						
SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.005 (0-0.1)
08	.875-20 UNEF	.474(12.0)	1.062(27.0)	1.250(31.8)	.885(22.5)	.830(21.1)
10	1.000-20 UNEF	.591(15.0)	1.188(30.2)	1.375(34.9)	1.010(25.7)	.955(24.3)
12	1.125-18 UNEF	.751(19.1)	1.312(33.3)	1.500(38.1)	1.135(28.8)	1.085(27.6)
14	1.250-18 UNEF	.876(22.3)	1.438(36.5)	1.625(41.3)	1.260(32.0)	1.210(30.7)
16	1.375-18 UNEF	1.001(25.4)	1.562(39.7)	1.781(45.2)	1.385(35.2)	1.335(33.9)
18	1.500-18 UNEF	1.126(28.6)	1.688(42.9)	1.890(48.0)	1.510(38.4)	1.460(37.1)
20	1.625-18 UNEF	1.251(31.8)	1.812(46.0)	2.016(51.2)	1.635(41.5)	1.585(40.3)
22	1.750-18 UNS	1.376(35.0)	2.000(50.8)	2.140(54.4)	1.760(44.7)	1.710(43.4)
24	1.875-16 UN	1.501(38.1)	2.125(54.0)	2.265(57.5)	1.885(47.9)	1.835(46.6)



Recommended Panel Cut-Out

APPLICATION NOTES

1. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
2. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
3. Material/finish:
   Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
   Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
   Insulator – fused vitreous glass/N.A.
   Seals – fluorosilicone rubber/N.A.
4. Metric dimensions (mm) are indicated in parentheses.

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232-103-H9
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series II Type

Connector Series
232 - D38999 Series II Type

Shell Style
H9 - Jam Nut Mount Connector Saver

Shell Size
08
10
12
14
16
18
20
22
24

Insert Arrangement
Per MIL-DTL-38999 Series II
MIL-STD-1560

Broach Polarization
A, B, C, D
(*N* = Normal)

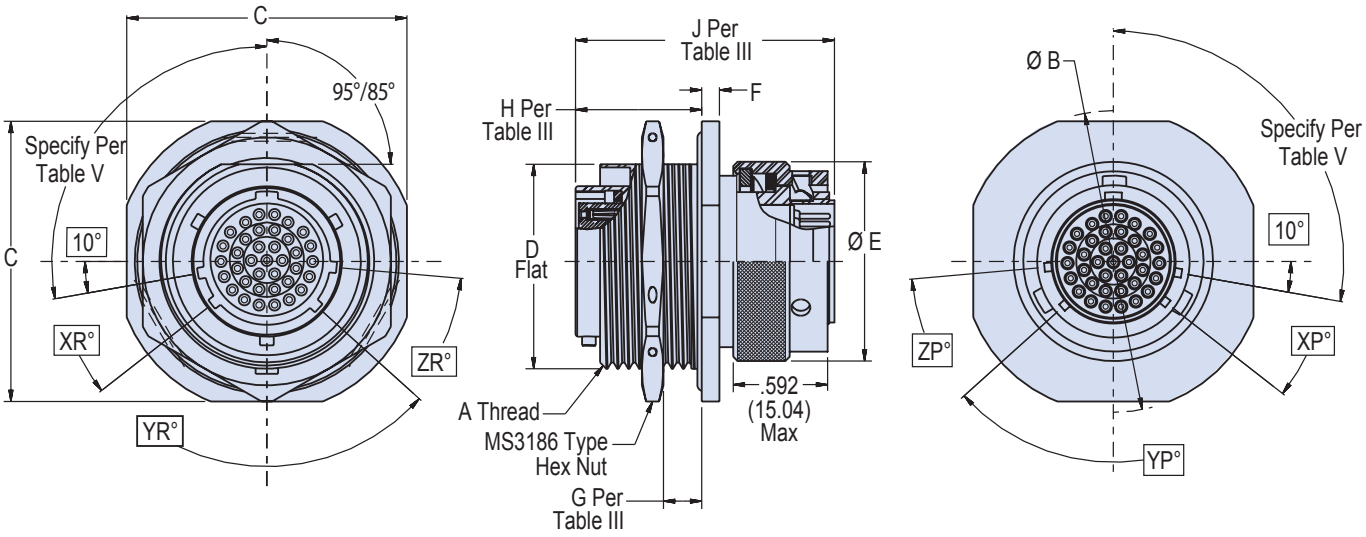
232	-	103	-	H9	Z1	14	-	35	P	N	-	02

Connector Type
103 - Hermetic Bulkhead Feed-Thru

Contact Termination
P - Pin on Plug End, Socket Opposite
S - Socket on Plug End, Pin Opposite

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

Panel Accomodation
01 - .062" (Min) .125" (Max)
02 - .062" (Min) .250" (Max)
03 - .062" (Min) .500" (Max)
Consult factory for additional options.



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232-103-H9
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series II Type

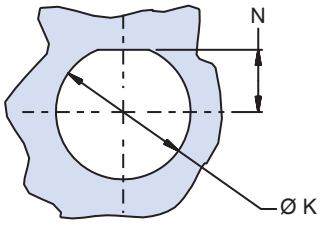
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TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD CLASS 2A	B DIA	C A/F	D FLAT	E DIA MAX	F	K DIA	N
8	.875-20 UNEF	1.391/1.359 (35.33/34.52)	1.266/1.234 (27.38/26.57)	.818/.811 (16.64/20.60)	.750 (19.05)	.105/.084 (2.67/2.13)	.895/.885 (22.73/22.48)	.830/.820 (21.08/20.83)
10	1.000-20 UNEF	1.516/1.484 (38.51/37.69)	1.391/1.359 (35.33/34.52)	.942/.935 (19.18/23.75)	.859 (21.82)	.105/.084 (2.67/2.13)	1.020/1.010 (25.91/25.65)	.955/.945 (24.26/24.00)
12	1.125-18 UNEF	1.641/1.609 (41.68/40.87)	1.516/1.484 (38.51/37.69)	1.066/1.059 (27.08/26.90)	1.031 (26.19)	.105/.084 (2.67/2.13)	1.145/1.135 (29.08/28.83)	1.085/1.075 (27.56/27.31)
14	1.250-18 UNEF	1.766/1.734 (44.86/44.04)	1.641/1.609 (41.68/40.87)	1.191/1.184 (30.25/30.07)	1.156 (29.36)	.105/.084 (2.67/2.13)	1.270/1.260 (32.26/32.00)	1.210/1.200 (30.73/30.48)
16	1.375-18 UNEF	1.954/1.922 (49.63/48.82)	1.797/1.765 (45.64/44.83)	1.321/1.314 (33.55/33.38)	1.281 (32.54)	.105/.084 (2.67/2.13)	1.395/1.385 (35.43/35.18)	1.335/1.325 (33.91/33.66)
18	1.500-18 UNEF	2.032/2.000 (51.61/50.80)	1.906/1.874 (48.41/47.60)	1.441/1.434 (36.60/36.42)	1.406 (35.71)	.105/.084 (2.67/2.13)	1.520/1.510 (38.61/38.35)	1.460/1.450 (37.08/36.83)
20	1.625-18 UNEF	2.157/2.125 (54.79/53.98)	2.032/2.000 (51.61/50.80)	1.566/1.559 (39.78/39.60)	1.531 (38.89)	.105/.084 (2.67/2.13)	1.645/1.635 (41.78/41.53)	1.585/1.575 (40.26/40.01)
22	1.750-18 UNS	2.281/2.249 (57.94/57.12)	2.156/2.124 (54.76/53.95)	1.691/1.684 (42.95/42.77)	1.641 (41.68)	.105/.084 (2.67/2.13)	1.770/1.760 (44.96/44.70)	1.709/1.699 (43.41/43.15)
24	1.875-16 UN	2.406/2.374 (61.11/60.30)	2.281/2.249 (57.94/57.12)	1.816/1.809 (46.13/45.95)	1.766 (44.86)	.105/.084 (2.67/2.13)	1.895/1.885 (48.13/47.88)	1.855/1.825 (47.12/46.36)

TABLE IV: MASTER KEY/KEYWAY POSITIONS

SHELL SIZE	XP XR	YP YR	ZP ZR	N	A	B	C	D
8	28°	100°	37°	100°	82°	—	—	118°
10	28°	100°	37°	100°	86°	72°	128°	114°
12	28°	100°	37°	100°	80°	68°	132°	120°
14	28°	100°	37°	100°	79°	66°	134°	121°
16	28°	100°	37°	100°	82°	70°	130°	118°
18	28°	100°	37°	100°	82°	70°	130°	118°
20	28°	100°	37°	100°	82°	70°	130°	118°
22	28°	100°	37°	100°	85°	74°	126°	115°
24	28°	100°	37°	100°	85°	74°	126°	115°



Recommended Panel Cut-out

TABLE III: DWV VOLTAGE LEVELS

SERVICE RATING	VOLTAGE AC RMS 60HZ
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE II: DIMENSIONS

SYM	G	H	J
01	.062-.125 (1.57-3.18)	.469 MAX (11.91 MAX)	1.300 MAX (33.02 MAX)
02	.062-.250 (1.57-6.35)	.600 MAX (15.24 MAX)	1.425 MAX (36.20 MAX)
03	.062-.500 (1.57-12.7)	.850 MAX (21.59 MAX)	1.675 MAX (42.55 MAX)

APPLICATION NOTES

1. Material/finish:
   - Shell, jam-nut, coupling nut – 300 Series CRES/see P/N development.
   - Contacts, pin – Nickel-iron alloy/Gold plate.
   - Contacts, socket – Copper alloy/Gold plate.
   - Insulator, pin – Vitreous glass/N.A.
   - Insulator, sockets – Hi-grade rigid dielectric/N.A.
   - Grounding springs – Copper alloy/Gold plate.
   - O-Rings and seals – Fluorosilicone blend/N/A.
2. Assembly identified with manufacturer's name and part number, space permitting.
3. Test requirements:
   - D.W.V. – Per Table IV
   - I.R. – 5 GigOhms @ 500 VDC
   - Hermeticity – <1 x $10^{\wedge-7}$ sccHe/sec @ 1 ATM differential.
4. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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237-280
Special Weld Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type (Similar to MS27478Y Series II)

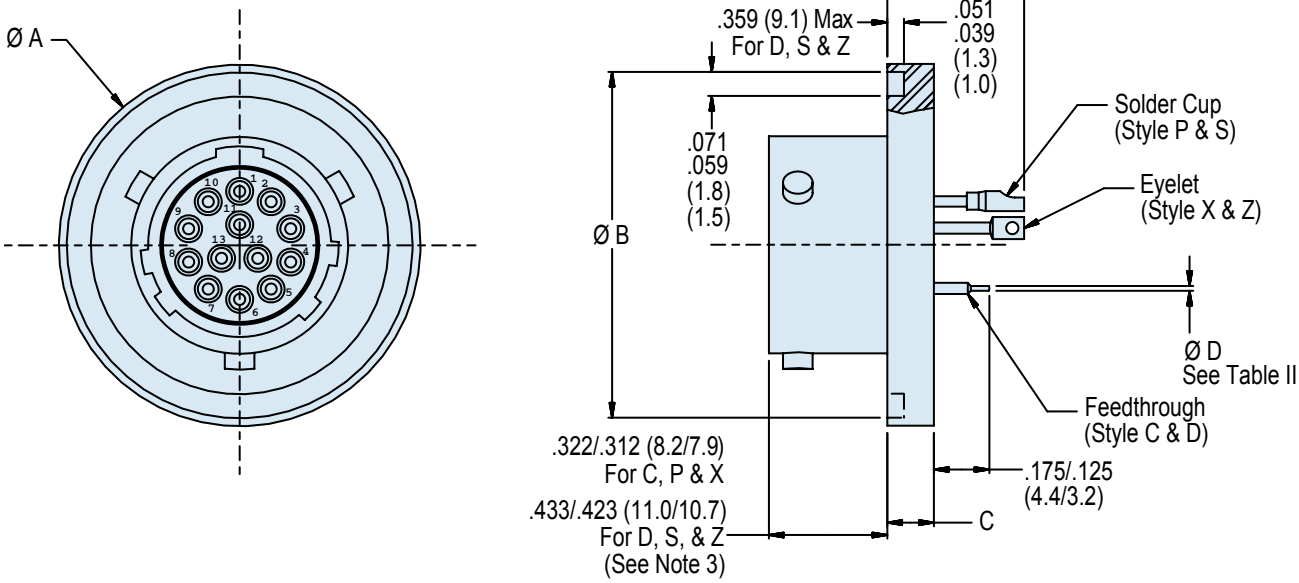
Contact Style

C *- Pin, Feedthrough*	***D*** *- Socket, Feedthrough*
P *- Pin, Solder Cup*	***S*** *- Socket, Solder Cup*
X *- Pin, Eyelet*	***Z*** *- Socket Eyelet*

Connector Material and Finish
Z1 *- CRES, Passivated*
ZL *- CRES, Nickel Finish*

Broach Position
A, B, C, D
(***N*** = Normal)

237-280	Z1	10	-	35	P	N
Basic Part Number		Shell Size		Contact Arrangement Per MIL-STD-1560		



Dimensions in Inches (millimeters) are subject to change without notice.

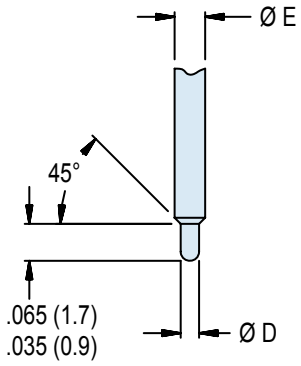
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237-280
Special Weld Mount Hermetic Receptacle
MIL-DTL-38999 Series II Type (Similar to MS27478Y Series II)

Glenair®

TABLE I: Connector Dimensions			
Shell Size	A Dia	B Dia	C Flange
08	.863/.851 (21.9/21.6)	.820/.808 (20.8/20.5)	.134/.118 (3.4/3.0)
10	.984/.972 (25.0/24.7)	.941/.929 (23.9/23.6)	.134/.118 (3.4/3.0)
12	1.106/1.094 (28.1/27.8)	1.063/1.051 (27.0/26.7)	.134/.118 (3.4/3.0)
14	1.232/1.220 (31.3/31.0)	1.189/1.177 (30.2/29.9)	.134/.118 (3.4/3.0)
16	1.358/1.346 (34.5/34.2)	1.315/1.303 (33.4/33.1)	.134/.118 (3.4/3.0)
18	1.445/1.433 (37.7/36.4)	1.402/1.390 (35.6/35.3)	.134/.118 (3.4/3.0)
20	1.591/1.579 (40.4/40.1)	1.547/1.535 (39.3/39.0)	.134/.118 (3.4/3.0)
22	1.732/1.720 (44.0/43.7)	1.689/1.677 (42.9/42.6)	.165/.149 (4.2/3.8)
24	1.898/1.886 (48.2/47.9)	1.854/1.842 (47.1/46.8)	.165/.149 (4.2/3.8)

TABLE II: Contact Size		
Contact Size	D Dia	E Dia
220	.011/.015 (0.28/0.38)	.0305/.0295 (0.77/0.75)
20	.024/.028 (0.61/0.71)	.041/.039 (1.04/0.99)
16	.0635/.0615 (1.61/1.56)	.0635/.0615 (1.61/1.56)
12	.095/.093 (2.41/2.36)	.095/.093 (2.41/2.36)
10	.126/.124 (3.20/3.15)	.126/.124 (3.20/3.15)



For #22D and 20 Contacts Only (#20 Inactive for New Design)

APPLICATION NOTES

1. Material/finish:
   - Shell (Z1) – 304L CRES/passivate per ASTM A-697.
   - Shell (ZL) – 304L CRES/nickel plate per DTL-38999.
   - Contacts – 52 Ni-Alloy per AMS-I-23011 Class 2, MIL-DTL-45204 Type II, Class 1 (.00005 min thick).
   - Insulator – full glass/N.A.
   - Bayonets - 300 Series CRES/passivate.
   - Seals – fluorosilicone blend elastomer/N.A.
2. Assembly identified with manufacturer's name and part number, space permitting.
3. This area IAW MC27478 (MIL-DTL-38999, Series II).
4. Performance Criteria IAW MIL-DTL-38999.
5. Metric Dimensions (mm) in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

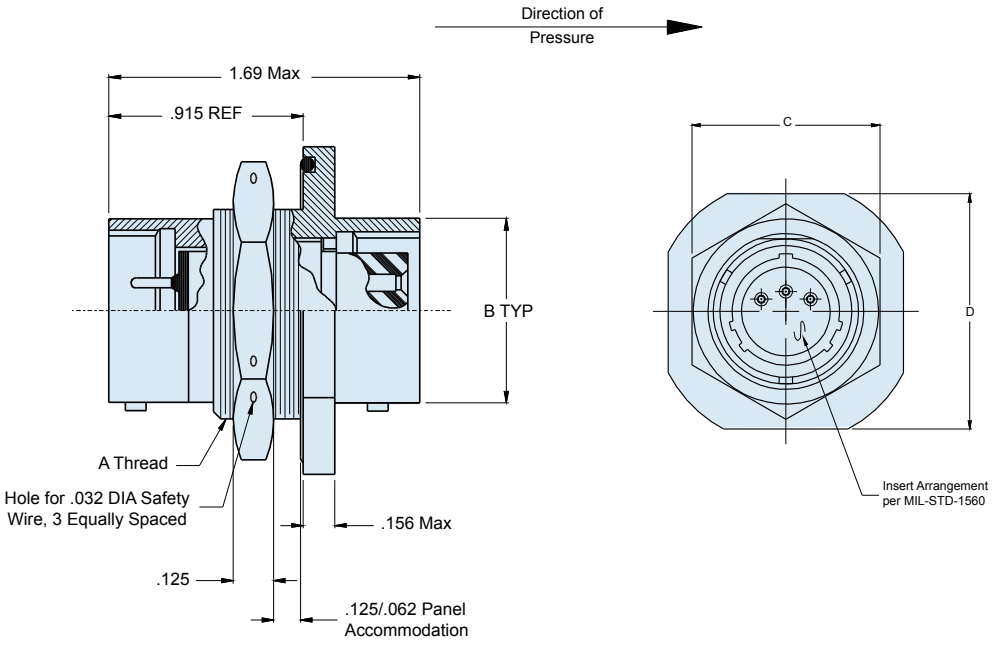
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947-120
Jam Nut Mount Hermetic Bulkhead Feed-Thru
.062/.125in Panel
MIL-DTL-38999 Series II Type

Product Series	Shell Size		Alternate Key Position		Contact Termination
947	- 120	- 20	- 35	B	P
	Basic Number		Insert Arrangement Per MIL-STD-1560		

Alternate Key Position
A, B, C, D
(*Omit for Normal*)

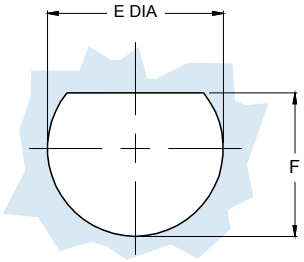
Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side
PP - Pin to Pin
SS - Socket to Socket



Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: CONNECTOR DIMENSIONS						
SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.005 (0-0.1)
08	.875-20 UNEF	.474(12.0)	1.062(27.0)	1.250(31.8)	.885(22.48)	.830(21.1)
10	1.000-20 UNEF	.591(15.0)	1.188(30.2)	1.375(34.9)	1.010(25.65)	.955(24.3)
12	1.125-18 UNEF	.751(19.1)	1.312(33.3)	1.500(38.1)	1.135(28.83)	1.085(27.6)
14	1.250-18 UNEF	.876(22.3)	1.438(36.5)	1.625(41.3)	1.260(32.01)	1.210(30.7)
16	1.375-18 UNEF	1.001(25.4)	1.562(39.7)	1.781(45.2)	1.385(35.18)	1.335(33.9)
18	1.500-18 UNEF	1.126(28.6)	1.688(42.9)	1.890(48.0)	1.510(38.35)	1.460(37.1)
20	1.625-18 UNEF	1.251(31.8)	1.812(46.0)	2.016(51.2)	1.635(41.53)	1.585(40.3)
22	1.750-18 UNS	1.376(35.0)	2.000(50.8)	2.140(54.4)	1.760(44.70)	1.710(43.4)
24	1.875-16 UN	1.501(38.1)	2.125(54.0)	2.265(57.5)	1.885(47.88)	1.835(46.6)



HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. For pin/pin or socket/socket, symmetrical layouts only consult factory for available insert arrangements).
3. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
4. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere.
5. Not for use in liquid atmosphere.
6. Material/Finish:
   Shell, lock ring, jam nut, bayonet pins—stainless steel/passivate
   Contacts—copper alloy/gold plate and alloy 52/gold plate
   Insulators—high-grade rigid dielectric/N.A. and full glass
   Seals - silicone/ N.A.
7. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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947-278
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series II Type (MS27477Y)

Product Series	Material / Finish	Insert Arrangement				Alternate Key Position
947 -	278	Z1	16 -	35	S	A
	Basic Number	Shell Size (Table I)		Contact Termination		

Material / Finish
Z1 – CRES/Passivate
ZL – CRES/Nickel Plate (Per QQ-N-290)

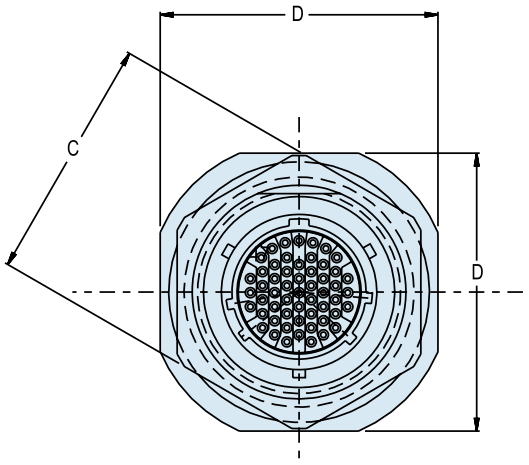
Insert Arrangement
Per MIL-STD-1560

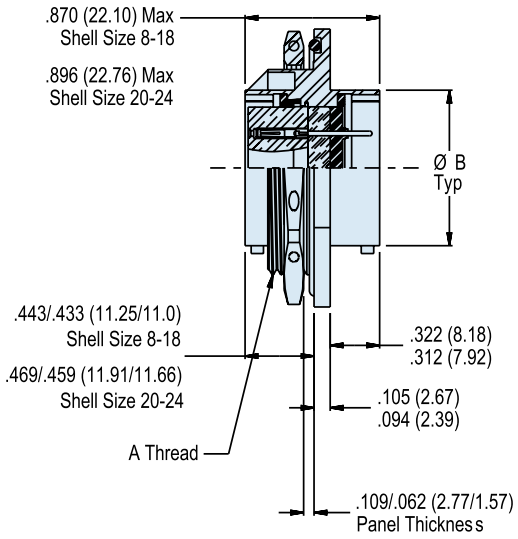
Alternate Key Position
A, B, C, D
(*N* = Normal)

Basic Number

Shell Size
Table I

Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side



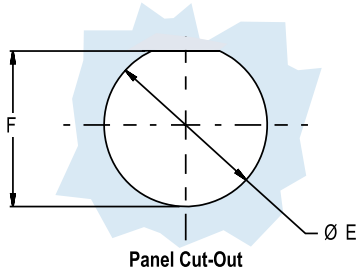


Dimensions in Inches (millimeters) are subject to change without notice.

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947-278
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series II Type (MS27477Y)

TABLE I: CONNECTOR DIMENSIONS						
SHELL SIZE	A THREAD CLASS 2A	B DIA MAX	C HEX	D FLATS	E DIA ±.005(0.1)	F +.000-.005 (0-0.1)
08	11/16-24 UNEF	.474(12.0)	1.062(27.0)	1.250(31.8)	.890 (22.6)	.825 (21.0)
10	13/16-20 UNEF	.591(15.0)	1.188(30.2)	1.375(34.9)	1.015 (25.8)	.950 (24.1)
12	1-20 UNEF	.751(19.1)	1.312(33.3)	1.500(38.1)	1.140 (29.0)	1.080 (27.4)
14	1 1/8-18 UNEF	.876(22.3)	1.438(36.5)	1.625(41.3)	1.265 (32.1)	1.205 (30.6)
16	1 1/4-18 UNEF	1.001(25.4)	1.562(39.7)	1.781(45.2)	1.390 (35.3)	1.330 (33.8)
18	1 3/8-18 UNEF	1.126(28.6)	1.608(40.8)	1.890(48.0)	1.515 (38.5)	1.455 (37.0)
20	1 1/2-18 UNEF	1.251(31.8)	1.812(46.0)	2.016(51.2)	1.640 (41.7)	1.580 (40.1)
22	1 5/8-18 UNEF	1.376(35.0)	2.000(50.8)	2.140(54.4)	1.765 (44.8)	1.704 (43.3)
24	1 3/4-18 UNS	1.501(38.1)	2.125(54.0)	2.265(57.5)	1.890 (48.0)	1.830 (46.5)



Panel Cut-Out

HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 947-278 will mate with any QPL manufacturer's plug having the same shell size, contact arrangement and opposite contact gender.
3. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere.
4. Metric Dimensions (mm) are indicated in parentheses.
5. Material/Finish:
   Shell and jam nut - CRES/passivate or CRES/Nickel plate
   Contacts, pin - nickel alloy/gold plate
   Contacts, socket - copper alloy/gold plate
   Bayonets - CRES/passivate
   Insulator, pins - full glass/N.A.
   Insulator - sockets - rigid dielectric/N.A.
   Seals - Fluorosilicone blend/N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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QPL QUALIFIED

MIL-DTL-38999 Series III, Triple-Start Thread

D38999/21 box mount hermetic receptacle

QPL Part Number Development

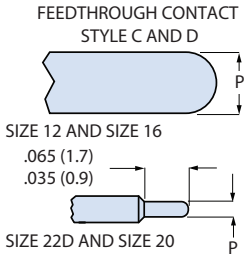
Sample Part Number	D38999/21	Y	B	35	P	N

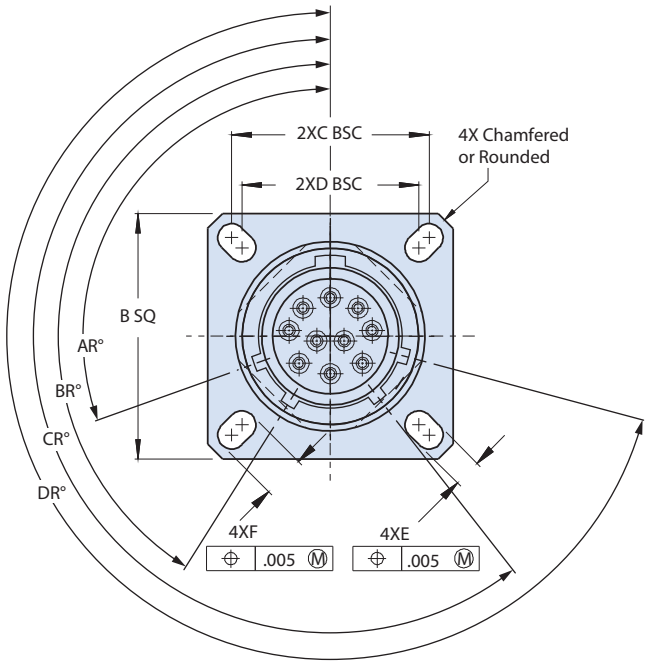
MIL-DTL-38999	**D38999/21** = Box mount receptacle
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size Code	**A**, **B**, **C**, **D**, **E**, **F**, **G**, **H** and **J** (per MIL-STD-1560)
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Type	**P** = Pin, solder cup; **X** = Pin, eyelet; **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup; **Z** = Socket, eyelet; **D** = Socket, PCB flex feedthrough
Alternate Polarization	**A**, **B**, **C**, **D**, **E**, **N** = Normal

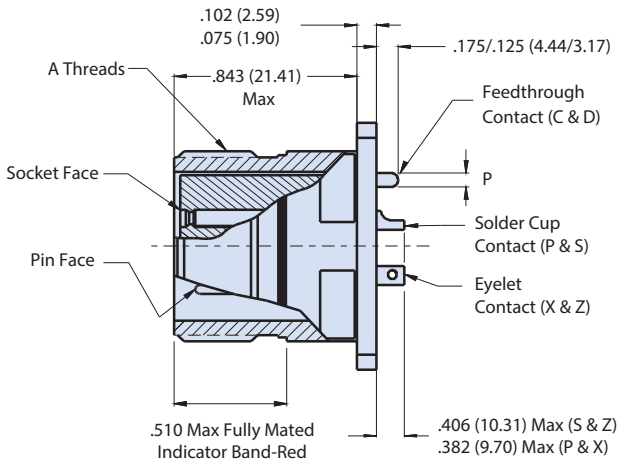


Contact Size

Size	ø P
22D	.015 (0.38) .011 (0.28)
20	.028 (0.71) .024 (0.61)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)







Wire Accommodation

Contact Size	Wire Gauge
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

NOTES

- The 239-204 and AS85049/130 have the same dimensions
- Basic Specification D38999 "Flange gasket not provided with connector. Use gasket 239-204 and select appropriate material"

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COTS EQUIVALENT

MIL-DTL-38999 Series III, Triple-Start Thread

233-100-H2 box mount hermetic receptacle

COTS Part Number Development						
Sample Part Number	**233-100-H2**	**Z1**	**11**	**-35**	**P**	**N**

Series / Basic Part No.	**233-100-H2** = Hermetic, box mount receptacle
Material/Finish*	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**9**, **11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Type	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough
Alternate Polarization	**A**, **B**, **C**, **D**, **E**, **N** (Normal),

Additional material/finish options are available, consult factory for ordering information.

Dimensions

Shell Size Code	Shell Size	A Thread .1P-.3L-TS-2A	B Sq ±.012	C Bsc	D Bsc	E ±.008	F ±.008
A	9	.6250	.937 (23.80)	.719 (18.26)	.594 (15.09)	.128 (3.25)	.216 (5.49)
B	11	.7500	1.031 (26.19)	.812 (20.62)	.719 (18.26)	.128 (3.25)	.194 (4.93)
C	13	.8750	1.126 (28.60)	.906 (23.01)	.812 (20.62)	.128 (3.25)	.194 (4.93)
D	15	1.0000	1.220 (30.99)	.969 (24.61)	.906 (23.01)	.173 (4.39)	.173 (4.39)
E	17	1.1875	1.311 (33.30)	1.062 (26.97)	.969 (24.61)	.128 (3.25)	.194 (4.93)
F	19	1.2500	1.437 (36.50)	1.156 (29.36)	1.062 (26.97)	.128 (3.25)	.194 (4.93)
G	21	1.3750	1.563 (39.70)	1.250 (31.75)	1.156 (29.36)	.128 (3.25)	.194 (4.93)
H	23	1.5000	1.689 (42.90)	1.375 (34.92)	1.250 (31.75)	.154 (3.91)	.242 (6.15)
J	25	1.6250	1.811 (46.00)	1.500 (38.10)	1.375 (34.92)	.150 (3.81)	.242 (6.15)

Series III Alternate Keyway Polarizations

Shell Size Code	Shell Size	Key and Keyway ID Letter	AR° BSC	BR° BSC	CR° BSC	DR° BSC	Shell Size Code	Shell Size	Key and Keyway Code	AR° BSC	BR° BSC	CR° BSC	DR° BSC	Shell Size Code	Shell Size	Key and Keyway ID Letter	AR° BSC	BR° BSC	CR° BSC	DR° BSC
A	9	N	105	140	215	265	B C D	11 13 15	N	95	141	208	236	E F G H J	17 19 21 23 25	N	80	142	196	293
		A	102	132	248	320			A	113	156	182	292			A	135	170	200	310
		B	80	118	230	312			B	90	145	195	252			B	49	169	200	244
		C	35	140	205	275			C	53	156	220	255			C	66	140	200	257
		D	64	155	234	304			D	119	146	176	298			D	62	145	180	280
		E	91	131	197	240			E	51	141	184	242			E	79	153	197	272

Additional Material/Finish Options

Finish Code	Description
Z1S†	CRES, passivate finish, conductive, -65°C to 200°C, space-grade

† Connectors ordered with "Z1S" include outgas processing to conform to outgassing requirements of Class H.

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QPL QUALIFIED

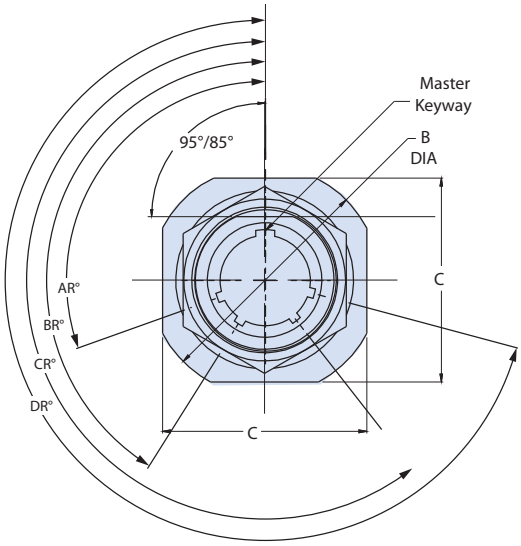
MIL-DTL-38999 Series III, Triple-Start Thread

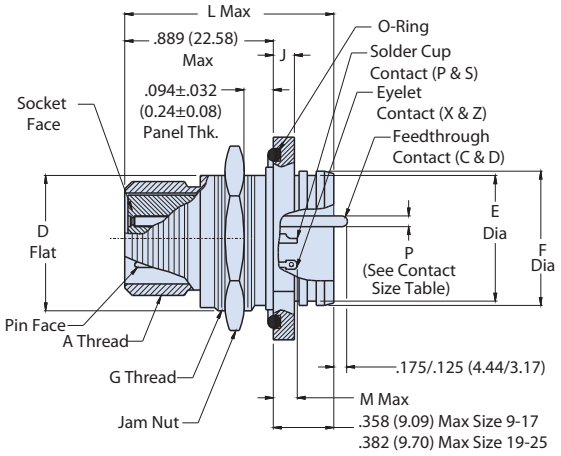
D38999/23 jam-nut mount hermetic receptacle

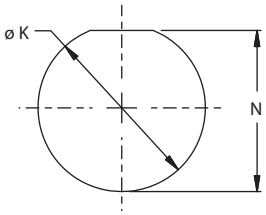
QPL Part Number Development						
Sample Part Number	**D38999/23**	**Y**	**B**	**35**	**P**	**N**

MIL-DTL-38999	**D38999/23** = Jam-Nut mount receptacle
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size Code	**A**, **B**, **C**, **D**, **E**, **F**, **G**, **H** and **J** (per MIL-STD-1560)
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Type	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough
Alternate Polarization	**A**, **B**, **C**, **D**, **E**, **N** = Normal









RECOMMENDED PANEL CUT-OUT

Wire Accommodation	
Contact Size	**Wire Gauge**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Series III Alternate Keyway Polarizations

Shell Size Code	Shell Size	Key and Keyway ID Letter	AR° BSC	BR° BSC	CR° BSC	DR° BSC	Shell Size Code	Shell Size	Key and Keyway Code	AR° BSC	BR° BSC	CR° BSC	DR° BSC	Shell Size Code	Shell Size	Key and Keyway ID Letter	AR° BSC	BR° BSC	CR° BSC	DR° BSC
A	9	N	105	140	215	265	B C D	11 13 15	N	95	141	208	236	E F G H J	17 19 21 23 25	N	80	142	196	293
		A	102	132	248	320			A	113	156	182	292			A	135	170	200	310
		B	80	118	230	312			B	90	145	195	252			B	49	169	200	244
		C	35	140	205	275			C	53	156	220	255			C	66	140	200	257
		D	64	155	234	304			D	119	146	176	298			D	62	145	180	280
		E	91	131	197	240			E	51	141	184	242			E	79	153	197	272

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COTS EQUIVALENT

MIL-DTL-38999 Series III, Triple-Start Thread

233-100-H7 jam-nut mount hermetic receptacle

COTS Part Number Development

Sample Part Number	233-100-H7	Z1	11	-35	P	N

Series / Basic Part No.	**233-100-H7** = Hermetic, jam-nut mount receptacle
Material/Finish	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**9**, **11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Type	**P** = Pin, solder cup; **X** = Pin, eyelet; **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup; **Z** = Socket, eyelet; **D** = Socket, PCB flex feedthrough
Alternate Polarization	**A**, **B**, **C**, **D**, **E**, **N** (Normal)

Additional material/finish options are available, consult factory for ordering information.

Dimensions

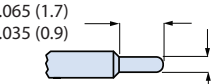
Shell Size Code	Shell Size	A Thread -0.1P-0.3L-TS	B Dia	C A/F ±.015(0.4)	D Flat ±.005(0.1)	E Dia ±.012(0.3)	F Dia
A	9	0.625	1.201 (30.5) 1.177 (29.9)	1.063(27.0)	.650(16.5)	.602(15.3)	.653(16.6) .642(16.3)
B	11	0.750	1.386 (35.2) 1.362 (34.6)	1.252(31.8)	.750(19.1)	.724(18.4)	.775(19.7) .764(19.4)
C	13	0.875	1.512 (38.4) 1.488 (37.8)	1.374(34.9)	.937(23.8)	.850(21.6)	.905(23.0) .894(22.7)
D	15	1.000	1.638 (41.6) 1.614 (41.0)	1.500(38.1)	1.061(26.9)	.976(24.8)	1.031(26.2) 1.020(25.9)
E	17	1.187	1.764 (44.8) 1.740 (44.2)	1.626(41.3)	1.186(30.1)	1.102(28.0)	1.153(29.3) 1.142(29.0)
F	19	1.250	1.949 (49.5) 1.925 (48.9)	1.811(46.0)	1.311(33.3)	1.228(31.2)	1.278(32.5) 1.268(32.2)
G	21	1.375	2.075 (52.7) 2.050 (52.1)	1.937(49.2)	1.436(36.5)	1.350(34.3)	1.405(35.7) 1.394(35.4)
H	23	1.500	2.201 (55.9) 2.177 (55.3)	2.063(52.4)	1.561(39.6)	1.476(37.5)	1.531(38.9) 1.520(38.6)
J	25	1.625	2.323 (59.00) 2.299 (58.39)	2.189(55.6)	1.686(42.8)	1.602(40.7)	1.653(42.0) 1.642(41.7)

Contact Size

FEEDTHROUGH CONTACT STYLE C AND D



SIZE 12 AND SIZE 16



SIZE 22D AND SIZE 20

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Dimensions (Continued)

Shell Size Code	Shell Size	G Thread Iso Metric	J ±.008(0.2)	K Dia ±.005 (0.1)	L Max	M Max P & X	M Max S & Z	N ±.005 (0.1)
A	9/09	M17 X 1.0-6g	.106 (2.7)	.698 (17.73)	1.150 (29.2)	.209 (5.3)	.232 (5.9)	.658±.003 (16.71±.08)
B	11	M20 X 1.0-6g	.106 (2.7)	.830 (21.08)	1.150 (29.2)	.209 (5.3)	.232 (5.9)	.766 (19.46)
C	13	M25 X 1.0-6g	.106 (2.7)	1.015 (25.78)	1.154 (29.3)	.201 (5.1)	.224 (5.7)	.950 (24.13)
D	15	M28 X 1.0-6g	.106 (2.7)	1.140 (28.96)	1.154 (29.3)	.201 (5.1)	.224 (5.7)	1.080 (27.43)
E	17	M32 X 1.0-6g	.106 (2.7)	1.265 (32.13)	1.154 (29.3)	.201 (5.1)	.224 (5.7)	1.205 (30.61)
F	19	M35 X 1.0-6g	.138 (3.5)	1.390 (35.31)	1.185 (30.10)	.201 (5.1)	.224 (5.7)	1.330 (33.78)
G	21	M38 X 1.0-6g	.138 (3.5)	1.515 (38.48)	1.185 (30.10)	.201 (5.1)	.224 (5.7)	1.455 (36.96)
H	23	M41 X 1.0-6g	.138 (3.5)	1.640 (41.66)	1.185 (30.10)	.201 (5.1)	.224 (5.7)	1.580 (40.13)
J	25	M44 X 1.0-6g	.138 (3.5)	1.765 (44.83)	1.185 (30.10)	.201 (5.1)	.224 (5.7)	1.705 (43.31)

Additional Material/Finish Options

Finish Code	Description
Z1S†	CRES, passivate finish, conductive, -65°C to 200°C, space-grade

† Connectors ordered with "Z1S" include outgas processing to conform to outgassing requirements of Class H.

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Dimensions in inches (millimeters) are subject to change without notice

D38999/25
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series III

How To Order: *MS*

Basic Specification		Connector Material / Finish		Insert Arrangement	Alternate Key Position	
D38999		*N - CRES, Nickel* *Y - CRES, Passivated*		Per MIL-STD-1560; See Pages B2 - B4	*A, B, C, D, E* (*N* = Normal)	
D38999	**/25**	**Y**	**B**	**35**	**P**	**N**

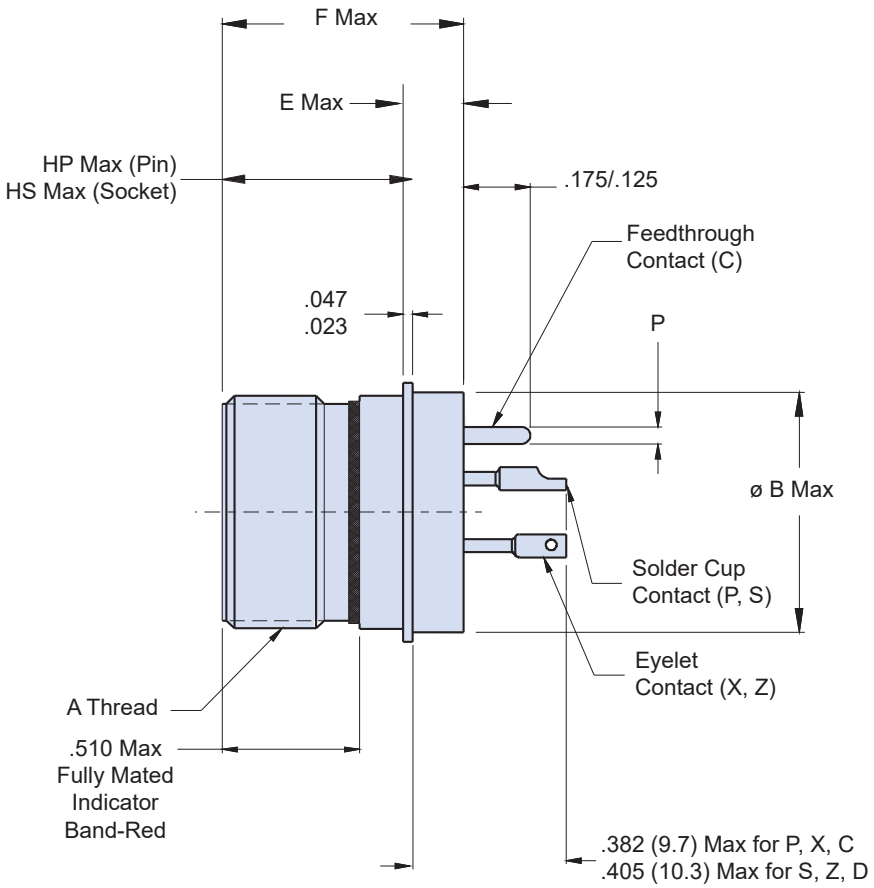
Shell Style
/25 - Solder Mount

Shell Size

A - 9	*F* - 19
B - 11	*G* - 21
C - 13	*H* - 23
D - 15	*J* - 25
E - 17	

Contact Termination

P - Pin, Solder Cup	*S - Socket, Solder Cup*
X - Pin, Eyelet	*Z - Socket, Eyelet*
C - Pin, PCB Flex Feedthrough	*D - Socket, PCB Flex Feedthrough*



Dimensions in Inches (millimeters) are subject to change without notice.

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233-100-H5
Solder Mount Hermetic Receptacle
MIL-DTL-38999 Series III Type

Glenair®

How To Order: *Commercial*

Connector Series	Shell Style	Shell Size	Contact Termination
233-100 - *Series III Type*	***H5*** - *Hermetic Solder Mount Receptacle*	*09,11,13,15,17,19,21,23,25*	***P*** - *Pin, Solder Cup* ***S*** - *Socket, Solder Cup* ***X*** - *Pin, Eyelet* ***Z*** - *Socket, Eyelet* ***C*** - *Pin, PCB* ***D*** - *Socket, PCB*

233 - 100 - H5 Z1 9 - 35 P N

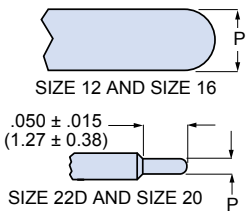
Connector Material / Finish	Insert Arrangement	Alternate Key Position
ZL - *CRES, Nickel* ***Z1*** - *CRES, Passivated*	Per MIL-STD-1560; See Pages B-2 - B-4	***A, B, C, D, E*** (***N*** = Normal)

TABLE I: CONNECTOR DIMENSIONS

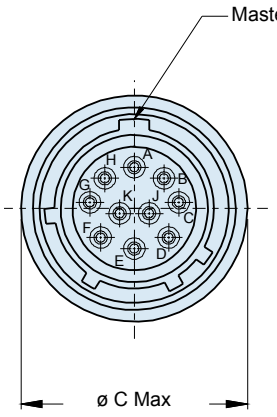
SHELL SIZE CODE	SHELL SIZE	A THREAD	ø B MAX	ø C MAX	ø D ±.005(0.1)	E MAX	F MAX	HP MAX	HS MAX
A	9	.6250-.1P-.3L-TS-2A	.673(17.1)	.764(19.4)	.680(17.3)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
B	11	.7500-.1P-.3L-TS-2A	.783(19.9)	.858(21.8)	.789(20.0)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
C	13	.8750-.1P-.3L-TS-2A	.909(23.1)	.980(24.9)	.914(23.2)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
D	15	1.0000-.1P-.3L-TS-2A	1.031(26.2)	1.106(28.1)	1.038(26.4)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
E	17	1.1875-.1P-.3L-TS-2A	1.157(29.4)	1.232(31.3)	1.164(29.6)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
F	19	1.2500-.1P-.3L-TS-2A	1.252(31.8)	1.323(33.6)	1.258(32.0)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
G	21	1.3750-.1P-.3L-TS-2A	1.378(35.0)	1.449(36.8)	1.383(35.1)	.201(5.1)	.937(23.8)	.677(17.2)	.764(19.4)
H	23	1.5000-.1P-.3L-TS-2A	1.504(38.2)	1.575(40.0)	1.508(38.3)	.232(5.9)	.969(24.6)	.677(17.2)	.764(19.4)
J	25	1.6250-.1P-.3L-TS-2A	1.626(41.3)	1.701(43.2)	1.643(41.7)	.232(5.9)	.969(24.6)	.677(17.2)	.764(19.4)

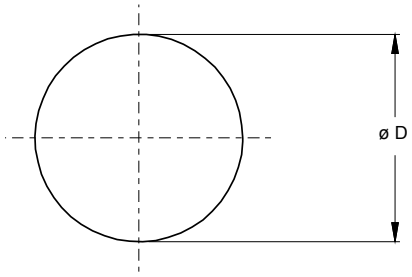
TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)





Recommended Panel Cut-Out

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

Dimensions in Inches (millimeters) are subject to change without notice.

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D38999/27
Weld Mount Hermetic Receptacle
MIL-DTL-38999 Series III

How To Order: *MS*

Basic Specification	Connector Material / Finish	Insert Arrangement	Alternate Key Position
D38999	*N - CRES, Nickel* *Y - CRES, Passivated*	Per MIL-STD-1560; See Pages B2 - B4	*A, B, C, D, E* (*N* = Normal)

D38999	/27	Y	B	35	P	N

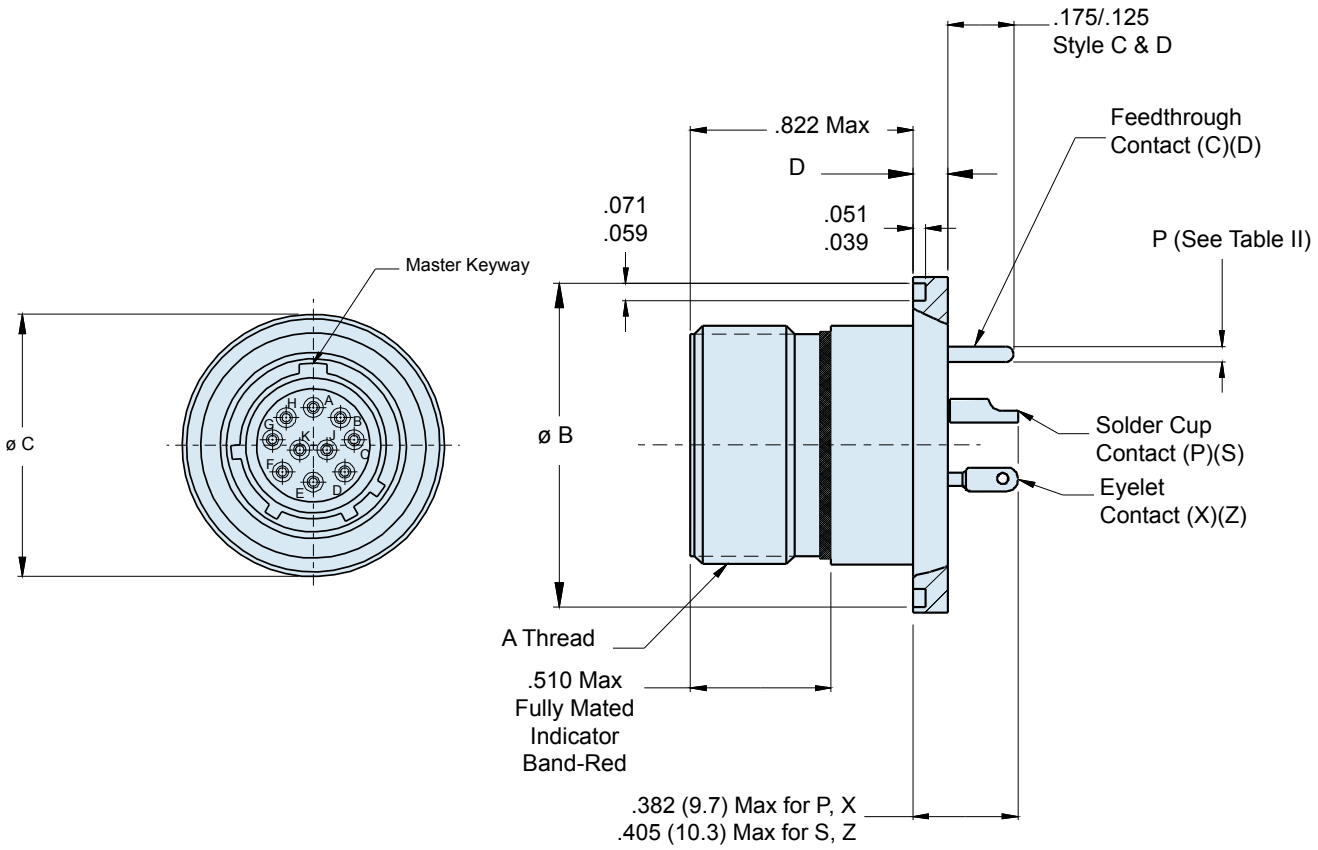
Shell Style
/27 - Weld Mount

Shell Size

A - 9	*F - 19*
B - 11	*G - 21*
C - 13	*H - 23*
D - 15	*J - 25*
E - 17	

Contact Termination

P - Pin, Solder Cup	*S - Socket, Solder Cup*
X - Pin, Eyelet	*Z - Socket, Eyelet*
C - Pin, PCB Flex Feedthrough	*D - Socket, PCB Flex Feedthrough*



Consult Factory for Recommended Panel Cutout Dimensions

Dimensions in Inches (millimeters) are subject to change without notice.

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233-100-H8
Weld Mount Hermetic Receptacle
MIL-DTL-38999 Series III Type

How To Order: *Commercial*

Connector Series	Shell Style	Shell Size	Contact Termination
234 - Series III Type	*H8 - Hermetic Weld Mount Receptacle*	*09,11,13,15, 17,19,21,23,25*	*P - Pin, Solder Cup* *S - Socket, Solder Cup* *X - Pin, Eyelet* *Z - Socket, Eyelet* *C - Pin, PCB* *D - Socket, PCB*

233	-	100	-	H8	Z1	9	-	35	P	N

Connector Type	Connector Material / Finish	Insert Arrangement	Alternate Key Position
100 - Hermetic Receptacle	*ZL - CRES, Nickel* *Z1 - CRES, Passivated*	Per MIL-STD-1560; See Pages B-2 - B-4	*A, B, C, D, E* (*N* = Normal)

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR DIMENSIONS

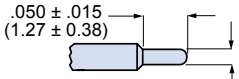
SHELL SIZE CODE	SHELL SIZE	A THREAD	Ø B	Ø C	Ø D
A	9	.6250-.1P-.3L-TS-2A	.941 (23.9) .929 (23.6)	.984 (25.0) .972 (24.7)	.134 (3.4) .118 (3.0)
B	11	.7500-.1P-.3L-TS-2A	1.063 (27.0) 1.051 (27.0)	1.106 (28.1) 1.094 (27.8)	.134 (3.4) .118 (3.0)
C	13	.8750-.1P-.3L-TS-2A	1.189 (30.2) 1.177 (28.9)	1.232 (31.3) 1.220 (31.0)	.134 (3.4) .118 (3.0)
D	15	1.0000-.1P-.3L-TS-2A	1.315 (33.4) 1.303 (33.1)	1.358 (34.5) 1.346 (34.2)	.134 (3.4) .118 (3.0)
E	17	1.1875-.1P-.3L-TS-2A	1.402 (35.6) 1.390 (35.3)	1.445 (36.7) 1.433 (36.4)	.134 (3.4) .118 (3.0)
F	19	1.2500-.1P-.3L-TS-2A	1.547 (39.3) 1.535 (39.0)	1.591 (40.4) 1.579 (40.1)	.134 (3.4) .118 (3.0)
G	21	1.3750-.1P-.3L-TS-2A	1.689 (42.9) 1.677 (42.6)	1.732 (44.0) 1.720 (43.7)	.134 (3.4) .118 (3.0)
H	23	1.5000-.1P-.3L-TS-2A	1.854 (47.1) 1.842 (46.8)	1.898 (48.2) 1.886 (47.4)	.165 (4.2) .149 (3.8)
J	25	1.6250-.1P-.3L-TS-2A	1.941 (49.3) 1.929 (49.0)	1.984 (50.4) 1.972 (50.1)	.165 (4.2) .149 (3.8)

TABLE II: CONTACT SIZE

PRINTED CIRCUIT TAIL CONFIGURATIONS
CONTACT STYLE C AND D



SIZE 12 AND SIZE 16



SIZE 22D AND SIZE 20

Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

WIRE ACCOMODATION

Contact Size	Wire Guage
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Dimensions in Inches (millimeters) are subject to change without notice.

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233-103-H7
Jam Nut Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999 Series III Type

Connector Series
233 - D38999 Series III Type

Shell Style
H7 - Jam Nut Mount

Shell Size
09
11
13
15
17
19
21
23
25

Insert Arrangement
Per MIL-DTL-38999 Series III
MIL-STD-1560

Alternate Key Position
A, B, C, D, E
(*N* = Normal)

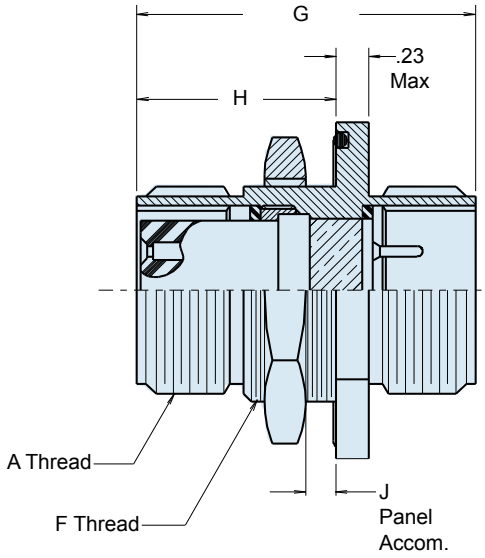
233 - 103 - H7 Z1 11 - 35 P N - 01

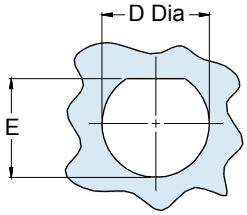
Connector Type
103 - Hermetic Bulkhead Feed-Thru

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side
PP - Pin-Pin
SS - Socket-Socket

Panel Accomodation
01 - .0625" (Min) .125" (Max)
02 - .0625" (Min) .250" (Max)
03 - .0625" (Min) .500" (Max)



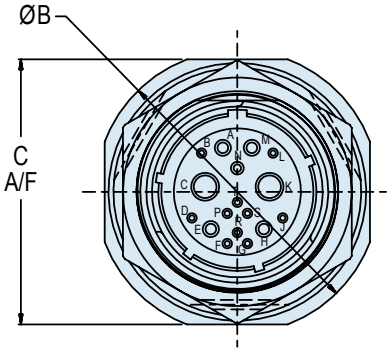


Recommended Panel Cut-Out

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

Panel Accomodation			
Sym	**G Dim, OAL Max**	**H Dim, Max**	**J Dim, Panel**
-01	1.670 (42.42)	.980 (24.89)	.125 (3.18) .062 (1.57)
-02	1.780 (45.21)	1.090 (27.69)	.250 (6.35) .062 (1.57)
-03	2.030 (51.56)	1.340 (34.04)	.500 (12.7) .062 (1.57)

TABLE II: CONNECTOR DIMENSIONS						
SHELL SIZE	**A THREAD 0.1 P-0.3L-TS-2**	**B DIA**	**C**	**D DIA**	**E DIM**	**F THREAD METRIC**
9	.6250	1.189 (30.20)	1.063 (27.00)	.703 (17.86) .693 (17.60)	.661 (16.79) .655 (16.64)	M17 x 1.0-6g
11	.7500	1.375 (34.93)	1.252 (31.80)	.835 (21.21) .825 (20.96)	.771 (19.58) .761 (19.33)	M20 x 1.0-6g
13	.8750	1.500 (38.10)	1.374 (34.90)	1.020 (25.91) 1.010 (25.65)	.955 (24.26) .945 (24.00)	M25 x 1.0-6g
15	1.0000	1.626 (41.30)	1.500 (38.10)	1.145 (29.03) 1.135 (28.83)	1.085 (27.56) 1.075 (27.30)	M28 x 1.0-6g
17	1.1875	1.752 (44.50)	1.626 (41.30)	1.270 (32.26) 1.260 (32.00)	1.210 (30.73) 1.200 (30.48)	M32 x 1.0-6g
19	1.2500	1.937 (49.20)	1.811 (46.00)	1.395 (35.43) 1.385 (35.18)	1.335 (33.91) 1.325 (33.65)	M35 x 1.0-6g
21	1.3750	2.063 (52.40)	1.937 (49.20)	1.520 (38.61) 1.510 (38.35)	1.460 (37.08) 1.450 (36.83)	M38 x 1.0-6g
23	1.5000	2.189 (55.60)	2.063 (52.40)	1.645 (41.78) 1.635 (41.53)	1.585 (40.26) 1.575 (40.00)	M41 x 1.0-6g
25	1.6250	2.311 (58.70)	2.189 (55.60)	1.770 (44.96) 1.760 (44.70)	1.710 (43.34) 1.700 (43.18)	M44 x 1.0-6g



Insert Arrangement per
MIL-DTL-38999 Series III
MIL-STD-1560

APPLICATION NOTES

1. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
2. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
3. Material/finish:
   Shell, nut – CRES/passivated or CRES/nickel per QQ-N-290.
   Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
   Insulator, hermetic – fused vitreous glass/N.A.
   Insulator, socket – rigid dielectric.
   Seals – fluorosilicone rubber/N.A.
4. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

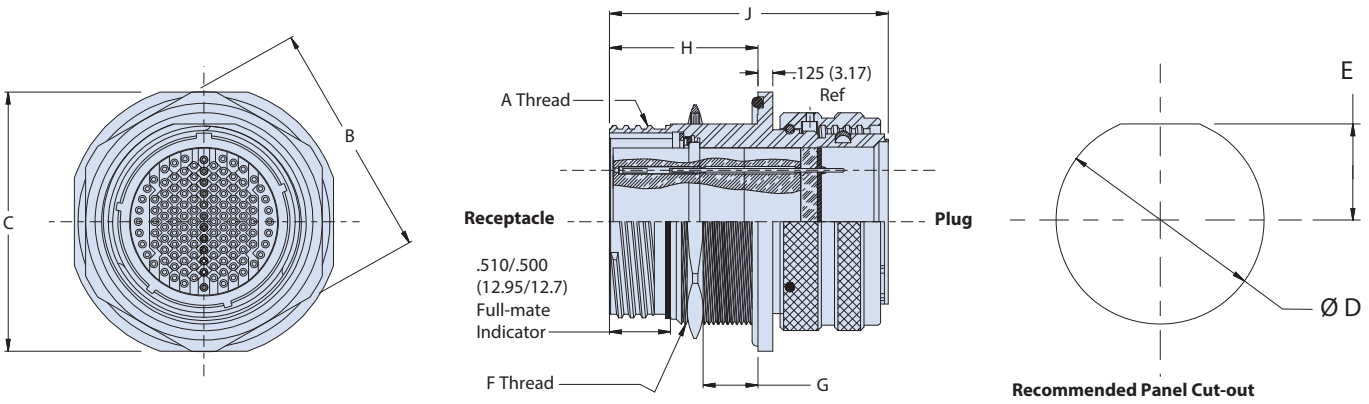
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SuperNine® Glass seal hermetic

MIL-DTL-38999 Series III Type

233-103 Bulkhead SAV-CON feed-thru

233-103-H9 JAM-NUT MOUNT GENDER CHANGER



Dimensions						
SHELL SIZE	A THREAD	B MAX	C DIM MAX	D DIA	E	F THREAD
9	.6250 0.1 P-0.3L-TS-2	.945(24.0)	1.09 (27.7)	0.703 (17.9) 0.693 (17.6)	0.661 (16.8) 0.653 (16.6)	M17X1-6G-0.100R
11	.7500 0.1 P-0.3L-TS-2	1.063(27.0)	1.28 (32.5)	0.835 (21.2) 0.825 (21.0)	0.771 (19.6) 0.761 (19.3)	M20X1-6G-0.100R
13	.8750 0.1 P-0.3L-TS-2	1.260(32.0)	1.40 (35.6)	1.020 (25.9) 1.010 (25.7)	0.955 (24.3) 0.945 (24.0)	M25X1-6G-0.100R
15	1.0000 0.1 P-0.3L-TS-2	1.417(36.0)	1.53 (38.9)	1.145 (29.1) 1.135 (28.8)	1.085 (27.6) 1.075 (27.3)	M28X1-6G-0.100R
17	1.1875 0.1 P-0.3L-TS-2	1.457(37.0)	1.66 (42.2)	1.270 (32.3) 1.260 (32.0)	1.210 (30.7) 1.200 (30.5)	M32X1-6G-0.100R
19	1.2500 0.1 P-0.3L-TS-2	1.614(41.0)	1.84 (46.7)	1.395 (35.4) 1.385 (35.2)	1.335 (33.9) 1.325 (33.7)	M35X1-6G-0.100R
21	1.3750 0.1 P-0.3L-TS-2	1.811(46.0)	1.97 (50.5)	1.520 (38.6) 1.510 (38.4)	1.460 (37.1) 1.450 (36.8)	M38X1-6G-0.100R
23	1.5000 0.1 P-0.3L-TS-2	1.968(50.0)	2.09 (53.1)	1.645 (41.8) 1.635 (41.5)	1.585 (40.3) 1.575 (40.0)	M41X1-6G-0.100R
25	1.6250 0.1 P-0.3L-TS-2	2.017(51.2)	2.21 (56.1)	1.770 (45.0) 1.760 (44.7)	1.710 (43.4) 1.700 (43.2)	M44X1-6G-0.100R

Panel Thickness			
DASH NO.	G	H MAX	J MAX
-01	.062 - .125 (1.6 - 3.2)	.890 (22.6)	2.000 (50.8)
-02	.062 - .250 (1.6 - 6.4)	1.150 (29.2)	2.225 (56.5)
-03	.062 - .500 (1.6 - 12.7)	1.400 (35.6)	2.450 (62.2)

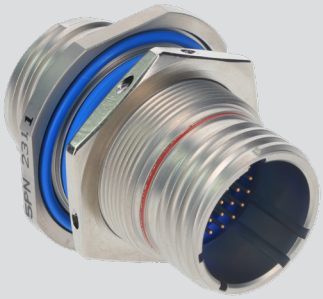
Panel Thickness			
DASH NO.	G	H MAX	J MAX
-01	.062 - .125 (1.6 - 3.2)	.890 (22.6)	2.000 (50.8)
-02	.062 - .250 (1.6 - 6.4)	1.150 (29.2)	2.225 (56.5)
-03	.062 - .500 (1.6 - 12.7)	1.400 (35.6)	2.450 (62.2)

DWV Voltage Levels at Sea Level	
SERVICE RATING	VOLTAGE AC RMS 60HR
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

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Dimensions in Inches (millimeters) are subject to change without notice.

QPL and COTS Hermetic Connectors

233-291-H7 Hermetic Receptacle Bulkhead Feed-Thru, Series III Type



PART NUMBER DEVELOPMENT

Sample Part Number	233-291-H7	ZL	17-35	S	N
Basic Part Number	**233-291-H7** Hermetic Receptacle Bulkhead Feed-Thru				
Finish	**Z1** = Passivate **ZL** = Nickel Plate				
Shell Size and Insert Arrangements	Per MIL-STD-1560				
Configuration	**P** = Pin On Jam-Nut Side **S** = Socket On Jam-Nut Side **PP** = Pin-Pin **SS** = Socket-Socket				
Polarization	**A**, **B**, **C**, **D**, or **E** (Specify **N** for Normal)				

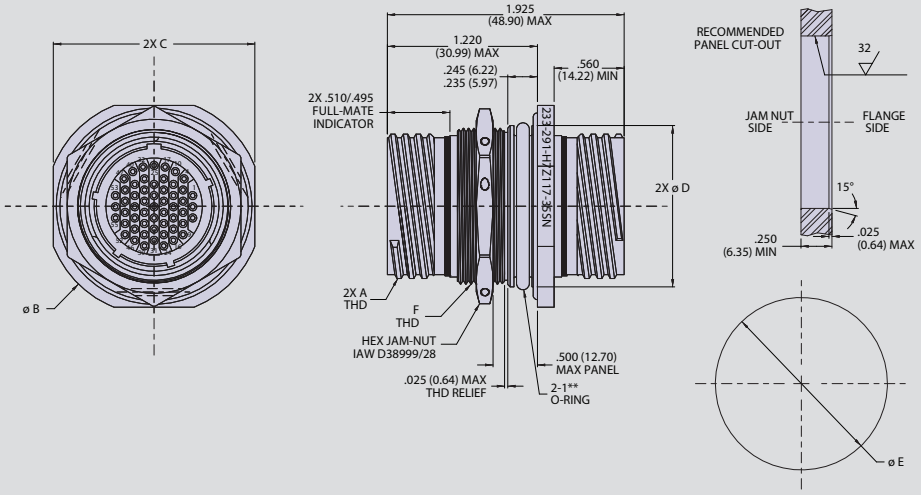
MATERIALS AND FINISHES

- Shell and jam-nut: 300 series cres / per p/n development
- Contacts, pin: nickel-iron alloy / gold plate
- Contacts, socket: copper alloy / gold plate
- Hoods, sockets: cres / passivate
- Insulator, hermetic: full glass
- Insulator, socket: rigid dielectric
- Seals: fluorosilicone blend elastomer
- O-rings: fluorosilicone

NOTES

- For finishes other than specified, consult factory.
- Hermeticity: <1 x 10^{-7} cche/sec @ delta 1 atmosphere
- For pp or ss style, only symmetrical layouts may be selected. Power applied to contact on one side will result in power to the opposite contact, regardless of marking.

Dimensions



Shell Size	A Thread 0.1P-0.3L-TS-2	Ø B	C	Ø D	Ø E	F Thread Metric
9	0.6250	1.189 (30.20)	1.063 (27.00)	.732/.731 (18.59/ 18.57)	.736/.734 (18.69/18.64)	M17 X 1.0-6g
11	0.7500	1.375 (34.92)	1.252 (31.80)	.861/.860 (21.87/21.84)	.865/ .863 (21.97/21.92)	M20 X 1.0-6g
13	0.8750	1.500 (38.10)	1.374 (34.90)	1.051/ 1.050 (26.70/26.67)	1.055/ 1.053 (26.80/26.75)	M25 X 1.0-6g
15	1.0000	1.626 (41.30)	1.500 (38.10)	1.176/ 1.175 (29.87/29.85)	1.180/ 1.178 (29.97/29.92)	M28 X 1.0-6g
17	1.1875	1.752 (44.50)	1.626 (41.30)	1.301/ 1.300 (33.05/33.02)	1.305/ 1.303 (33.15/33.10)	M32 X 1.0-6g
19	1.2500	1.937 (49.20)	1.811 (46.00)	1.426/1.425 (36.22/36.20)	1.430/ 1.428 (36.32/36.27)	M35 X 1.0-6g
21	1.3750	2.063 (52.40)	1.937 (49.20)	1.551/ 1.550 (39.40/39.37)	1.555/ 1.553 (39.50/39.45)	M38 X 1.0-6g
23	1.5000	2.189 (55.60)	2.063 (52.40)	1.676/ 1.675 (42.57/42.55)	1.680/ 1.676 (42.67/42.57)	M41 X 1.0-6g
25	1.6250	2.311 (58.70)	2.189 (55.60)	1.802/ 1.801 (45.77/45.75)	1.807/ 1.805 (45.90/45.85)	M44 X 1.0-6g

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Dimensions in Inches (millimeters) unless noted otherwise and are subject to change without notice.

237-033
Jam Nut Mount Hermetic with Double O-Rings
Jam Nut Mount Hermetic Receptacle with Dual Flange O-rings for MIL-DTL-38999 Series III Type

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Finish

Connector Series
233 - D38999 Series III Type

Insert Arrangement
Per MIL-DTL-38999 Series III MIL-STD-1560

Polarization
A, B, C, D, E
(*N* = Normal)

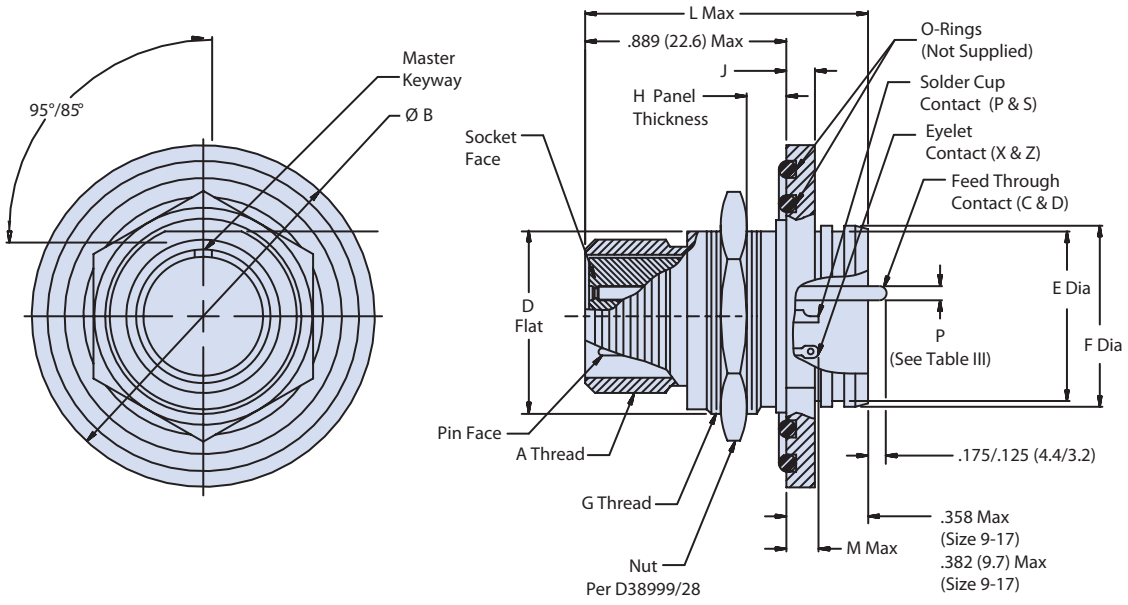
237	-	033	Z1	9	-	35	D	N

Connector Type
003 - Hermetic Bulkhead Receptacle

Shell Size
(See Table I)

Contact Termination Style

P - Pin, Solder Cup	*S* - Socket, Solder Cup
X - Pin, Eyelet	*Z* - Socket, Eyelet
C - Pin, PCB	*D* - Socket, Feedthrough



Dimensions in Inches (millimeters) are subject to change without notice.

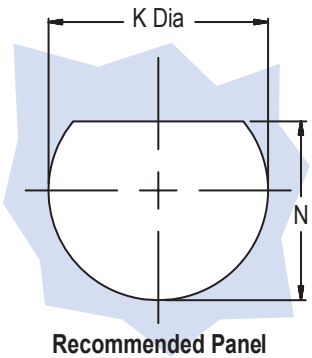
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237-033
Jam Nut Mount Hermetic with Double O-Rings
Jam Nut Mount Hermetic Receptacle with Dual Flange O-rings for MIL-DTL-38999 Series III Type

Glenair®

TABLE I: Shell Size, Thread and Connector Dimensions (Continued Below)

Shell Size Code	Shell Size	A Thread -0.1P-0.03L-TS	B Dia	D Flat	E Dia	F Dia	G Thread ISO Metric x 1.0-6g
A	9	.6250	1.270/1.260 (32.26/32.00)	.654/.645 (16.61/16.38)	.614/.591 (15.60/15.01)	.653/.642 (16.59/16.31)	M17
B	11	.7500	1.385/1.375 (35.18/34.93)	.754/.745 (19.15/18.92)	.736/.713 (18.69/18.11)	.775/.764 (19.69/19.41)	M20
C	13	.8750	1.585/1.575 (40.26/40.01)	.941/.932 (23.90/23.67)	.862/.839 (21.89/21.31)	.905/.894 (22.99/22.71)	M25
D	15	1.0000	1.700/1.690 (43.18/42.93)	1.065/1.056 (27.05/26.82)	.988/.965 (25.10/24.51)	1.031/1.020 (26.19/25.91)	M28
E	17	1.1875	1.860/1.850 (47.24/46.99)	1.190/1.181 (30.23/30.00)	1.114/1.091 (28.30/27.71)	1.153/1.142 (29.29/29.01)	M32 (See Note 2)
F	19	1.2500	1.975/1.965 (50.17/49.91)	1.315/1.306 (33.40/33.17)	1.240/1.217 (31.50/30.91)	1.278/1.268 (32.46/32.21)	M35
G	21	1.3750	2.095/2.085 (53.21/52.96)	1.440/1.431 (36.58/36.35)	1.362/1.339 (34.59/34.01)	1.405/1.394 (35.69/35.41)	M38
H	23	1.5000	2.213/2.203 (56.21/55.96)	1.565/1.556 (39.75/39.52)	1.488/1.465 (37.80/37.21)	1.531/1.520 (38.89/38.61)	M41
J	25	1.6250	2.325/2.315 (59.06/58.80)	1.690/1.681 (42.93/42.70)	1.614/1.591 (41.0/40.41)	1.653/1.642 (41.99/41.71)	M44



Recommended Panel Cut-out

TABLE I: (Continued from Above)

Shell Size Code	Shell Size	H	J	K Dia	L Max	M Max		N
						P and X	S and Z	
A	9	.125/.062 (3.18/1.57)	.114/.098 (2.90/2.49)	.703 (17.86) .693 (17.60)	1.149 (29.18)	.208 (5.28)	.232 (5.89)	.661 (16.79) .655 (16.64)
B	11	.125/.062 (3.18/1.57)	.114/.098 (2.90/2.49)	.835 (21.21) .825 (20.96)	1.149 (29.18)	.208 (5.28)	.232 (5.89)	.771 (19.58) .761 (19.33)
C	13	.125/.062 (3.18/1.57)	.114/.098 (2.90/2.49)	1.020 (25.91) 1.010 (25.65)	1.153 (29.29)	.200 (5.08)	.224 (5.69)	.955 (24.26) .945 (24.00)
D	15	.125/.062 (3.18/1.57)	.114/.098 (2.90/2.49)	1.145 (29.08) 1.135 (28.83)	1.153 (29.29)	.200 (5.08)	.224 (5.69)	1.085 (27.56) 1.075 (27.30)
E	17	.125/.062 (3.18/1.57)	.114/.098 (2.90/2.49)	1.270 (32.26) 1.260 (32.00)	1.153 (29.29)	.200 (5.08)	.224 (5.69)	1.210 (30.73) 1.2200 (30.99)
F	19	.125/.062 (3.18/1.57)	.146/.130 (3.71/3.30)	1.395 (35.43) 1.385 (35.18)	1.185 (30.10)	.200 (5.08)	.224 (5.69)	1.335 (33.91) 1.325 (33.65)
G	21	.125/.062 (3.18/1.57)	.146/.130 (3.71/3.30)	1.520 (38.61) 1.510 (38.35)	1.185 (30.10)	.200 (5.08)	.224 (5.69)	1.460 (37.08) 1.450 (36.83)
H	23	.125/.062 (3.18/1.57)	.146/.130 (3.71/3.30)	1.645 (41.78) 1.635 (41.53)	1.185 (30.10)	.200 (5.08)	.224 (5.69)	1.585 (40.26) 1.575 (40.00)
J	25	.125/.062 (3.18/1.57)	.146/.130 (3.71/3.30)	1.770 (44.96) 1.760 (44.70)	1.185 (30.10)	.200 (5.08)	.224 (5.69)	1.710 (43.43) 1.700 (43.18)

TABLE III: Contact Size and Diameter

Contact Size	Ø P
22D	.011/.015 (0.28/0.38)
20	.024/.028 (0.61/0.71)
16	.0635/.0615 (1.61/1.56)
12	.095/.093 (2.41/2.36)
10	.126/.124 (3.20/3.15)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Modified major diameter 31.95-31.80 (1.257-1.252).
3. Glenair 237-033 receptacle conector is designed to mate with and QPL manufacturer's MIL-DTL-38999 Series III plug connector having the same insert arrangement and polarization.
4. Glenair 237-033 same as D38999/23 except double O-Ring configuration.
5. Material/finish:
   Shell, nut – CRES/passivated or CRES/nickel per QQ-N-290.
   Contacts – Nickel iron alloy 52/gold.
   Insulator – fused vitreous glass/N.A.
   Seals – fluorosilicone rubber/N.A.
6. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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237-063
Special Hermetic Jam Nut Mount Receptacle
Bulkhead Feed-Thru with P.C. Tail Contacts for MIL-DTL-38999 Series III Type

Connector Material and Finish
Z1 - CRES, Passivated
ZW - CRES, Fused Tin Plate
ZL - CRES, Nickel Finish

Insert Arrangement
Per MIL-DTL-38999 Series III MIL-STD-1560

Polarization
A, B, C, D, E
(N = Normal)

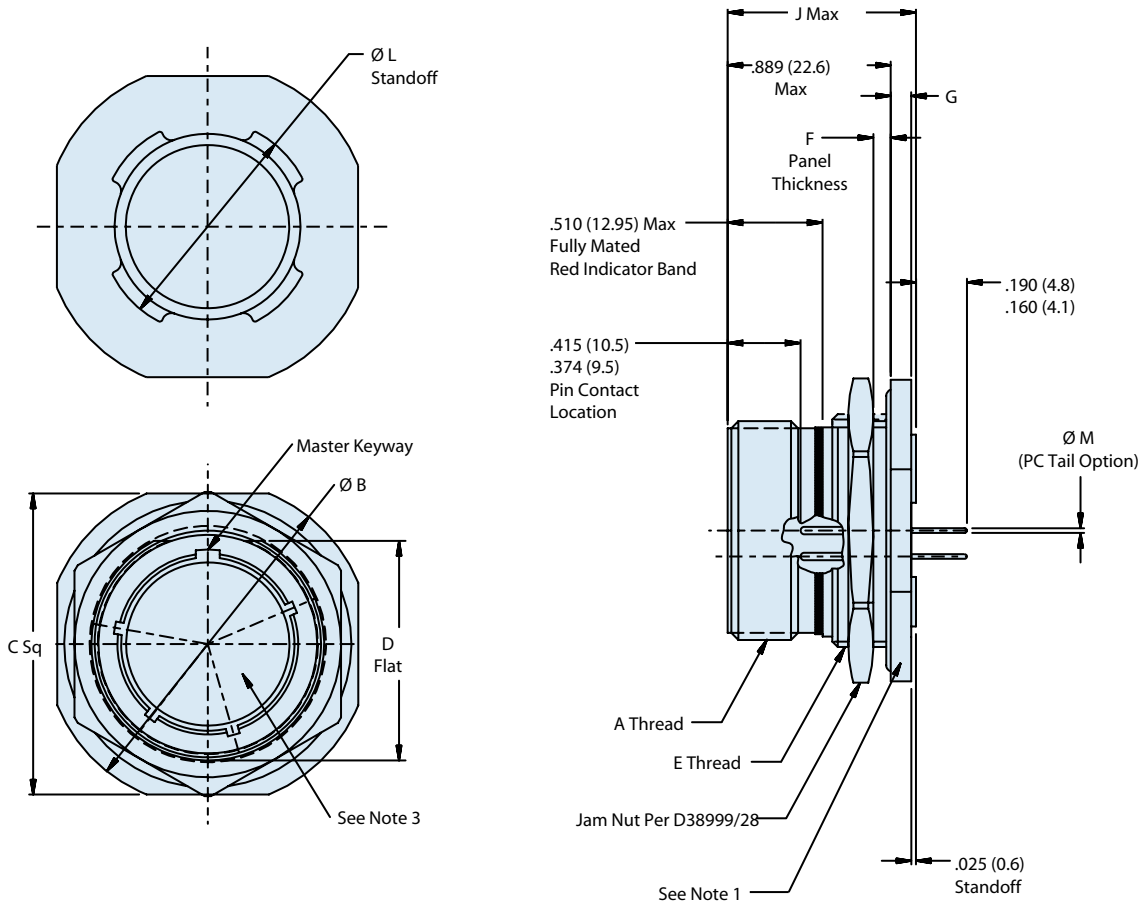
Connector Series
237 - D38999 Series III Type

237	-	063	Z1	9	-	35	C	N

Connector Type
063 - Hermetic Bulkhead Feed-Thru

Shell Size
(See Table I)

Contact Termination Style
C - Pin, PCB



Dimensions in Inches (millimeters) are subject to change without notice.

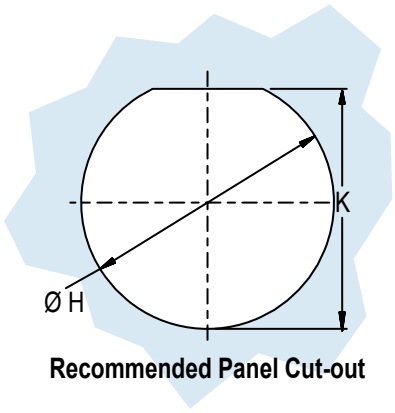
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237-063
Special Hermetic Jam Nut Mount Receptacle
Bulkhead Feed-Thru with P.C. Tail Contacts for MIL-DTL-38999 Series III Type

Glenair®

TABLE I: Shell Size, Thread and Connector Dimensions (Continued Below)

Shell Size Code	Shell Size	A Thread -0.1P-0.03L-TS	B Dia	C A/F	D Flat	E Thread ISO Metric x 1.0-6g
A	9	.6250	1.200/1.178 (30.48/29.92)	1.078/1.048 (27.38/26.62)	.654/.645 (16.61/16.38)	M17
B	11	.7500	1.385/1.363 (35.18/34.62)	1.267/1.237 (32.18/31.42)	.754/.745 (19.15/18.92)	M20
C	13	.8750	1.511/1.489 (38.38/37.82)	1.389/1.359 (35.28/34.52)	.941/.932 (23.90/23.67)	M25
D	15	1.0000	1.637/1.615 (41.58/41.02)	1.515/1.485 (38.48/37.72)	1.065/1.056 (27.05/26.82)	M28
E	17	1.1875	1.763/1.741 (44.78/44.22)	1.641/1.611 (41.68/40.92)	1.190/1.181 (30.23/30.00)	M32 (See Note 2)
F	19	1.2500	1.948/1.926 (49.48/48.92)	1.826/1.796 (46.38/45.62)	1.315/1.306 (33.40/33.17)	M35
G	21	1.3750	2.074/2.051 (52.68/52.10)	1.952/1.922 (49.58/48.82)	1.440/1.431 (36.58/36.35)	M38
H	23	1.5000	2.200/2.177 (55.88/55.30)	2.078/2.048 (52.78/52.02)	1.565/1.556 (39.75/39.52)	M41
J	25	1.6250	2.322/2.300 (58.98/58.42)	2.204/2.174 (55.98/55.22)	1.690/1.681 (42.93/42.70)	M44



Recommended Panel Cut-out

TABLE I: (Continued from Above)

Shell Size Code	Shell Size	F	G	H Dia	J Max	K	L Dia
A	9	.125/.062 (3.18/1.57)	.113/.108 (2.87/2.74)	.703 (17.86) .693 (17.60)	1.149 (29.18)	.661 (16.79) .655 (16.64)	.653/.642 (16.59/16.31)
B	11	.125/.062 (3.18/1.57)	.113/.108 (2.87/2.74)	.835 (21.21) .825 (20.96)	1.149 (29.18)	.771 (19.58) .761 (19.33)	.775/.764 (19.69/19.41)
C	13	.125/.062 (3.18/1.57)	.113/.108 (2.87/2.74)	1.020 (25.91) 1.010 (25.65)	1.153 (29.29)	.955 (24.26) .945 (24.00)	.905/.894 (22.99/22.71)
D	15	.125/.062 (3.18/1.57)	.113/.108 (2.87/2.74)	1.145 (29.08) 1.135 (28.83)	1.153 (29.29)	1.085 (27.56) 1.075 (27.30)	1.031/1.020 (26.19/25.91)
E	17	.125/.062 (3.18/1.57)	.113/.108 (2.87/2.74)	1.270 (32.26) 1.260 (32.00)	1.153 (29.29)	1.210 (30.73) 1.200 (30.48)	1.153/1.142 (29.29/29.01)
F	19	.125/.062 (3.18/1.57)	.145/.133 (3.68/3.38)	1.395 (35.43) 1.385 (35.18)	1.185 (30.10)	1.335 (33.91) 1.325 (33.65)	1.279/1.268 (32.49/32.21)
G	21	.125/.062 (3.18/1.57)	.145/.133 (3.68/3.38)	1.520 (38.61) 1.510 (38.35)	1.185 (30.10)	1.460 (37.08) 1.450 (36.83)	1.405/1.394 (35.69/35.41)
H	23	.125/.062 (3.18/1.57)	.145/.133 (3.68/3.38)	1.645 (41.78) 1.635 (41.53)	1.185 (30.10)	1.585 (40.26) 1.575 (40.00)	1.531/1.520 (38.89/38.61)
J	25	.125/.062 (3.18/1.57)	.145/.133 (3.68/3.38)	1.770 (44.96) 1.760 (44.70)	1.185 (30.10)	1.710 (43.43) 1.700 (43.18)	1.653/1.642 (41.99/41.71)

TABLE III: Contact Size and Diameter

Contact Size	Ø P
22	.022/.018 (0.56/0.46)
20	.027/.023 (0.69/0.58)
16	.042/.038 (1.07/0.97)
12	.052/.048 (1.32/1.22)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Modified major diameter 31.95-31.80 (1.257-1.252).
3. Insert arrangements in accordance with MIL-STD-1560.
4. Metric dimensions (mm) are indicated in parentheses.
5. Material/finish:
   Shell, jam nut – CRES/passivated or CRES/nickel per QQ-N-290.
   Contacts – Nickel iron alloy 52/gold plated.
   Insulator – fused vitreous glass/N.A.
   Seals – fluorosilicone rubber/N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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237-153
Hermetic Dual Flange Jam Nut Mount Receptacle
for MIL-DTL-38999 Series III Type

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Plate
ZW - CRES, Cadmium, O.D.

Insert Arrangement
Per MIL-DTL-38999 Series III MIL-STD-1560

Polarization
A, B, C, D, E
(N = Normal)

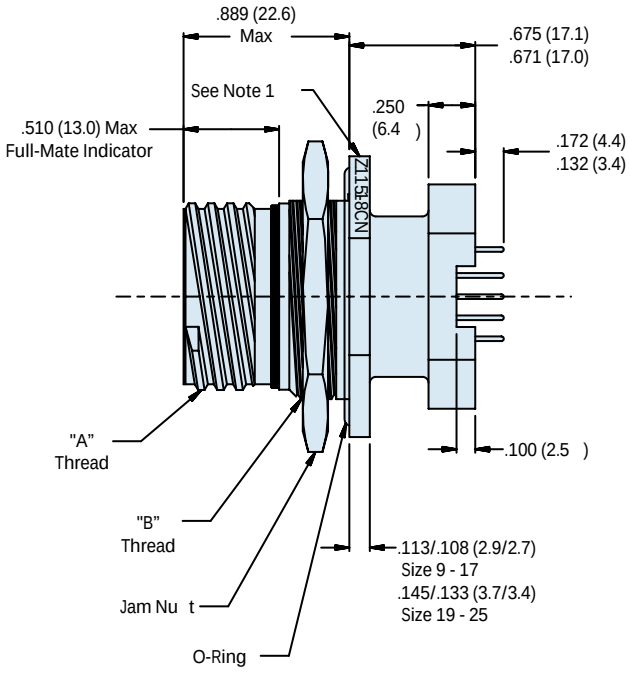
Connector Series
237 - D38999 Series III Type

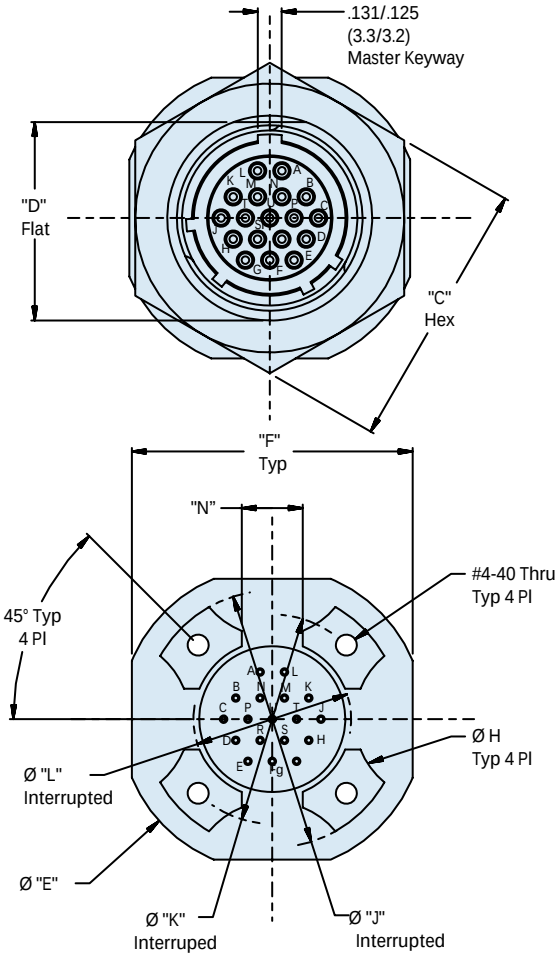
237	-	153	Z1	15	-	18	C	N

Connector Type
153 - Hermetic Dual Flange Jam Nut Mount

Shell Size
(See Table I)

Contact Termination Style
C - Pin Face, PCB Termination
D - Socket Face, PCB Termination





Dimensions in Inches (millimeters) are subject to change without notice.

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237-153
Hermetic Dual Flange Jam Nut Mount Receptacle
for MIL-DTL-38999 Series III Type

Glenair®

TABLE I: Shell Size, Thread and Connector Dimensions (Continued Below)

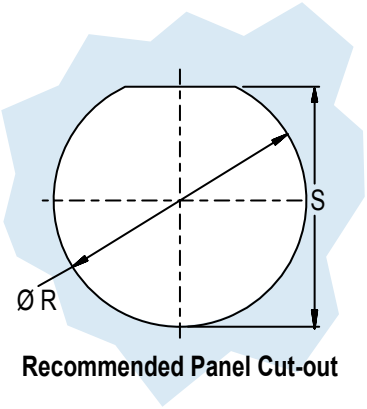
Shell Size	A Thread -0.1P-0.03L-TS (Plated)	B Thread Metric (Plated)	C ± .015 (0.38)	D ± .005 (0.13)	Ø E ± .012 (0.30)	F ± .016 (0.41)
9 See Note 5	.6250	M17 x 1-6g-0.10R	.875 (22.2)	.651 (16.5)	1.250 (31.8)	1.063 (27.0)
11	.7500	M20 x 1-6g-0.10R	1.000 (25.4)	.751 (19.1)	1.377 (35.0)	1.259 (32.0)
13	.8750	M25 x 1-6g-0.10R	1.187 (30.1)	.937 (23.8)	1.500 (38.1)	1.374 (34.9)
15	1.0000	M28 x 1-6g-0.10R	1.375 (34.9)	1.063 (27.0)	1.625 (41.3)	1.500 (38.1)
17	1.1875	M32 x 1-6g-0.10R	1.437 (36.5)	1.187 (30.2)	1.750 (44.5)	1.625 (41.3)
19	1.2500	M35 x 1-6g-0.10R	1.562 (39.7)	1.311 (33.3)	1.937 (49.2)	1.822 (46.3)
21	1.3750	M38 x 1-6g-0.10R	1.750 (44.5)	1.434 (36.4)	2.063 (52.4)	1.940 (49.3)
23	1.5000	M41 x 1-6g-0.10R	1.875 (47.6)	1.561 (39.7)	2.190 (55.6)	2.073 (52.7)
25	1.6250	M44 x 1-6g-0.10R	2.000 (50.8)	1.687 (42.9)	2.311 (58.7)	2.189 (55.6)

TABLE III: Contact Size and Diameter

Contact Size	Ø P
22	.022/.018 (0.56/0.46)
20	.027/.023 (0.69/0.58)
16	.042/.038 (1.07/0.97)
12	.052/.048 (1.32/1.22)

TABLE I: Shell Size, Thread and Connector Dimensions (Continued from Above)

Shell Size	H ± .020 (0.51)	Ø J ± .005 (0.13)	Ø K Basic	L ± .005 (0.13)	N ± .020 (0.51)	R ± .005 (.13)	S ±.005 (.13)
9	.225 (5.7)	1.016 (25.8)	.752 (19.1)	.532 (13.5)	.275 (7.0)	.698 (17.73)	.661 (16.79) .655 (16.64)
11	.250 (6.4)	1.062 (27.0)	.850 (21.6)	.595 (15.1)	.290 (7.4)	.830 (21.08)	.766 (19.46)
13	.375 (9.5)	1.250 (31.8)	.994 (25.2)	.720 (18.3)	.370 (9.4)	1.015 (25.78)	.950 (24.13)
15	.438 (11.1)	1.375 (34.9)	1.119 (28.4)	.843 (21.4)	.440 (11.2)	1.140 (28.96)	1.080 (27.43)
17	.562 (14.3)	1.500 (38.1)	1.237 (31.4)	1.000 (25.4)	.495 (12.6)	1.265 (32.13)	1.205 (30.61)
19	.875 (22.2)	1.625 (41.3)	1.379 (35.0)	1.125 (28.6)	.540 (13.7)	1.390 (35.31)	1.330 (33.78)
21	1.170 (29.7)	1.750 (44.5)	1.489 (37.8)	1.240 (31.5)	.625 (15.9)	1.515 (38.48)	1.455 (36.96)
23	1.250 (31.8)	1.875 (47.6)	1.619 (41.1)	1.328 (33.7)	.660 (16.8)	1.640 (41.66)	1.580 (40.13)
25	1.375 (34.9)	2.000 (50.8)	1.744 (44.3)	1.453 (36.9)	.740 (18.8)	1.765 (44.83)	1.705 (43.31)



Recommended Panel Cut-out

APPLICATION NOTES

1. Assembly identified with manufacturer's name and P/N, space permitting.
2. Performance test criteria:
   Hermeticity – <1x10^{-7} ccHe/sec @1 ATM differential.
   D.W.V. – per DTL-38999 pin-to-pin and pin-to-shell w/o breakdown
   I.R. – 5000 MegOhms min @ 500 VDC.
3. Glenair 237-153 receptacle conector is designed to mate with and QPL manufacturer's MIL-DTL-38999 Series III plug connector having the same shell size, insert arrangement, polarization and opposite contact gender.
4. Metric dimensions (mm) are indicated in parentheses.
5. Material/finish:
   Shell, jam nut – CRES/per part number development.
   Pin Contacts – Nickel iron alloy 52/gold plated.
   Socket Contacts – Copper alloy/52 gold plated.
   Socket Hoods – CRES/Passivate.
   Insulator, Pins – full glass/N.A.
   Insulator, Sockets – Rigid dielectric/N.A.
   Seals – Fluorosilicone/N.A.
   O-Ring – Cho-Seal 1298/ N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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257-093
Jam Nut Mount Hermetic Bulkhead Feed-Thru with SAE Threads
MIL-DTL-38999 Series III Type

Product Series

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Plate
P - CRES, Nickel Plate

Insert Arrangement
Per MIL-DTL-38999 Series III

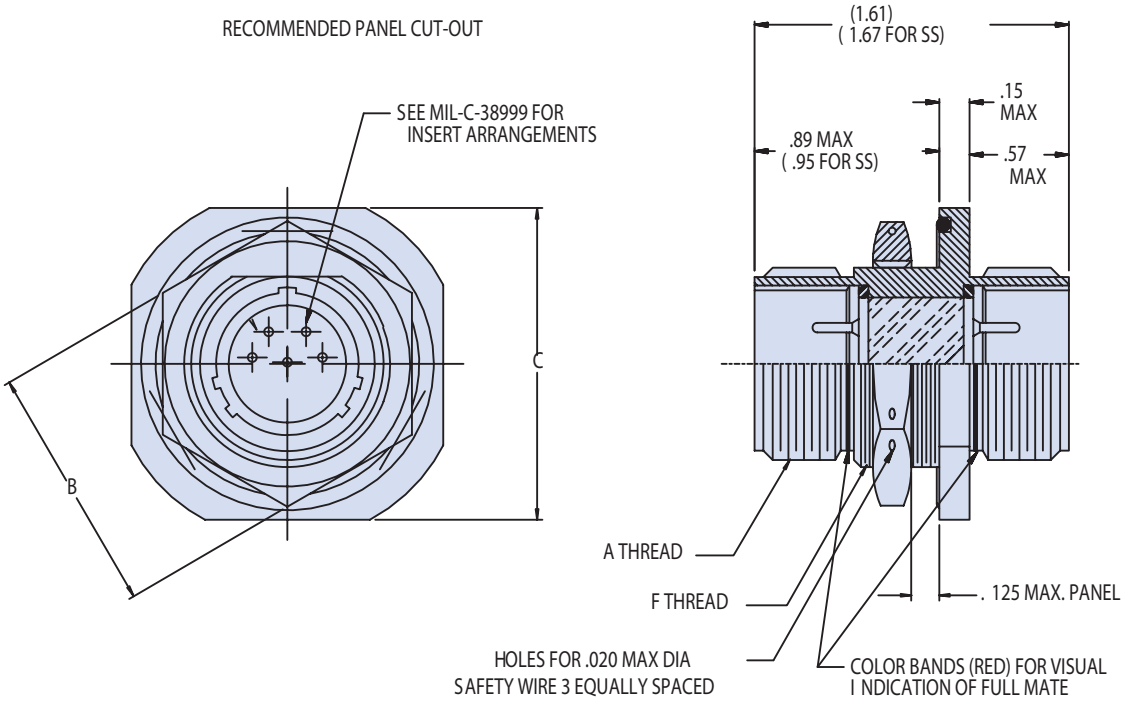
Alternate Key Position
A, B, C, D, E
(*N* = Normal)

257	-	093	Z1	19	-	35	PP	N

Basic Number

Shell Size
Table I

Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side
PP - Pin to Pin
SS - Socket to Socket

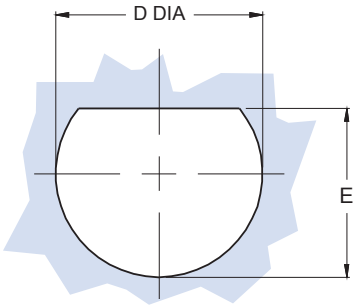


Dimensions in Inches (millimeters) are subject to change without notice.

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257-093
Jam Nut Mount Hermetic Bulkhead Feed-Thru with SAE Threads
MIL-DTL-38999 Series III Type

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



Recommended Panel Cut-Out

TABLE I: CONNECTOR DIMENSIONS						
SHELL SIZE	**A THREAD 0.1 P-0.3L-TS-2**	**B DIM**	**C DIM MAX**	**D DIA**	**E DIM**	**F THREAD CLASS 2A**
9	0.625	.875(22.2)	1.09(27.7)	.693 (17.60)	.657 (16.70)	11/16-24 UNEF
11	0.750	1.000(25.4)	1.28(32.5)	.825 (20.96)	.771 (19.59)	13/16-20 UNEF
13	0.875	1.250(31.8)	1.40(35.6)	1.010 (25.65)	.955 (24.26)	1-20 UNEF
15	1.000	1.375(34.9)	1.53(38.9)	1.135 (28.83)	1.085 (27.56)	1 1/8-18 UNEF
17	1.187	1.500(38.1)	1.66(42.2)	1.260 (32.01)	1.210 (30.73)	1 1/4-18 UNEF
19	1.250	1.625(41.3)	1.84(46.7)	1.385 (35.18)	1.335 (33.91)	1 3/8-18 UNEF
21	1.375	1.750(44.5)	1.97(50.5)	1.510 (38.35)	1.460 (37.08)	1 1/2-18 UNEF
23	1.500	1.875(47.6)	2.09(53.1)	1.635 (41.53)	1.585 (40.26)	1 5/8-18 UNEF
25	1.625	2.000(50.8)	2.21(56.1)	1.760 (44.70)	1.710 (43.43)	1 3/4-18 UNEF

APPLICATION NOTES

1. Assembly identified with manufacturer's name and PN, space permitting.
2. For pin/pin and socket/socket, symmetrical layouts only, consult factory for available insert arrangements.
3. Electrical safety limits must be established by user, peak voltage, switching surge, transient, etc. should be used to determine the safety of the application.
4. Material/Finish:
   Shell, lock ring, jam nut—stainless steel/passivate
   Contacts—alloy 52/gold plate
   Sockets—copper alloy/gold plate
   Hermetic Insulator—full glass/N.A.
   Socket Insulator—rigid dielectric/N.A.
   Seals—fluorosilicone/ N.A.
   Hermeticity –1x10-7 cc/second
5. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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233-309
Hermetic RJ45 Feed-thru with Crimp Contact Termination
MIL-DTL-38999 Series III Type

Material and Finish	
Z1	Stainless Steel/Passivate
ZL	Stainless Steel/Electro-deposited Nickel

Connector Style[1]	
00	Wall mount feed-thru with slotted hole[2]
07	Jam nut, rear panel mount feed-thru
D0	Wall mount feed-thru with round holes
CM	Wall mount feed-thru with metric clinch nuts

NOTES

1. See Section A for alternate key/keyway positions and panel cutout dimensions
2. front panel mount only
3. Meets IP67 in unmated condition, IP68 mated
4. Connector and contacts shall meet general requirements of MIL-DTL-38999, Series III. RJ45 connector meets tia 568B standard.
5. RJ45 Jack Specifications:
   Shielded Cat5e RJ45 (grounded to PC board)
   wiring: straight through
   rohs compliant
   electrical: current rating: 1.5 Amp
   D.W.V.: 1000 VDC (700 VAC)
   operating temperature range:
   -40°C to +120°C (high temp)
   Performance test criteria
6. Hermeticity: <1 x 10^-7 sccHe/sec @ 1 atmosphere differential
7. Material/finishes:
   Shell, jam nut: 300 series CRES / passivate or plate
   Insulator, hermetic: glass
   Insulators: high grade rigid dielectric
   Contacts: copper alloy/gold plate.
   Seals: fluorosilicone
8. RJ45 coupler housing: ULV94V-0 compliant ABS or PPS

Part Number Development								
Sample Part Number	**233-309**	**Z1**	**00**	**-**	**17**	**5H**	**N**	**1**

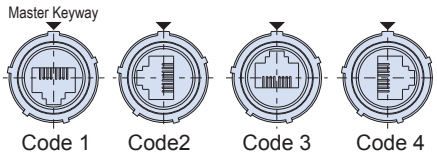
Basic Number	233-309
Finish	See Material and Finish table
Connector Style[1]	See Connector Style table
Shielding	"-" = Inline shielded RJ45 G = Inline shielded and grounded to the shells
Shell Size	17 and 19
RJ45 Category	5H = CAT 5e
Alternate Key Position[1]	Per MIL-DTL-38999 A, B, C, D, E, N = Normal
RJ45 Orientation	1, 2, 3, or 4

Modification codes may be added directly to the end of any valid part number

Jam Nut Dimensions								
Shell Size	Ø K		L		M Flat		R	
	in	mm	in	mm	in	mm	in	mm
17	1.764 1.740	44.81 44.20	1.642 1.610	41.71 40.89	1.191 1.181	30.25 30.00	.122 .083	3.10 2.11
19	1.949 1.925	49.50 48.90	1.827 1.795	46.41 45.59	1.316 1.306	33.43 33.17	.153 .114	3.89 2.90

Wall Mount Receptacle Dimensions												
Shell Size	B Sq		C Bsc		D Bsc[2]		E		F		Ø H Holes	
	In	mm	In	mm	In	mm	In	mm	In	mm	In	mm
17	1.323 1.299	33.60 32.99	1.062	26.97	.969	24.61	.136 .120	3.45 3.05	.202 .186	5.13 4.72	0.136 0.120	3.45 3.05
19	1.449 1.425	36.80 36.20	1.156	29.36	1.062	26.97						

RJ45 Orientation Options (Receptacle Face)



All external dimensions, features, etc. compliant with D38999/20, /24, &/26. Consult factory for additional information.

Jam Nut and Wall Mount Thread Dimensions			
Shell Size	A Thread	G Thread	N Thread (Jam-Nut Only)
17	1.1875-.1P-.3L-TS-2A	M25 x 1.0-6g 0.100R	M32 x 1.0-6g 0.100R
19	1.2500-.1P-.3L-TS-2A	M28x 1.0-6g 0.100R	M35 x 1.0-6g 0.100R

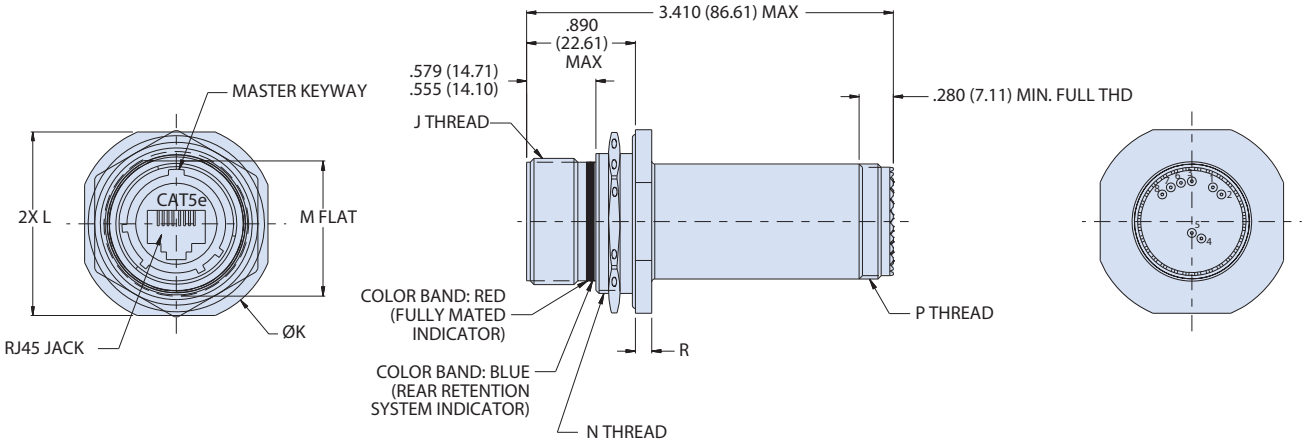
Jam Nut Dimensions					
Shell Size	Ø K	L	M Flat	R	Ø S
17	1.764 (44.81) 1.740 (44.20)	1.642 (41.71) 1.610 (40.89)	1.191 (30.25) 1.181 (30.00)	.122 (3.10) .083 (2.11)	1.275 (32.39)
19	1.949 (49.50) 1.925 (48.90)	1.827 (46.41) 1.795 (45.59)	1.316 (33.43) 1.306 (33.17)	.153 (3.89) .114 (2.90)	1.337 (33.96)

Wall Mount Dimensions						
Shell Size	B Sq	C BSC	D BSC	E	F	Ø H Holes
17	1.323 (33.60) 1.299 (32.99)	1.062 (26.97)	.969 (24.61)	.136 (3.45) .120 (3.05)	.202 (5.13) .186 (4.72)	.136 (3.45) .120 (3.05)
19	1.449 (36.80) 1.425 (36.20)	1.156 (29.36)	1.062 (26.97)			

Dimensions in Inches (millimeters) are subject to change without notice.

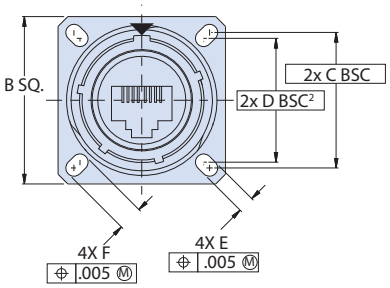
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07 - REAR PANEL MOUNT, JAM NUT FEED-THROUGH CONNECTORS

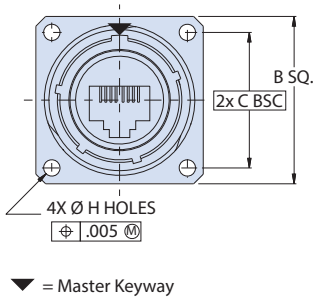


00, DO AND CM - WALL MOUNT FEED-THRU CONNECTORS

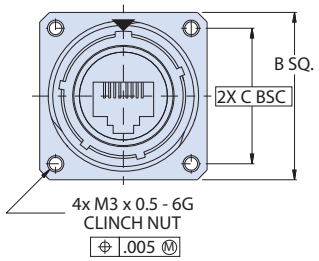
00 - Wall Mount Receptacle with Slotted Holes (Mating Face)



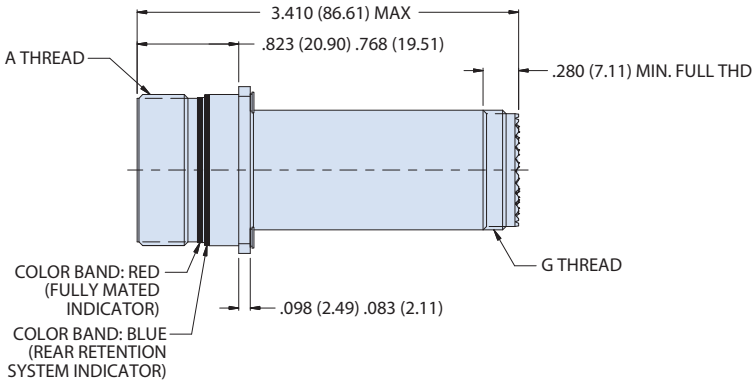
D0 - Wall Mount Receptacle With Round Holes (Mating Face)



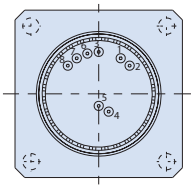
CM - Wall Mount Receptacle With Metric Clinch Nuts (Mating Face)



00, D0, CM - Wall Mount Receptacle



D0 - Wall Mount Receptacle
Shown for Contact Termination Positions Only



Dimensions in Inches (millimeters) are subject to change without notice.

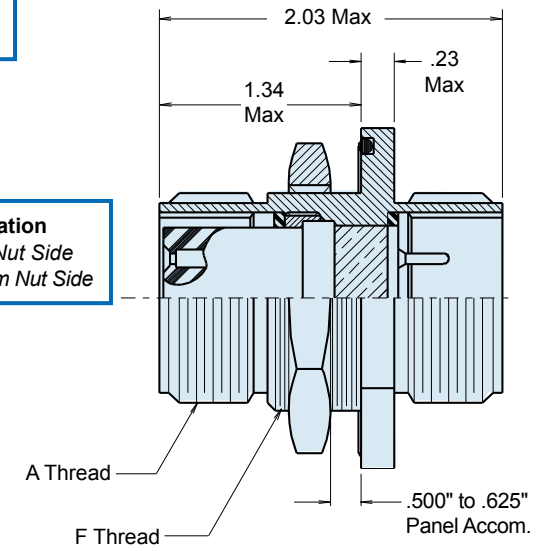
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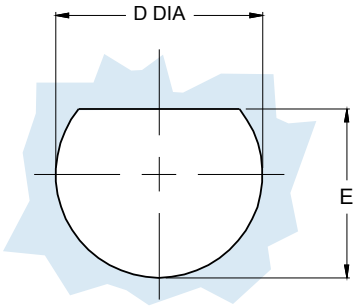
947-082
Jam Nut Mount Hermetic Bulkhead Feed-Thru
.500/.625 inch Panel
MIL-DTL-38999 Series III Type

Product Series	Finish	Insert Arrangement	Contact Termination
	Z1 = CRES Passivate	*Per MIL-DTL-38999 Series III*	*P* - Pin on Jam Nut Side *S* - Socket on Jam Nut Side

947 - 082 Z1 25 - 35 B P P

Basic Number	Shell Size	Alternate Key Position	Contact Termination
	Table I	*A, B, C, D, E* (Omit for Normal)	*P* - Pin on Non-Jam Nut Side *S* - Socket on Non-Jam Nut Side





Recommended Panel Cut-Out

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

Insert Arrangement per MIL-DTL-38999 Series III MIL-STD-1560

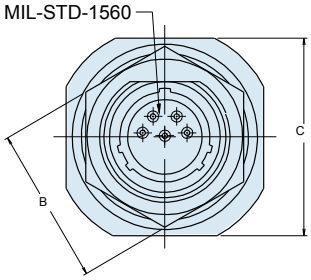


TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIM	C DIM MAX	D DIA	E DIM	F THREAD 1-6g 0.100R
9	.6250	.875 (22.2)	1.090 (27.7)	.703 (17.86) .693 (17.60)	.661 (16.79) .655 (16.64)	M17
11	.7500	1.000 (25.4)	1.280 (32.5)	.835 (21.21) .825 (20.96)	.771 (19.58) .761 (19.33)	M20
13	.8750	1.250 (31.8)	1.400 (35.6)	1.020 (25.91) 1.010 (25.65)	.955 (24.26) .945 (24.00)	M25
15	1.0000	1.375 (34.9)	1.530 (38.9)	1.145 (29.08) 1.135 (28.83)	1.085 (27.56) 1.075 (27.30)	M28
17	1.1875	1.500 (38.1)	1.660 (42.2)	1.270 (32.26) 1.260 (32.00)	1.210 (30.73) 1.200 (30.48)	M32
19	1.2500	1.625 (41.3)	1.840 (46.7)	1.395 (35.43) 1.385 (35.18)	1.335 (33.91) 1.325 (33.65)	M35
21	1.3750	1.750 (44.5)	1.970 (50.5)	1.520 (38.61) 1.510 (38.35)	1.460 (37.08) 1.450 (36.83)	M38
23	1.5000	1.875 (47.6)	2.090 (53.1)	1.645 (41.78) 1.635 (41.53)	1.585 (40.26) 1.575 (40.00)	M41
25	1.6250	2.000 (50.8)	2.210 (56.1)	1.770 (44.96) 1.760 (44.70)	1.710 (43.43) 1.700 (43.18)	M44

APPLICATION NOTES

1. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
2. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
3. Material/finish:
   Shell, nut – CRES/passivated, carbon steel/fused tin or CRES/nickel per QQ-N-290.
   Contacts – Gold Plated. Pin: alloy 52; Skt.: copper alloy
   Insulator – fused vitreous glass/N.A.
   Seals – fluorosilicone rubber/N.A.
4. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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947-115
Jam Nut Mount Hermetic Bulkhead Feed-Thru
.250/.500 inch Panel
MIL-DTL-38999 Series III Type

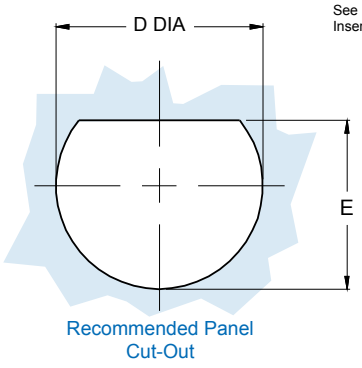
Glenair®

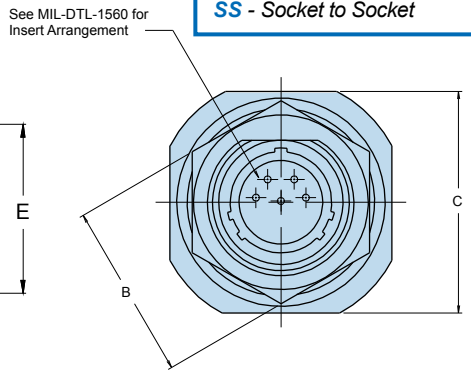
Product Series | **Shell Size** *Table I* | **Alternate Key Position** *A, B, C, D, E* (*Omit for Normal*) | **Dash Number**

947 - 115 - 21 - 35 B P 01

Basic Number | **Insert Arrangement** *Per MIL-DTL-38999 Series III*

Contact Termination
P - Pin on Jam Nut Side
S - Socket on Jam Nut Side
PP - Pin to Pin
SS - Socket to Socket





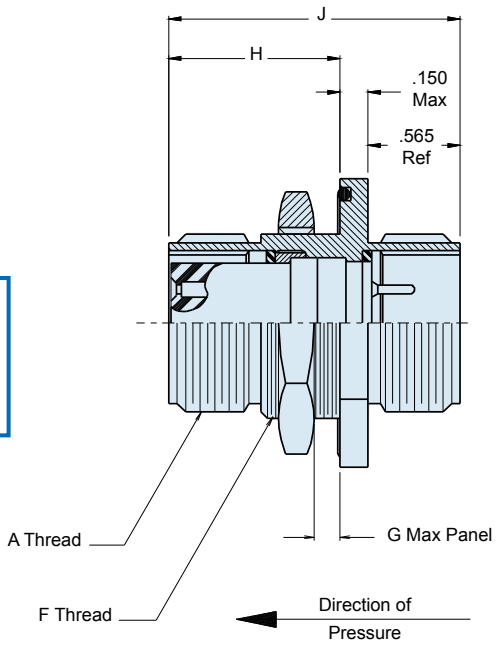


TABLE I: CONNECTOR DIMENSIONS

SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B DIM	C DIM MAX	D DIA	E DIM	F THREAD x1-6g-0.100R
9	0.625	.875(22.2)	1.09(27.7)	.693 (17.60)	.657 (16.70)	M17
11	0.750	1.000(25.4)	1.28(32.5)	.825 (20.96)	.771 (19.59)	M20
13	0.875	1.250(31.8)	1.40(35.6)	1.010 (25.80)	.955 (24.26)	M25
15	1.000	1.375(34.9)	1.53(38.9)	1.135 (25.65)	1.085 (27.56)	M28
17	1.187	1.500(38.1)	1.66(42.2)	1.260 (28.83)	1.210 (30.73)	M32
19	1.250	1.625(41.3)	1.84(46.7)	1.385 (32.01)	1.335 (33.91)	M35
21	1.375	1.750(44.5)	1.97(50.5)	1.510 (35.18)	1.460 (37.08)	M38
23	1.500	1.875(47.6)	2.09(53.1)	1.635 (41.53)	1.585 (40.26)	M41
25	1.625	2.000(50.8)	2.21(56.1)	1.760 (44.70)	1.710 (43.43)	M44

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE III: PANEL THICKNESS

DASH NO	G MAX	H MAX	J MAX
01	.250(6.4)	1.08(27.4)	1.79(45.5)
02	.500(12.7)	1.33(33.8)	2.04(51.8)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and PN, space permitting.
2. For pin/pin and skt/skt, symmetrical layouts only, consult factory for available insert arrangements.
3. Power to a given contact on one end will result in power to contact directly opposite, regardless of identification letter.
4. Hermeticity = less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
5. Electrical safety limits must be established by user, peak voltage, switching surge, transient, etc. should be used to determine the safety of the application.
6. Material/finish:
   Shell, lock ring, jam nut—stainless steel/passivate
   Contacts—copper alloy/gold plate and alloy 52/gold plate
   Insulators—high-grade rigid dielectric/N.A. and full glass.
   Seals—fluorosilicone/ N.A.
7. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

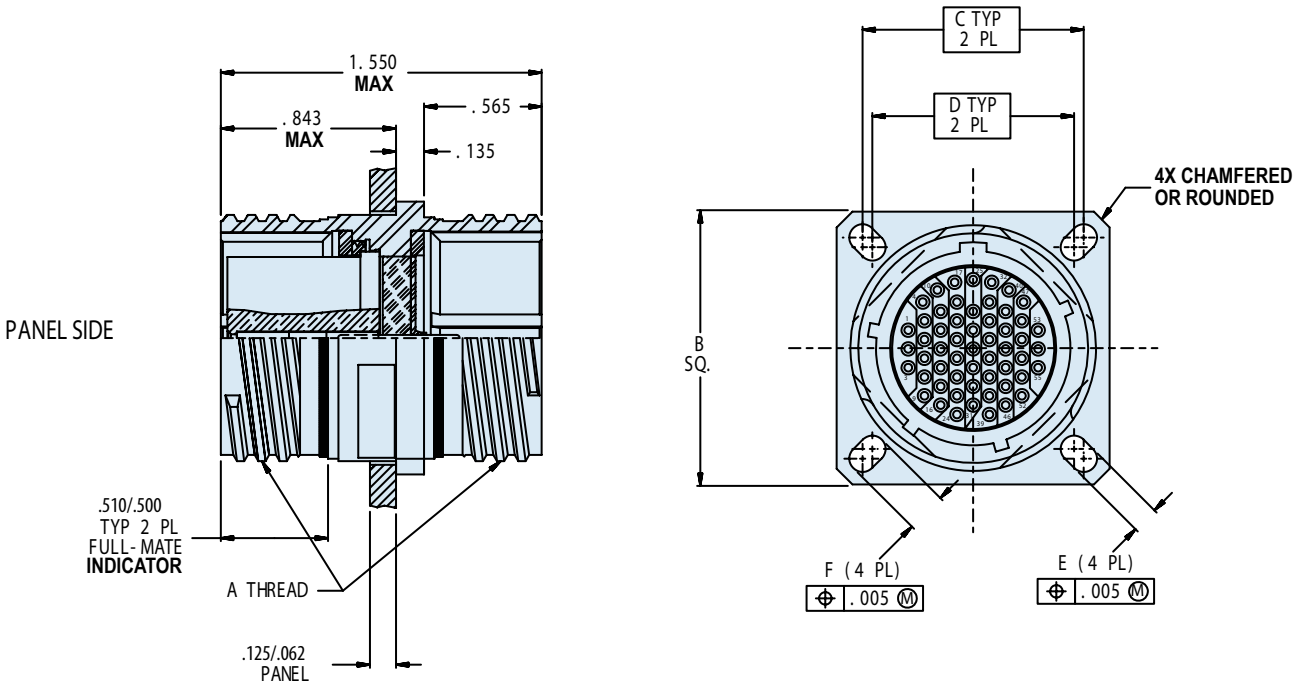
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B

947-282
Flange Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999/21 Series III Type

Connector Material and Finish	Insert Arrangement	Alternate Key Position
Z1 - CRES, Passivated *ZL - CRES, Nickel Plated*	*Per MIL-STD-1560*	*A, B, C, D, E* (*N* = Normal)

947-282	Z1	17	-	35	S	N
Basic Number		Shell Size *Table I*			Contact Termination *P - Pin on Panel Side* *S - Socket on Panel Side*	



Dimensions in Inches (millimeters) are subject to change without notice.

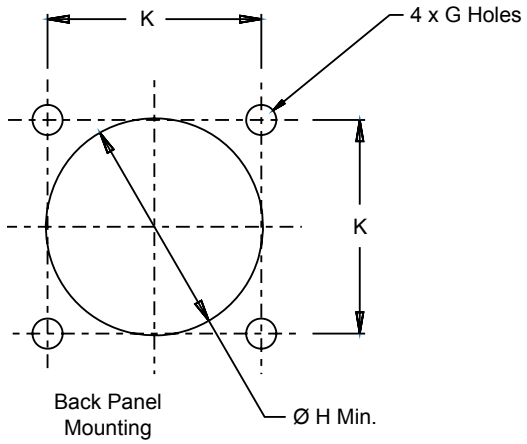
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947-282
Flange Mount Hermetic Bulkhead Feed-Thru
MIL-DTL-38999/21 Series III Type

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TABLE I: CONNECTOR DIMENSIONS									
SHELL SIZE	A THREAD 0.1 P-0.3L-TS-2	B SQ.	C BASIC	D BASIC	E	F	Ø H MIN.	Ø G HOLES	K
9	0.625	.949 .925	.719	.594	.136 .120	.224 .208	.656	.133 .123	.724 .714
11	0.750	1.043 1.019	.812	.719		.202 .186	.781		.817 .807
13	0.875	1.138 1.114	.906	.812		.202 .186	.921		.911 .901
15	1.000	1.232 1.208	.969	.906		.181 .165	1.047		.973 .963
17	1.187	1.323 1.299	1.062	.969		.202 .186	1.218		1.067 1.057
19	1.250	1.449 1.425	1.156	1.062		.202 .186	1.296		1.161 1.151
21	1.375	1.575 1.551	1.250	1.156		.202 .186	1.421		1.255 1.245
23	1.500	1.701 1.677	1.375	1.250	.162 .146	.250 .234	1.546	.159 .149	1.380 1.370
25	1.625	1.823 1.799	1.500	1.375		.250 .234	1.672		1.505 1.495

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



APPLICATION NOTES

1. Assembly identified with manufacturer's name and PN, space permitting.
2. Material/Finish:
   Shell, lock ring, jam nut—CRES/passivate or CRES/nickel plate
   Pin Contacts—nickel iron alloy/gold plate
   Socket Contacts—copper alloy/gold plate
   Insulator, Hermetic—vitreous glass/N.A.
   Insulator, Socket—rigid dielectric/N.A.
   Socket Insulator—high grade rigid dielectric/N.A.
   Seals—fluorosilicone blend/ N.A.
3. Electrical safety limits must be established by user, peak voltage, switching surge, transient, etc. Should be used to determine the safety application.
4. Hermeticity <1 x 10^{-7} cc He/sec at 1 ATM differential
5. Glenair 947-282 will mate with any QPL manufacturers D38999 series III plugs of same shell size, broach position, and opposite contact gender.
6. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-38999 Series IV, Breech Coupling

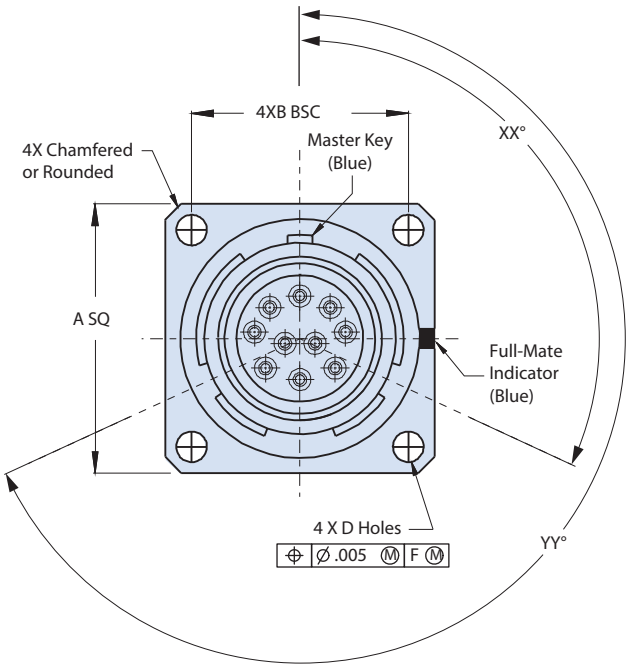
38999/41 box mount receptacle

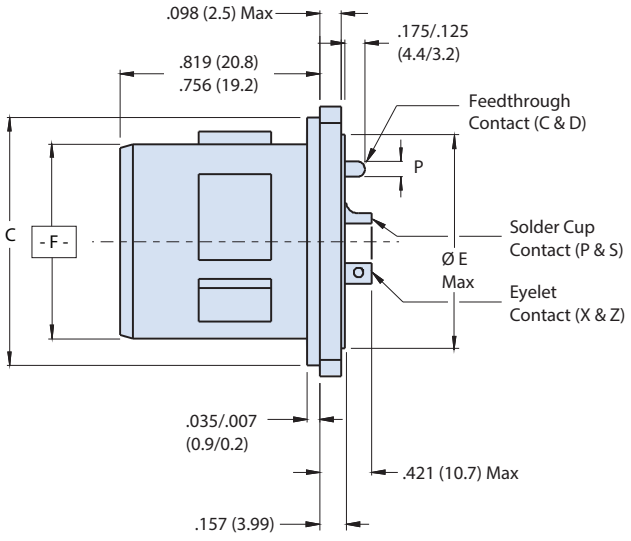
QPL Part Number Development							
Sample Part Number		**D38999/41**	**Y**	**B**	**35**	**P**	**N**
D38999	**38999/41** = Box mount receptacle						
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)						
Shell Size	**B**, **C**, **D**, **E**, **F**, **G**, **H**, **J**						
Insert Arrangement	Per MIL-STD-1560; See reference information section for details						
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough						
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R**;see polarization positions table						



Polarization Position									
	N	**A**	**B**	**C**	**D**	**K**	**L**	**M**	**R**
XX	110°	100°	90°	80°	70°	120°	120°	120°	120°
YY	250°	260°	270°	280°	290°	255°	265°	275°	285°

Wire Accommodation	
Contact Size	**Wire Gauge**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14





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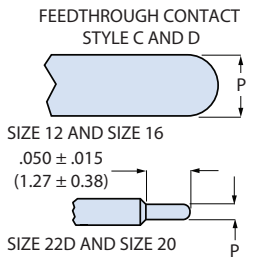
MIL-DTL-38999 Series IV, Breech Coupling

234-100-H2 box mount receptacle

SuperNine Part Number Development						
Sample Part Number	**234-100-H2**	**Z1**	**11**	**-35**	**P**	**N**

Series / Basic Part No.	**234-100-H2** = Hermetic, box mount receptacle
Material/Finish*	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R**; see polarization position position table

Contact Size



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Dimensions

Shell Size Code	Shell Size	A Sq	B Bsc	C Dia	D Dia	Ø E Max
B	11	1.051 (26.7) 1.008 (25.6)	.812 (20.6)	.793 (20.1) .778 (19.8)	.138 (3.5) .122 (3.1)	.625 (15.88)
C	13	1.145 (29.1) 1.102 (28.0)	.906 (23.0)	.919 (23.3) .904 (23.0)	.138 (3.5) .122 (3.1)	.749 (19.02)
D	15	1.240 (31.5) 1.197 (30.4)	.969 (24.6)	1.044 (26.5) 1.029 (26.1)	.138 (3.5) .122 (3.1)	.906 (23.01)
E	17	1.334 (33.9) 1.291 (32.8)	1.062 (27.0)	1.170 (29.7) 1.155 (29.3)	.138 (3.5) .122 (3.1)	1.016 (25.81)
F	19	1.460 (37.1) 1.417 (36.0)	1.156 (29.4)	1.294 (32.9) 1.279 (32.5)	.138 (3.5) .122 (3.1)	1.141 (28.98)
G	21	1.583 (40.2) 1.539 (39.1)	1.250 (31.8)	1.419 (36.0) 1.404 (35.7)	.138 (3.5) .122 (3.1)	1.266 (32.16)
H	23	1.709 (43.4) 1.665 (42.3)	1.375 (34.9)	1.544 (39.2) 1.529 (38.8)	.157 (4.0) .142 (3.6)	1.375 (34.92)
J	25	1.835 (46.6) 1.791 (45.5)	1.500 (38.1)	1.670 (42.4) 1.654 (42.0)	.157 (4.0) .142 (3.6)	1.484 (37.69)

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QPL QUALIFIED

MIL-DTL-38999 Series IV, Breech Coupling

38999/43 jam-nut mount receptacle

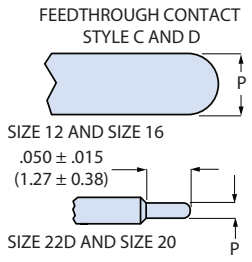
QPL Part Number Development							
Sample Part Number		**D38999/43**	**Y**	**B**	**35**	**P**	**N**
D38999	**38999/43** = Jam-Nut receptacle						
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)						
Shell Size	**B**, **C**, **D**, **E**, **F**, **G**, **H**, **J**						
Insert Arrangement	Per MIL-STD-1560; See reference information section for details						
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough						
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R**; see polarization positions table						



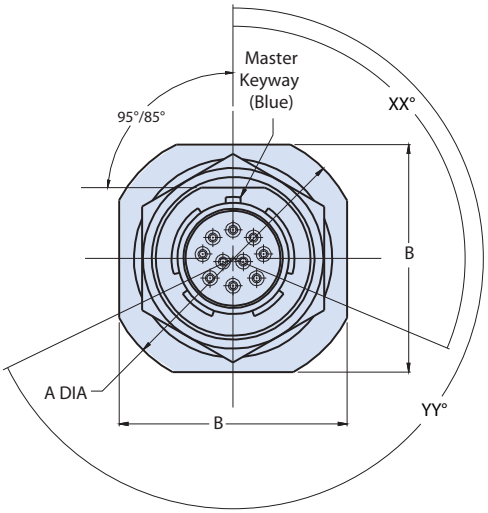
Polarization Position									
	N	**A**	**B**	**C**	**D**	**K**	**L**	**M**	**R**
XX	110°	100°	90°	80°	70°	120°	120°	120°	120°
YY	250°	260°	270°	280°	290°	255°	265°	275°	285°

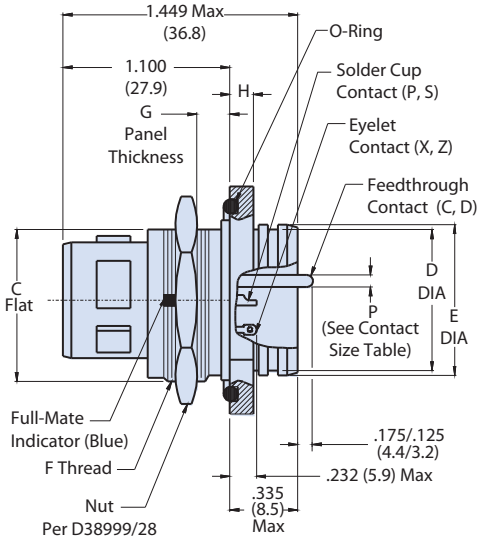
Wire Accommodation	
Contact Size	**Wire Gauge**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14

Contact Size



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)





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COTS EQUIVALENT

MIL-DTL-38999 Series IV, Breech Coupling

234-100-H7 jam-nut mount receptacle

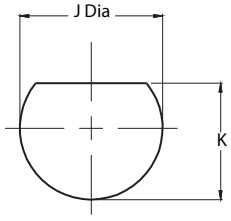
DLA Equivalent Part Number Development						
Sample Part Number	**234-100-H7**	**Z1**	**11**	**-35**	**P**	**N**

Series / Basic Part No.	**234-100-H7** = Hermetic, jam-nut mount hermetic receptacle
Material/Finish*	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R** see polarization position position table

*Additiona

Dimensions

SHELL SIZE CODE	SHELL SIZE	A DIA	B	C FLAT	D DIA	E DIA ±.010(0.3)	F THREAD ISO METRIC 1.0-6g	G ±.033(0.8)	H ±.012(0.3)
B	11	1.385(35.2) 1.362(34.6)	1.267 (32.18) 1.232 (31.29)	.754(19.2) .745(18.9)	.732(18.6) .716(18.2)	.769(19.5)	M20	.092(2.3)	.106(2.7)
C	13	1.511(38.4) 1.488(37.8)	1.393 (35.38) 1.358 (34.49)	.941(23.9) .932(23.7)	.858(21.8) .839(21.3)	.899(22.8)	M25	.092(2.3)	.106(2.7)
D	15	1.637(41.6) 1.614(41.0)	1.519 (38.58) 1.484 (37.69)	1.065(27.1) 1.056(26.8)	.984(25.0) .968(24.6)	1.025(26.0)	M28	.092(2.3)	.106(2.7)
E	17	1.763(44.8) 1.740(44.2)	1.641 (41.68) 1.606 (40.79)	1.190(30.2) 1.181(30.0)	1.110(28.2) 1.091(27.7)	1.147(29.1)	M32	.092(2.3)	.106(2.7)
F	19	1.948(49.5) 1.925(48.9)	1.830 (46.48) 1.795 (45.59)	1.316(33.4) 1.306(33.2)	1.236(31.4) 1.220(31.0)	1.273(32.3)	M35	.092(2.3)	.137(3.5)
G	21	2.074(52.7) 2.051(52.1)	1.956 (49.68) 1.921 (48.79)	1.441(36.6) 1.431(36.3)	1.358(34.5) 1.342(34.1)	1.399(35.5)	M38	.092(2.3)	.137(3.5)
H	23	2.200(55.9) 2.177(55.3)	2.078 (52.78) 2.043 (51.89)	1.565(39.8) 1.556(39.5)	1.484(37.7) 1.468(37.3)	1.525(38.7)	M41	.092(2.3)	.137(3.5)
J	25	2.326(59.1) 2.299(58.4)	2.204 (55.98) 2.169 (55.09)	1.692(43.0) 1.681(42.7)	1.610(40.9) 1.594(40.5)	1.647(41.8)	M44	.092(2.3)	.137(3.5)



Panel Cut-Out

Panel Cut-Out Dimensions

Shell Size Code	J Dia	K	Shell Size Code	J Dia	K
B	.835 (21.21) .825 (20.96)	.771 (19.58) .761 (19.33)	F	1.395 (35.43) 1.385 (35.18)	1.335 (33.91) 1.325 (33.66)
C	1.020 (25.91) 1.010 (25.65)	.955 (24.26) .945 (24.00)	G	1.520 (38.61) 1.510 (38.35)	1.460 (37.08) 1.450 (36.83)
D	1.145 (29.08) 1.135 (28.83)	1.085 (27.56) 1.075 (27.31)	H	1.645 (41.78) 1.635 (41.53)	1.585 (40.26) 1.575 (40.01)
E	1.270 (32.26) 1.260 (32.00)	1.210 (30.73) 1.200 (30.48)	J	1.770 (44.96) 1.760 (44.70)	1.710 (43.43) 1.700 (43.18)

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QPL QUALIFIED

MIL-DTL-38999 Series IV, Breech Coupling

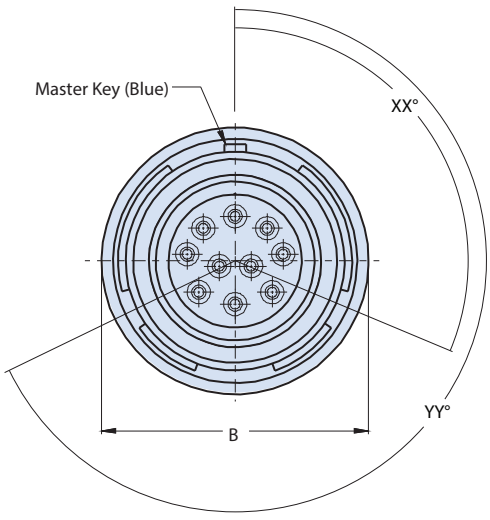
38999/45 solder mount receptacle

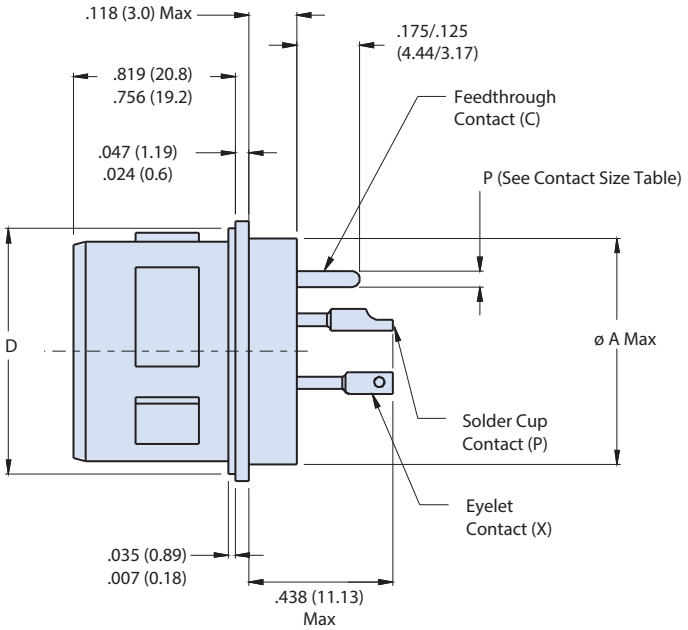
QPL Part Number Development							
Sample Part Number		**D38999/45**	**Y**	**B**	**35**	**P**	**N**
D38999	**38999/45** = Solder mount receptacle						
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)						
Shell Size	**B**, **C**, **D**, **E**, **F**, **G**, **H**, **J**						
Insert Arrangement	Per MIL-STD-1560; See reference information section for details						
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough						
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R**; see polarization positions table						



Polarization									
	N	**A**	**B**	**C**	**D**	**K**	**L**	**M**	**R**
XX	110°	100°	90°	80°	70°	120°	120°	120°	120°
YY	250°	260°	270°	280°	290°	255°	265°	275°	285°

Wire Accommodation	
Contact Size	**Wire Gauge**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14





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COTS EQUIVALENT

MIL-DTL-38999 Series IV, Breech Coupling

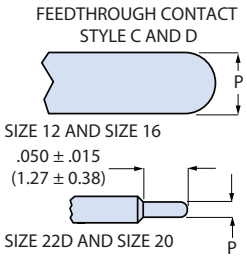
234-100-H5 solder mount receptacle

DLA Equivalent Part Number Development

Sample Part Number	234-100-H5	Z1	11	-35	P	N

Series / Basic Part No.	**234-100-H5** = Hermetic, solder mount receptacle
Material/Finish*	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, PCB flex feedthrough
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R** see polarization table

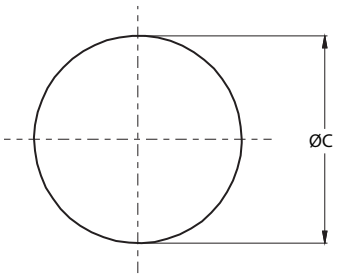
Contact Size



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Dimensions

SHELL SIZE CODE	SHELL SIZE	ø A MAX	ø B MAX	ø C	D
B	11	.783(19.9)	.862(21.9)	.794 (20.17) .784 (19.91)	.793(20.1) .778(19.8)
C	13	.909(23.1)	.988(25.1)	.920 (23.37) .910 (23.11)	.919(23.3) .904(23.0)
D	15	1.035(26.3)	1.110(28.2)	1.046 (26.57) 1.036 (26.31)	1.044(26.5) 1.028(26.1)
E	17	1.157(29.4)	1.236(31.4)	1.169 (29.71) 1.159 (29.44)	1.170(29.7) 1.155(29.3)
F	19	1.252(31.8)	1.331(33.8)	1.263 (32.08) 1.253 (31.83)	1.294(32.9) 1.279(32.5)
G	21	1.378(35.0)	1.457(37.0)	1.389 (35.28) 1.379 (35.03)	1.419(36.0) 1.404(35.7)
H	23	1.504(38.2)	1.583(40.2)	1.515 (38.48) 1.505 (38.23)	1.544(39.2) 1.528(38.8)
J	25	1.630(41.4)	1.705(43.3)	1.642 (41.71) 1.632 (41.45)	1.670(42.4) 1.654(42.0)



Panel Cut-Out

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MIL-DTL-38999 Series IV, Breech Coupling

38999/48 weld mount receptacle

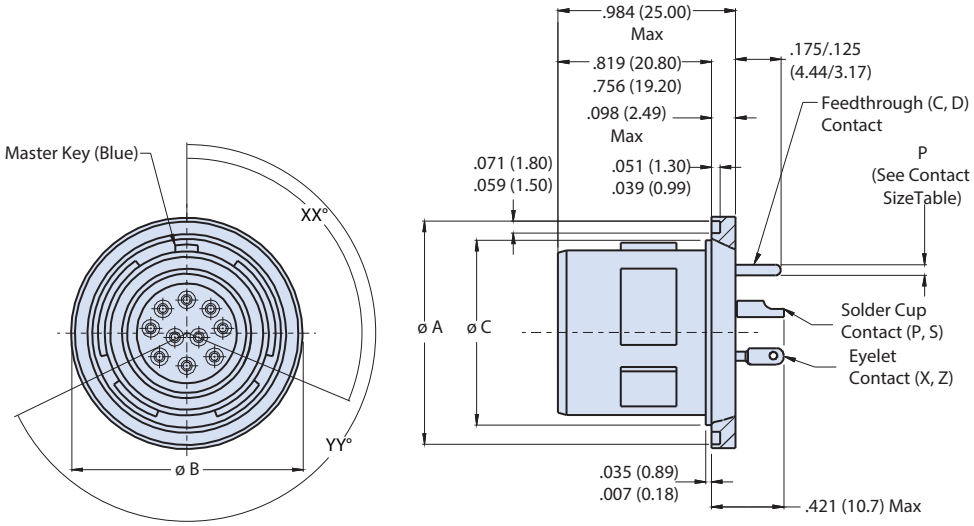
QPL Part Number Development						
Sample Part Number	**D38999/48**	**Y**	**B**	**35**	**P**	**N**

D38999	**38999/48** = Weld mount receptacle
Class	**N** = Hermetic, CRES, nickel finish, conductive, -65°C to 200°C **Y** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C **H** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**B**, **C**, **D**, **E**, **F**, **G**, **H**, **J**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Style	**P** = Pin, solder cup; **X** = Pin, eyelet; **C** = Pin, PCB flex feedthrough **S** = Socket, solder cup; **Z** = Socket, eyelet; **D** = Socket, PCB flex feedthrough
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R**; see polarization positions table



Polarization									
	N	A	B	C	D	K	L	M	R
XX	110°	100°	90°	80°	70°	120°	120°	120°	120°
YY	250°	260°	270°	280°	290°	255°	265°	275°	285°

Wire Accommodation	
Contact Size	**Wire Gauge**
22D	#22 - #28
20	#20 - #24
16	#16 - #20
12	#12 - #14



Consult Factory for Recommended Panel Cutout Dimensions

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COTS EQUIVALENT

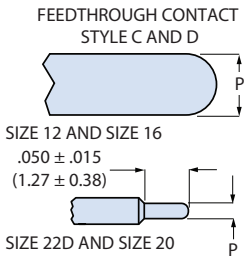
MIL-DTL-38999 Series IV, Breech Coupling

234-100-H8 weld mount receptacle

DLA Equivalent Part Number Development						
Sample Part Number	**234-100-H8**	**Z1**	**11**	**-35**	**P**	**N**

Series / Basic Part No.	**234-100-H8** = Hermetic, weld mount receptacle
Material/Finish*	**ZL** = CRES, nickel finish, conductive, -65°C to 200°C **Z1** = CRES, passivate finish, conductive, -65°C to 200°C **Z1S** = Hermetic, CRES, passivate finish, conductive, -65°C to 200°C (space grade)
Shell Size	**11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Insert Arrangement	Per MIL-STD-1560; See reference information section for details
Contact Style	**P** = Pin, solder cup **X** = Pin, eyelet **C** = Pin, feedthrough **S** = Socket, solder cup **Z** = Socket, eyelet **D** = Socket, feedthrough
Polarization	**N** (Normal), **A**, **B**, **C**, **D**, **K**, **L**, **M**, **R** see polarization position table

Contact Size



Contact Size	ø P
22D	.011 (0.28) .015 (0.38)
20	.024 (0.61) .028 (0.71)
16	.0635 (1.61) .0615 (1.56)
12	.095 (2.41) .093 (2.36)

Dimensions

SHELL SIZE CODE	SHELL SIZE	ø A	ø B	ø C
B	11	1.035 (26.3) 1.024 (26.0)	1.106 (28.1) 1.094 (27.8)	.793 (20.1) .778 (19.8)
C	13	1.161 (29.5) 1.150 (29.2)	1.232 (31.3) 1.220 (31.0)	.919 (23.3) .904 (23.0)
D	15	1.287 (32.7) 1.276 (32.4)	1.358 (34.5) 1.346 (34.2)	1.044 (26.5) 1.029 (26.1)
E	17	1.374 (34.9) 1.362 (34.6)	1.445 (36.7) 1.433 (36.4)	1.170 (29.7) 1.155 (29.3)
F	19	1.520 (38.6) 1.508 (38.3)	1.591 (40.4) 1.579 (40.1)	1.294 (32.9) 1.279 (32.5)
G	21	1.661 (42.2) 1.650 (41.9)	1.732 (44.0) 1.720 (43.7)	1.419 (36.0) 1.404 (35.7)
H	23	1.827 (46.4) 1.815 (46.1)	1.898 (48.2) 1.886 (47.4)	1.544 (39.2) 1.529 (38.8)
J	25	1.913 (48.6) 1.902 (48.3)	1.984 (50.4) 1.972 (50.1)	1.669 (42.4) 1.654 (42.0)

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MIL-DTL-38999 Series IV Type
234-111 Hermetic Receptacle with Band Porch or Accessory Threads

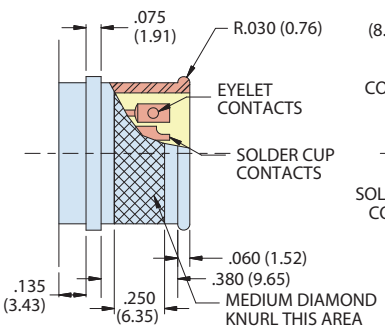
HOW TO ORDER

Sample Part Number	234-111	-H2	T	Z1	13	-35	S	N

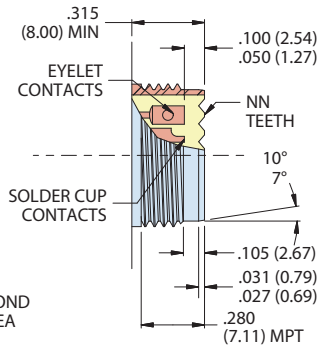
Basic Part Number	**234-111** Hermetic Receptacle with Band Porch or Accessory Threads
Mounting Style	**H2** = Box Mount **H7** = Jam-Nut Mount **H8** = Weld Mount
Rear Attacment Type	**B** = Banding Porch **T** = Accessory Threads
Finish	See Finish Table
Shell Size	**11**, **13**, **15**, **17**, **19**, **21**, **23**, **25**
Contact Arrangement	Per MIL-STD-1560
Contact Style	**P** = Pin Face, Solder Cup **S** = Skt Face, Solder Cup **X** = Pin Face, Eyelet **Z** = Skt Face, Eyelet
Keying Position	Specify Position Per Key Position Table Specify **N** For Normal

NOTES

1. Material / finish:
   - Shell, jam-nut - 300 series cres / per p/n development
   - Contacts, hermetic - nickel-iron alloy / gold plate
   - Contacts, socket - copper alloy / gold plate
   - Insulator, hermetic - vitreous glass / none
   - Insulator, socket - rigid dielectric / none
   - Seals, o-rings - fluorosilicone elastomer
2. Test Criteria:
   - DWV - PER MIL-STD-1560 service rating (table iii)
   - IR - 5000 MEGOHMS MIN @ 500 VDC
   - Leak Rate - <1 X 10^-7 ccHe/ sec @ 1 ATM Delta P
3. Glenair 234-111 conforms to mechanical, performance, and dimensional requirements of dtl-38999 Series iv hermetic receptacles except for the addition of accessory threads.
4. Glenair 234-111 is designed to mate with any QPL MFRS D38999/46 or /47 plug with the same shell size, polarization, contact arrangement, and opposite contact gender.
5. Glenair 234-111 is available with solder cup or eyelet terminated pin or socket face, and with specified finishes. Consult factory for alternative finishes or arrangements.



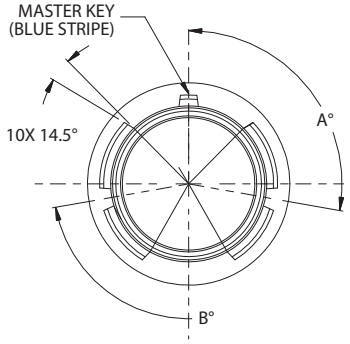
CONTACT TERMINATION AND
BANDING PORCH DETAIL
TYPICAL ALL MOUNTING STYLES



CONTACT TERMINATION AND
ACCESSORY THD DETAIL
TYPICAL ALL MOUNTING STYLES

Shell Size	"NN" Teeth
11	16
13	20
15	24
17	28
19	32
21	36
23	40
25	44

KEYING POSITION



Key Position	A°	B°
N	110°	250°
A	100°	260°
B	90°	270°
C	80°	280°
D	70°	290°
K	120°	255°
L	120°	265°
M	120°	275°
R	120°	285°

DWV VOLTAGE LEVELS @ SEA LEVEL

Service Rating	Voltage Ac Rms 60hz
M	1300 VAC
I	1800 VAC
II	2300 VAC
N	1000 VAC

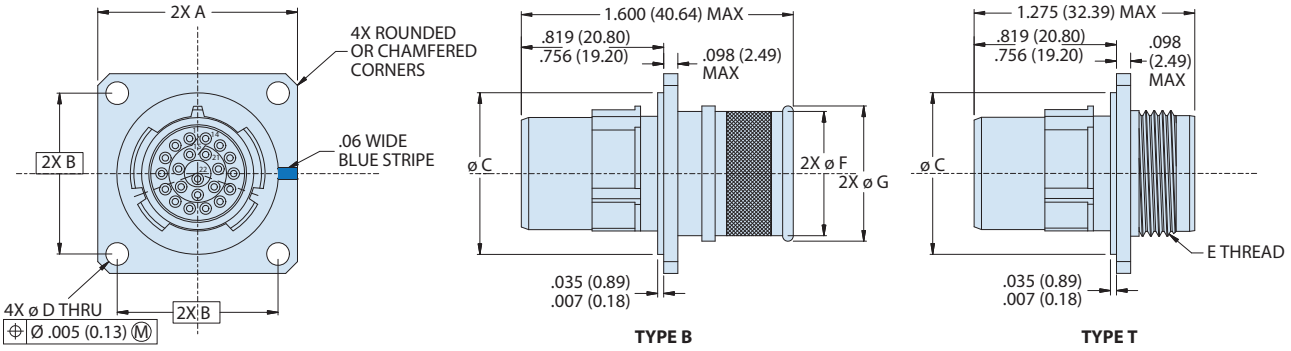
MATERIAL/FINISH

D-38999 Class	234-111 Class	Shell Material	FinishDescription
N	ZL	Stainless Steel	Nickel Plated
Y	Z1		Passivated

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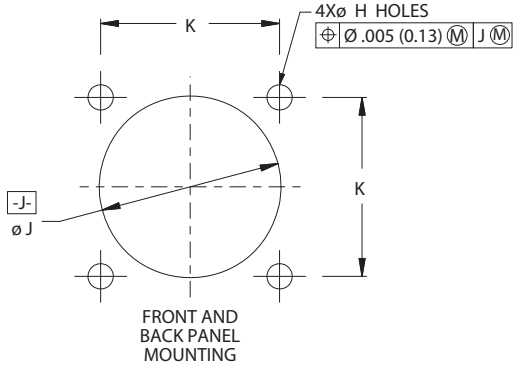
MIL-DTL-38999 Series IV Type
234-111 Hermetic Receptacle with Band Porch or Accessory Threads

-H2 BOX MOUNT DIMENSIONS



Shell Size Code	Shell Size	A Sq	B Bsc	C Dia	D Dia	E ISO THD Metric	F Dia	G Dia
B	11	1.051 (26.70) 1.008 (25.60)	.812 (20.62)	.793 (20.14) .778 (19.76)	.138 (3.51) .122 (3.10)	M15 X 1.0-6g	.600 (15.24)	.662 (16.81)
C	13	1.145 (29.08) 1.102 (27.99)	.906 (23.01)	.919 (23.34) .904 (22.96)	.138 (3.51) .122 (3.10)	M18 X 1.0-6g	.700 (17.78)	.762 (19.35)
D	15	1.240 (31.50) 1.197 (30.40)	.969 (24.61)	1.044 (26.52) 1.029 (26.14)	.138 (3.51) .122 (3.10)	M22 X 1.0-6g	.835 (21.21)	.898 (22.81)
E	17	1.334 (33.88) 1.291 (32.79)	1.062 (26.97)	1.170 (29.72) 1.155 (29.34)	.138 (3.51) .122 (3.10)	M25 X 1.0-6g	.960 (24.38)	1.022 (25.96)
F	19	1.460 (37.08) 1.417 (35.99)	1.156 (29.36)	1.294 (32.87) 1.279 (32.49)	.138 (3.51) .122 (3.10)	M28 X 1.0-6g	1.062 (26.97)	1.125 (28.58)
G	21	1.583 (40.21) 1.539 (39.09)	1.250 (31.75)	1.419 (36.04) 1.404 (35.66)	.138 (3.51) .122 (3.10)	M31 X 1.0-6g	1.188 (30.18)	1.266 (32.16)
H	23	1.709 (43.41) 1.665 (42.29)	1.375 (34.92)	1.544 (39.22) 1.529 (38.84)	.157 (3.99) .142 (3.61)	M34 X 1.0-6g	1.275 (32.39)	1.338 (33.99)
J	25	1.835 (46.61) 1.791 (45.49)	1.500 (38.10)	1.670 (42.42) 1.654 (42.01)	.157 (3.99) .142 (3.61)	M37 X 1.0-6g	1.475 (37.47)	1.538 (39.07)

PANEL CUT-OUT DIMENSIONS

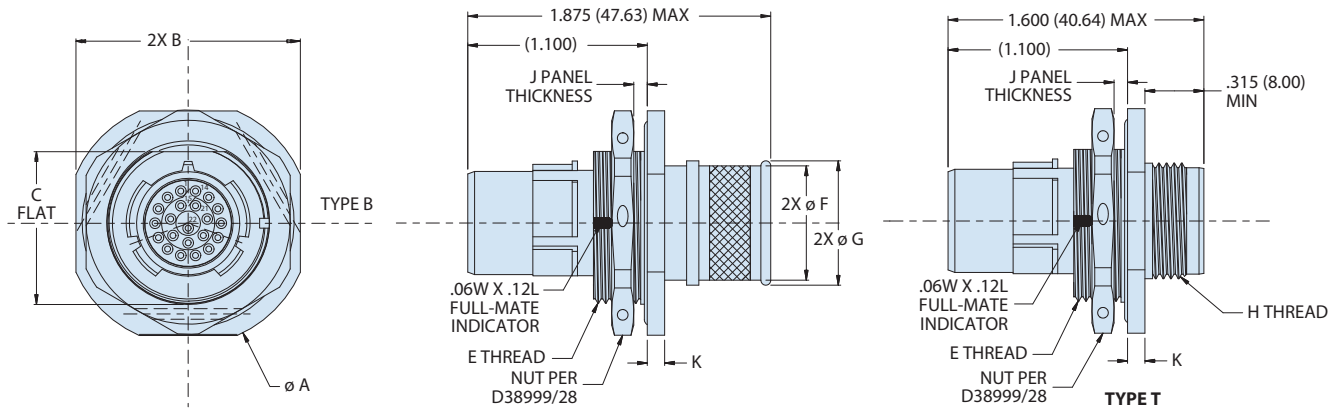


Shell Size Code	Shell Size	ø H Holes	ø J Min		K Bsc
			Type B	Type T	
B	11	.133 (3.38); .123 (3.12)	.796 (20.22)	.845 (21.46)	.812 (20.62)
C	13	.133 (3.38); .123 (3.12)	.921 (23.39)	.965 (24.51)	.906 (23.01)
D	15	.133 (3.38); .123 (3.12)	1.047 (26.59)	1.095 (27.81)	.969 (24.61)
E	17	.133 (3.38); .123 (3.12)	1.218 (30.94)	1.235 (31.37)	1.062 (26.97)
F	19	.133 (3.38); .123 (3.12)	1.296 (32.92)	1.365 (34.67)	1.156 (29.36)
G	21	.133 (3.38); .123 (3.12)	1.421 (36.09)	1.485 (37.72)	1.250 (31.75)
H	23	.159 (4.04); .149 (3.78)	1.546 (39.27)	1.605 (40.77)	1.375 (34.92)
J	25	.155 (3.94); .145 (3.68)	1.672 (42.47)	1.725 (43.82)	1.500 (38.10)

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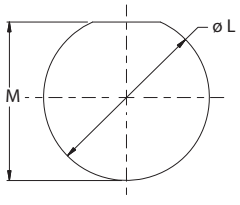
MIL-DTL-38999 Series IV Type
234-111 Hermetic Receptacle with Band Porch or Accessory Threads

-H7 JAM-NUT MOUNT DIMENSIONS



Shell Size Code	Shell Size	A Dia	B	C Flat	E Thread ISO Metric	F Dia	G Dia	H Thread ISO Metric	J	K
B	11	1.385 (35.18) 1.362 (34.59)	1.267 (32.18) 1.232 (31.29)	.754 (19.15) .744 (18.90)	M20 X 1.0-6g	.600 (15.24)	.662 (16.81)	M15 X 1.0-6g	.125 (3.18) .059 (1.50)	.118 (3.00) .094 (2.39)
C	13	1.511 (38.38) 1.488 (37.80)	1.393 (35.38) 1.358 (34.49)	.941 (23.90) .931 (23.65)	M25 X 1.0-6g	.700 (17.78)	.762 (19.35)	M18 X 1.0-6g	.125 (3.18) .059 (1.50)	.118 (3.00) .094 (2.39)
D	15	1.637 (41.58) 1.614 (41.00)	1.519 (38.58) 1.484 (37.69)	1.066 (27.08) 1.056 (26.82)	M28 X 1.0-6g	.835 (21.21)	.898 (22.81)	M22 X 1.0-6g	.125 (3.18) .059 (1.50)	.118 (3.00) .094 (2.39)
E	17	1.763 (44.78) 1.740 (44.20)	1.641 (41.68) 1.606 (40.79)	1.191 (30.25) 1.181 (30.00)	M32 X 1.0-6g	.960 (24.38)	1.022 (25.96)	M25 X 1.0-6g	.125 (3.18) .059 (1.50)	.118 (3.00) .094 (2.39)
F	19	1.948 (49.48) 1.925 (48.90)	1.830 (46.48) 1.795 (45.59)	1.316 (33.43) 1.306 (33.17)	M35 X 1.0-6g	1.062 (26.97)	1.125 (28.58)	M28 X 1.0-6g	.125 (3.18) .059 (1.50)	.149 (3.78) .125 (3.18)
G	21	2.074 (52.68) 2.051 (52.10)	1.956 (49.68) 1.921 (48.79)	1.441 (36.60) 1.431 (36.35)	M38 X 1.0-6g	1.188 (30.18)	1.266 (32.16)	M31 X 1.0-6g	.125 (3.18) .059 (1.50)	.149 (3.78) .125 (3.18)
H	23	2.200 (55.88) 2.177 (55.30)	2.078 (52.78) 2.043 (51.89)	1.565 (39.75) 1.556 (39.52)	M41 X 1.0-6g	1.275 (32.39)	1.338 (33.99)	M34 X 1.0-6g	.125 (3.18) .059 (1.50)	.149 (3.78) .125 (3.18)
J	25	2.326 (59.08) 2.299 (58.39)	2.204 (55.98) 2.169 (55.09)	1.692 (42.98) 1.681 (42.70)	M44 X 1.0-6g	1.475 (37.47)	1.538 (39.07)	M37 X 1.0-6g	.125 (3.18) .059 (1.50)	.149 (3.78) .125 (3.18)

PANEL CUT-OUT DIMENSIONS



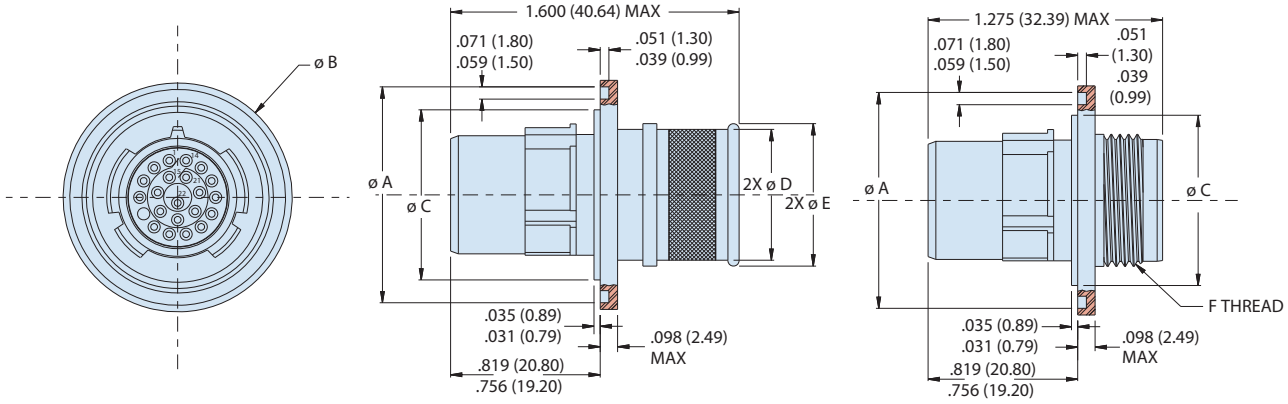
RECOMMENDED
PANEL CUT-OUT

Shell Size Code	Shell Size	L Dia	M
B	11	.835 (21.21); .825 (20.96)	.771 (19.58); .761 (19.33)
C	13	1.020 (25.91); 1.010 (25.65)	.955 (24.26); .945 (24.00)
D	15	1.145 (29.08); 1.135 (28.83)	1.085 (27.56); 1.075 (27.30)
E	17	1.270 (32.26); 1.260 (32.00)	1.210 (30.73); 1.200 (30.48)
F	19	1.395 (35.43); 1.385 (35.18)	1.335 (33.91); 1.325 (33.65)
G	21	1.520 (38.61); 1.510 (38.35)	1.460 (37.08); 1.450 (36.83)
H	23	1.645 (41.78); 1.635 (41.53)	1.585 (40.26); 1.575 (40.00)
J	25	1.770 (44.96); 1.760 (44.70)	1.710 (43.43); 1.700 (43.18)

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SuperNine MIL-DTL-38999 Series I Type · Dimensions in Inches (millimeters) are subject to change without notice.

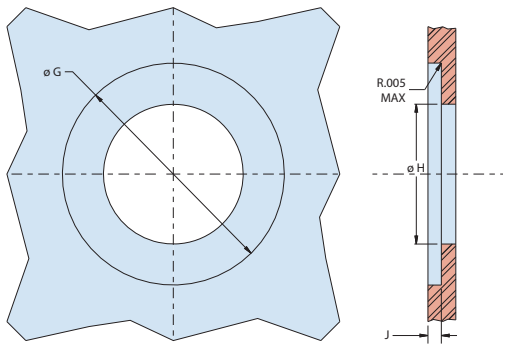
MIL-DTL-38999 Series IV Type
234-111 Hermetic Receptacle with Band Porch or Accessory Threads

-H8 WELD MOUNT DIMENSIONS



Shell Size Code	Shell Size	Ø A	Ø B	Ø C	Ø D	Ø E	F Thread ISO Metric
B	11	1.035 (26.29) 1.024 (26.01)	1.106 (28.09) 1.094 (27.79)	.793 (20.14) .778 (19.76)	.600 (15.24)	.662 (16.81)	M15 X 1.0-6g
C	13	1.161 (29.49) 1.150 (29.21)	1.232 (31.29) 1.220 (30.99)	.919 (23.34) .904 (22.96)	.700 (17.78)	.762 (19.35)	M18 X 1.0-6g
D	15	1.287 (32.69) 1.276 (32.41)	1.358 (34.49) 1.346 (34.19)	1.044 (26.52) 1.029 (26.14)	.835 (21.21)	.898 (22.81)	M22 X 1.0-6g
E	17	1.374 (34.90) 1.362 (34.59)	1.445 (36.70) 1.433 (36.40)	1.170 (29.72) 1.155 (29.34)	.960 (24.38)	1.022 (25.96)	M25 X 1.0-6g
F	19	1.520 (38.61) 1.508 (38.30)	1.591 (40.41) 1.579 (40.11)	1.294 (32.87) 1.279 (32.49)	1.062 (26.97)	1.125 (28.58)	M28 X 1.0-6g
G	21	1.661 (42.19) 1.650 (41.91)	1.732 (43.99) 1.720 (43.69)	1.419 (36.04) 1.404 (35.66)	1.188 (30.18)	1.265 (32.13)	M31 X 1.0-6g
H	23	1.827 (46.41) 1.815 (46.10)	1.898 (48.21) 1.886 (47.90)	1.544 (39.22) 1.529 (38.84)	1.275 (32.39)	1.338 (33.99)	M34 X 1.0-6g
J	25	1.913 (48.59) 1.902 (48.31)	1.984 (50.39) 1.972 (50.09)	1.669 (42.39) 1.654 (42.01)	1.475 (37.47)	1.538 (39.07)	M37 X 1.0-6g

PANEL CUT-OUT DIMENSIONS



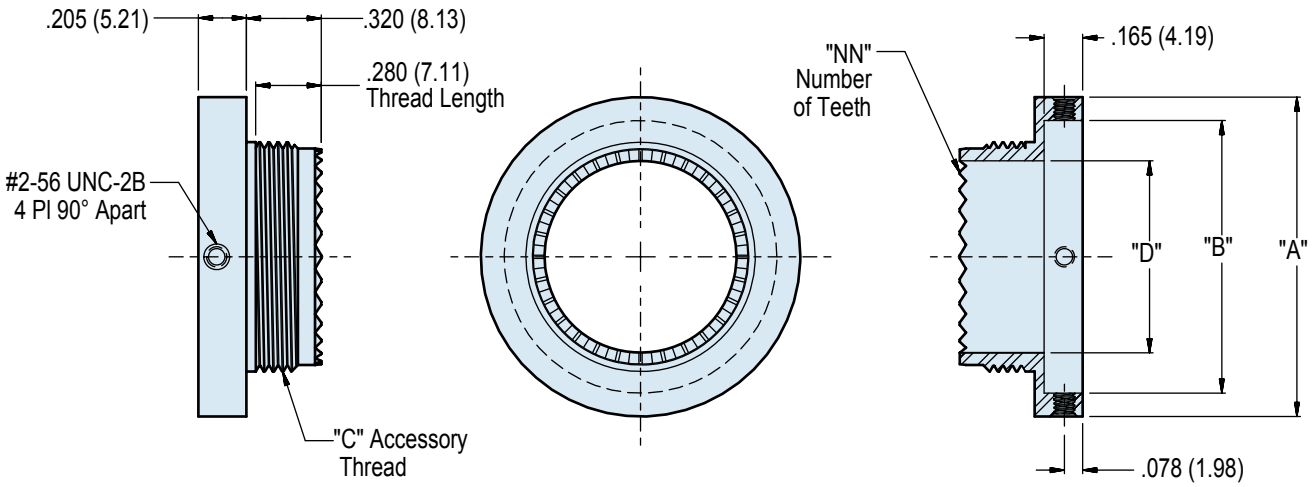
Shell Size	Ø G	Ø H Type B	Ø H Type T	Depth J ±.005
11	1.112/1.107 (28.24/28.12)	.750 (19.05)	.845 (21.46)	.100 (2.54)
13	1.238/1.233 (31.45/31.32)	.850 (21.59)	.965 (24.51)	.100 (2.54)
15	1.364/1.359 (34.65/34.52)	.985 (25.02)	1.095 (27.81)	.100 (2.54)
17	1.451/1.446 (36.86/36.73)	1.110 (28.19)	1.235 (31.37)	.100 (2.54)
19	1.597/1.592 (40.56/40.44)	1.215 (30.86)	1.485 (37.72)	.100 (2.54)
21	1.738/1.733 (44.15/44.02)	1.350 (34.29)	1.605 (40.77)	.100 (2.54)
23	1.894/1.899 (48.11/48.23)	1.425 (36.20)	1.725 (43.82)	.100 (2.54)
25	1.990/1.985 (50.55/50.42)	1.625 (41.28)	1.825 (46.36)	.100 (2.54)

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SuperNine MIL-DTL-38999 Series I Type · Dimensions in Inches (millimeters) are subject to change without notice.

980-002
Non-Environmental Rear Accessory Thread Adapter
for MIL-DTL-38999/23 and /43

Connector Material and Finish
Z1 - CRES, Passivated
ZL - CRES, Nickel Plated

980-002	Z1	17
Basic Number		**Shell Size** *Table I*



Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: CONNECTOR DIMENSIONS					
SHELL SIZE	A DIA	B DIA	C 1.0-6g 0.100R	D DIA MAX	NN TEETH
9	0.860 (21.84)	.662 (18.81) .656 (16.66)	M12	.346 (8.86)	12
11	0.985 (25.02)	.788 (20.02) .782 (19.86)	M15	.475 (12.07)	16
13	1.115 (28.32)	.917 (23.29) .911 (23.14)	M18	.589 (14.96)	20
15	1.240 (31.50)	1.042 (26.47) 1.037 (26.34)	M22	.714 (18.14)	24
17	1.360 (34.54)	1.165 (29.59) 1.159 (29.44)	M25	.839 (21.31)	28
19	1.488 (37.80)	1.291 (32.79) 1.285 (32.64)	M28	.945 (24.00)	32
21	1.615 (41.02)	1.418 (36.02) 1.412 (35.86)	M31	1.070 (27.18)	36
23	1.740 (44.20)	1.543 (39.19) 1.537 (39.04)	M34	1.194 (30.33)	40
25	1.862 (47.29)	1.665 (42.29) 1.659 (42.14)	M37	1.320 (33.53)	44

APPLICATION NOTES

1. Assembly identified with manufacturer's name and PN, space permitting.
2. Material/Finish:
   Adapter—300 Series CRES/passivate
   or 300 Series CRES/nickel plate
   Set Screws—18-8 CRES/None
3. Glenair 980-002 is designed to adapt MIL-DTL-38999/23 or /43 jam-nut hermetic receptacles to use threaded rear backshells per specification.

Dimensions in Inches (millimeters) are subject to change without notice.

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SERIES 80

MIGHTY MOUSE

Hermetic Connectors with Durable Glass–to–Metal Sealing



The Series 80 Connector was originally developed as a smaller and lighter alternative to D38999 connectors for aerospace applications such as Attack Helicopters and Unmanned Aerial Vehicles. Today, the Series 80 Mighty Mouse serves in dozens of safety-critical defense, medical, industrial and geo-physical applications. Glenair o□ers hermetic versions of this popular connector series with 1 x 10^{-7}cc/helium per second leakage rate, stainless steel shells with vitreous glass sealing, standard material options plus Titanium and Inconel® versions, available space grade special screening, plus same-day delivery on most common shell sizes and layouts.



Glenair®

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Series 800 Mighty Mouse Hermetic Connectors

Mighty Mouse Hermetic Connectors are supplied in six mating styles, including a triple-start threaded version, a push-pull quick-disconnect version and rugged bayonet-lock. All the connectors in the Series 80 family are available in hermetic versions with PC tail or solder cup terminations.

Made of stainless steel with a glass seal, Mighty Mouse hermetics are 100% tested to meet 1 X 10^{-7} cc/second helium leakage and an open face pressure rating of 1000 PSI.

Quick Selection Guide

Part Number	Description	Page
	Series 800 Mighty Mouse Product Selection Guide	C-2
	Series 800 Mighty Mouse Contact Arrangements	C-4
	Series 800 Mighty Mouse Straight PCB Footprints	C-10
	Series 800 Mighty Mouse Recommended Torque Values	C-39
	Series 800 Mighty Mouse Flange Gaskets 809-108	C-40
	Glenair Hermetic Connector Products Special Leak Rate Mod Codes	C-43
800-013	Series 800 UN Mating Thread How to Order Information	C-44
800-013-02 and 800-013-03	Square Flange Mount Connectors	C-46
800-013-07	Jam Nut Mount Connector	C-47
801-012	Series 801 Double Start Mating Thread How to Order Information	C-48
801-012-02	Square Flange and Solder Mount Connector	C-49
801-012-03	Solder Mount Connector	C-50
801-012-07	Jam Nut Mount Connector	C-51
801-012-13	Weld Mount Connector	C-52
801-059	Quick Coupling Connector with Co-Ax Pins Ordering Information	C-53
801-059-02	Flange Mount Quick Coupling Connector with Co-Ax Pins	C-54
801-059-03	Solder Mount Quick Coupling Connector with Co-Ax Pins	C-55
801-059-07	Jam Nut Mount Quick Coupling Connector with Co-Ax Pins	C-56
802-013	Series 802 "AquaMouse" How to Order Information	C-57
802-013-00	Front Mount Jam Nut Receptacle	C-58
802-013-02	Square Flange Mount Receptacle	C-59
802-013-03	Weld Mount Receptacle	C-60
802-013-07	Rear Mount Jam Nut Receptacle	C-61
802-040	Series 802 "Aqua Mouse" Connector Ordering Information	C-62
802-040-00	Front Panel Jam Nut Mount Connector, Coax Contacts	C-63
802-040-02	Front Panel Square Flange Mount Connector, Coax Contacts	C-64
802-040-03	Weld Mount Connector, Coax Contacts	C-65
802-040-07	Rear Panel Jam Nut Mount Connector, Coax Contacts	C-66
803-006	Series 803 1/4 Turn Bayonet How to Order Information	C-67
803-006-02 and 803-006-07	Flange Mount and Jam Nut Mount Connectors	C-68
804-006	Series 804 Push-Pull How to Order Information	C-69
804-006-00	Front Panel Jam Nut Mount Receptacle	C-70
804-006-07	Rear Panel Jam Nut Mount Receptacle	C-71
805-006	Series 805 Triple Start Mating Thread How to Order Information	C-72
805-006-02	Square Flange Mount Connector	C-73
805-006-03	Solder Mount Connector	C-74
805-006-07	Jam Nut Mount Connector	C-75
805-006-13	Front Panel Weld Mount Connector	C-76

Hermetic Finishes

Plating Code	Material	Finish	Specification
Z1	Stainless Steel	Passivate	AMS-QQ-P-35
ZL	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2

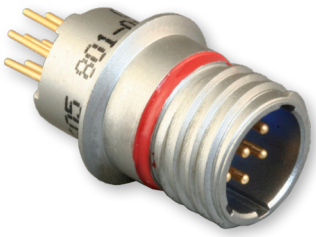
Hermetic Materials

Shell, Barrel Coupling and Jam Nut (Hermetic)	Stainless steel per AMS-QQ-S-763
Front and Rear Insulators	Glass-filled liquid crystal polymer (LCP) in accordance with MIL-M-24519, Type GLP-30F
Grommet, Peripheral Seal and Interfacial Seal	Blended elastomer, 30% silicone per ZZ-R-765, 70% fluorosilicone per MIL-R-25988
Hermetic Insert	Vitreous glass
Contacts	Nickel-iron alloy per ASTM F30 (Alloy 52),50 microinches gold plated per ASTM B488 Type 3 Code C Class 1,27 over nickel plate per QQ-N-290 Class 2, 50-100 microinches
Adhesives	Silicone and epoxy
Potting Compound	Epoxy

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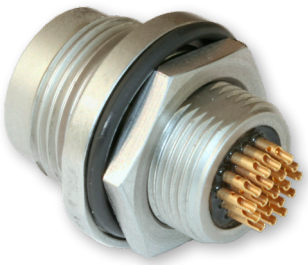
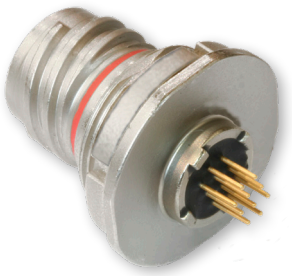
Series 80 Mighty Mouse
Product Selection Guide

The Series 80 Mighty Mouse Connector is designed for high-reliability commercial and aerospace/defense interconnect applications that require both robust environmental/EMI performance and reduced size and weight. The Series 80 Mighty Mouse Connector offers comparable performance to MIL-DTL-38999 Series interconnects with up to 71% weight and 52% size savings for similar contact layouts. Six versions available, offer a range of styles and features suitable for various applications.
Please reference document ***809-009*** for the complete performance specifications.

	Series 800	Series 801
		
Description	Original Mighty Mouse with UNF Threads	Double-Start ACME Thread
Notes	A general purpose connector for high-speed Ethernet switches, tactical equipment and instrumentation.	More rugged keys and threads compared to Series 800. Faster mating, slightly larger than Series 800.
Number of Contacts	1 to 37	1 to 130
Coupling	Threaded Coupling with 4 ½ Turns to Full Mate	Threaded Coupling with 1 ½ Turns to Full Mate
EMI Shielding	Good	Good
Vibration and Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock
Mating Cycles	500 Cycles	500 Cycles
Electrical Performance	#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC	#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC
Proven Performance Applications	Commercial air frame sensors; UAV telemetry; Tactical computers; field radios	Military air frame; Dismounted soldier; Tactical ground weaponry; Avionic (FLIR) systems
Temperature Rating	-65°C to +200°C hermetic	
Hermeticity	1 X10^{-7} cc/second maximum helium leak rate	

Dimensions in Inches (millimeters) are subject to change without notice.

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Series 802	Series 803	Series 804	Series 805
			
"Aqua Mouse" 3500 PSI	Bayonet	Push-Pull	Triple-Start ACME Thread
Rugged stainless steel, resists chemicals. For geophysical and underwater applications.	Quick-mating, light duty, general purpose. Not rated for immersion. 50 milliohms shell-to-shell resistance.	Breakaway connector for headsets and tactical equipment. Gold-plated spring for long mating life and superior EMI shielding.	"Clicker" ratchet mechanism and ground spring for military airframes and avionics boxes. Fast-mating, D38999 equivalent.
1 to 130	1 to 55	1 to 55	1 to 130
Threaded Coupling with UN Threads	Push-to-Mate, ¼ Turn to Lock	Quick-Disconnect	One Full Turn for Full Mate
Good	Fair	Very Good	Excellent
37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock	37 g's Random Vibration; 300 g's Shock
500 Cycles	500 Cycles	500 Cycles	500 Cycles
#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC	#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC	#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC	#8: 33 AMP, 500 VAC #12: 17 AMP, 500 VAC #16: 10 AMP, 500 VAC #20: 5 AMP, 500 VAC #23: 3 AMP, 500 VAC
Pipe line inspection equipment; Well logging; Amphibious vehicles; Unmanned submersibles	Soldier system radios; Autosport diagnostics; Airborne surveillance; Communication systems	Helmet breakaway connector; QDC battery; Missile applications; Weapon interconnects	Autosport; Military air frame; Joint Strike Fighter
-65°C to +200°C Hermetic			
1 X10^{-7} cc/second maximum helium leak rate			

Dimensions in Inches (millimeters) are subject to change without notice.

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Series 80 Mighty Mouse
Contact Arrangements

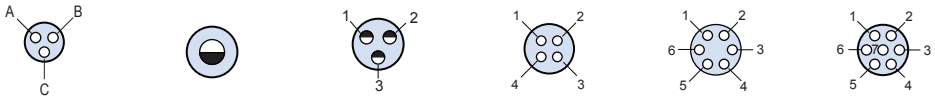
Series 80 Mighty Mouse Contact Arrangements

Contact Size	Contact Quantity					Contact Arrangement*					
	#23	#20HD	#16	#12	#8	Series 800	Series 801	Series 802	Series 803	Series 804	Series 805
Size #23 Contacts 3 Amp Max. Current #22-#28 AWG **750 VAC DWV**	3					5-3	5-3	5-3	5-3	5-3	N/A
	4					6-4	6-4	6-4	6-4	6-4	8-4
	6					6-6	6-6	6-6	6-6	6-6	8-6
	7					6-7	6-7	6-7	6-7	6-7	8-7
	10					7-10	7-10	7-10	7-10	7-10	9-10
	13					8-13	8-13	8-13	8-13	8-13	10-13
	19					9-19	9-19	9-19	9-19	9-19	11-19
	26					10-26	10-26	10-26	10-26	10-26	12-26
	31					N/A	11-31	N/A	11-31	11-31	13-31
	37					12-37	13-37	12-37	12-37	12-37	15-37
	55					N/A	16-55	14-55	14-55	14-55	18-55
	85					N/A	17-85	15-85	N/A	N/A	19-85
	100					N/A	19-100	19-100	N/A	N/A	21-100
	130					N/A	21-130	21-130	N/A	N/A	23-130
Size #20HD Contacts 5 Amp Max.Current #20-#24 AWG **1000 VAC DWV**		3				6-23	6-23	6-23	6-23	6-23	8-23
		5				7-25	7-25	7-25	7-25	7-25	9-25
		8				8-28	8-28	8-28	8-28	8-28	10-28
		10				9-210	9-210	9-210	9-210	9-210	11-210
		20				12-220	13-220	12-220	12-220	12-220	15-220
		35				N/A	16-235	14-235	14-235	14-235	18-235
		41				N/A	17-241	15-241	N/A	N/A	19-241
		55				N/A	19-255	19-255	N/A	N/A	21-255
		69				N/A	21-269	21-269	N/A	N/A	23-269
Size #16 Contacts 10 Amp Max. Current #16-#20 AWG **1800 VAC DWV**			1			6-1	6-1	6-1	6-1	6-1	8-1
			2			8-2	8-2	8-2	8-2	8-2	10-2
			4			9-4	9-4	9-4	9-4	9-4	11-4
			5			10-5	10-5	10-5	10-5	10-5	12-5
			7			12-7	13-7	12-7	12-7	12-7	15-7
			12			N/A	16-12	14-12	14-12	14-12	18-12
			14			N/A	17-14	15-14	N/A	N/A	19-14
			19			N/A	19-19	19-19	N/A	N/A	21-19
			22			N/A	21-22	21-22	N/A	N/A	23-22
Size #12 Contacts 17 Amp Max. Current #12-#14 AWG **1800 VAC DWV**				1		7-1	7-1	7-1	7-1	7-1	9-1
				2		10-2	10-2	10-2	10-2	10-2	12-2
				2		12-2	13-2	12-2	12-2	12-2	15-2
				3		12-3	13-3	12-3	12-3	12-3	15-3
				4		N/A	16-4	14-4	14-4	14-4	18-4
				5		N/A	16-5	14-5	14-5	14-5	18-5
				7		N/A	17-7	15-7	N/A	N/A	19-7
				12		N/A	21-12	21-12	N/A	N/A	23-12
Size #8 Contacts 33 Amp Max. Current #8 AWG **1800 VAC DWV**					1	N/A	8-1	8-1	N/A	8-1	10-1
					2	N/A	16-2	14-2	N/A	14-2	18-2
					3	N/A	17-3	15-3	N/A	N/A	19-3
					4	N/A	19-4	19-4	N/A	N/A	21-4
					5	N/A	21-5	21-5	N/A	N/A	23-5
Combo Arrangements Size #23: 3 Amp Max. Size #20HD: 5 Amp Max. Size #16: 10 Amp Max. Size #12: 17 Amp Max. Size #8: 33 Amp Max. **750 VAC DWV**	12			1		10-200	10-200	10-200	10-200	10-200	12-200
	4			2		10-201	10-201	10-201	10-201	10-201	12-201
	6			2		12-200	13-200	12-200	12-200	12-200	15-200
	10			2		12-201	13-201	12-201	12-201	12-201	15-201
	4		2			9-200	9-200	9-200	9-200	9-200	11-200
	8		2			10-202	10-202	10-202	10-202	10-202	12-202
	4	2				8-200	8-200	8-200	8-200	8-200	10-200
	8	2				9-201	9-201	9-201	9-201	9-201	11-201
Size #23: 3 Amp Max. Size #20HD: 5 Amp Max. Size #16: 10 Amp Max. Size #12: 17 Amp Max. Size #8: 33 Amp Max. **1300 VAC DWV**	20		2			12-202	13-202	12-202	12-202	12-202	15-202
	12		4			12-203	13-203	12-203	12-203	12-203	15-203
	40		2			N/A	16-204	14-204	14-204	14-204	18-204
	32		4			N/A	16-205	14-205	14-205	14-205	18-205
	40		4			N/A	17-203	15-203	N/A	N/A	19-203
	58		4			N/A	17-206	15-206	N/A	N/A	19-206
	12			2		12-204	13-204	12-204	12-204	12-204	15-204
	4			4		12-205	13-205	12-205	12-205	12-205	15-205
	34			2		N/A	16-206	14-206	14-206	14-206	18-206
	20			4		N/A	16-207	14-207	14-207	14-207	18-207
	28			4		N/A	17-204	15-204	N/A	N/A	19-204
	18				1	N/A	11-201	11-201	N/A	11-201	13-201
	32				1	N/A	16-208	14-208	N/A	14-208	18-208
	40				1	N/A	17-205	15-205	N/A	N/A	19-205
	44				2	N/A	19-201	19-201	N/A	N/A	21-201
	12				4	N/A	19-202	19-202	N/A	N/A	21-202
	28				4	N/A	21-200	21-200	N/A	N/A	23-200

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Series 80 Mighty Mouse
Contact Arrangements
Mating Face View of Pin Connector
(Socket Contact Numbering is Mirrored)

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8



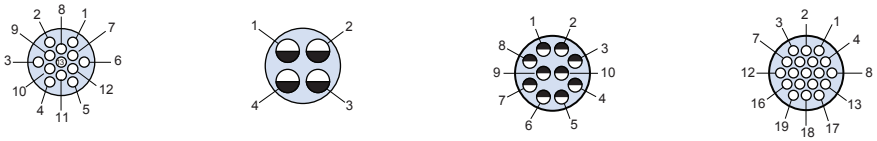
Series 800, 801, 802, 803, 804	5-3	6-1	6-23	6-4	6-6	6-7
Series 805	N/A	8-1	8-23	8-4	8-6	8-7
No. of Contacts	3	1	3	4	6	7
Contact Size	#23	#16	#20HD	#23	#23	#23
DWV Voltage (VAC)	750	1800	1000	750	750	750
Current Rating (Amps)	3	10	5	3	3	3

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8



Series 800, 802, 803, 804	6-1	7-25	7-10	N/A	8-2	8-28
Series 801	6-1	7-25	7-10	8-1	8-2	8-28
Series 805	9-1	9-25	9-10	10-1	10-2	10-28
No. of Contacts	1	5	10	1	2	8
Contact Size	#12	#20HD	#23	#8	#16	#20HD
DWV Voltage (VAC)	1800	1000	750	1800	1800	1000
Current Rating (Amps)	17	5	3	33	10	5

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8



Series 800, 801, 802, 803, 804	8-13	9-4	9-210	9-19
Series 805	10-13	11-4	11-210	11-19
No. of Contacts	13	4	10	19
Contact Size	#23	#16	#20HD	#23
DWV Voltage (VAC)	750	1800	1000	750
Current Rating (Amps)	3	10	5	3

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8



Series 800, 801, 802, 803, 804	10-2	10-5	10-26	11-31
Series 805	12-2	12-5	12-26	13-31
No. of Contacts	2	5	26	31
Contact Size	#12	#16	#23	#23
DWV Voltage (VAC)	1800	1800	750	750
Current Rating (Amps)	17	10	3	3

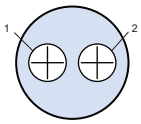
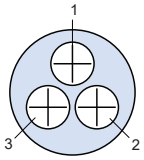
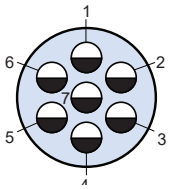
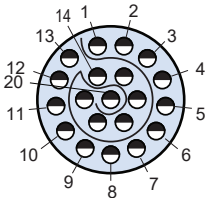
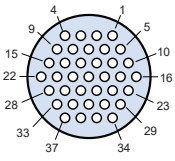
2. Only available for 801 and 804

Dimensions in Inches (millimeters) are subject to change without notice.

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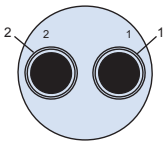
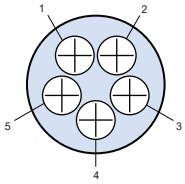
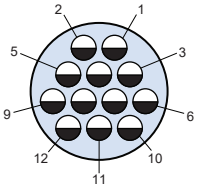
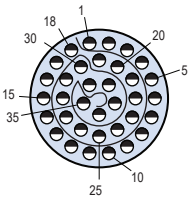
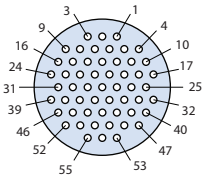
Series 80 Mighty Mouse
Contact Arrangements
Mating Face View of Pin Connector
(Socket Contact Numbering is Mirrored)

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8

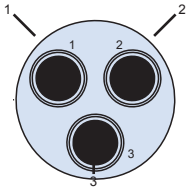
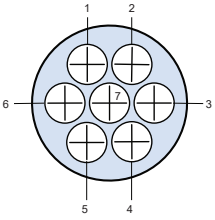
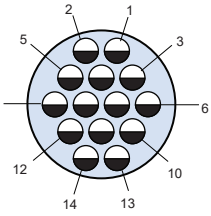
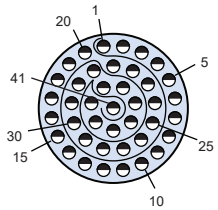
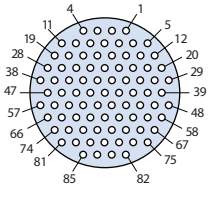
Series 800, 802, 803, 804	12-2	12-3	12-7	12-220	12-37
Series 801	13-2	13-3	13-7	13-220	13-37
Series 805	15-2	15-3	15-7	15-220	15-37
No. of Contacts	2	3	7	20	37
Contact Size	#12	#12	#16	#20HD	#23
DWV Voltage (VAC)	1800	1800	1800	1000	750
Current Rating (Amps)	17	17	10	5	3

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8

Series 802, 803, 804	N/A	14-5	14-12	14-235	14-55
Series 801	16-2	16-5	16-12	16-235	16-55
Series 805	18-2	18-5	18-12	18-235	18-55
No. of Contacts	2	5	12	35	55
Contact Size	#8	#12	#16	#20HD	#23
DWV Voltage (VAC)	1800	1800	1800	1000	750
Current Rating (Amps)	33	17	10	5	3

Contact Legend
#23 ○ #16
#20HD #12
#20 ● #8

Series 802	N/A	15-7	15-14	15-241	15-85
Series 801	17-3	17-7	17-14	17-241	17-85
Series 805	19-3	19-7	19-14	19-241	19-85
No. of Contacts	3	7	14	41	85
Contact Size	#8	#12	#16	#20HD	#23
DWV Voltage (VAC)	1800	1800	1800	1000	750
Current Rating (Amps)	33	17	10	5	3

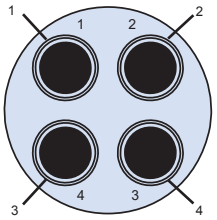
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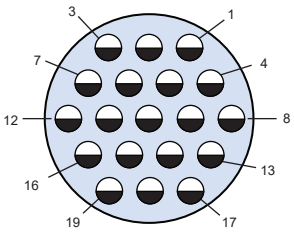
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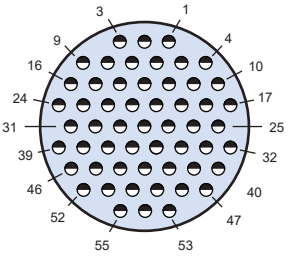
Series 80 Mighty Mouse
Contact Arrangements
Mating Face View of Pin Connector
(Socket Contact Numbering is Mirrored)

Contact Legend

#23	○	#16	◒
#20HD	◒	#12	⊕
#20	●	#8	◉



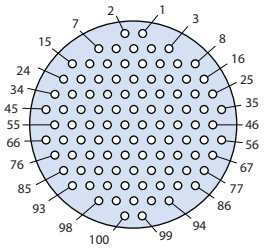


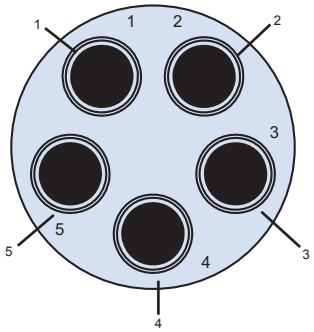


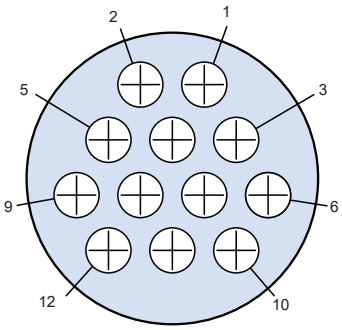
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Series 805	21-4	21-19	21-255
No. of Contacts	4	19	55
Contact Size	#8	#16	#20HD
DWV Voltage (VAC)	1800	1800	1000
Current Rating (Amps)	33	10	5

Contact Legend

#23	○	#16	◒
#20HD	◒	#12	⊕
#20	●	#8	◉



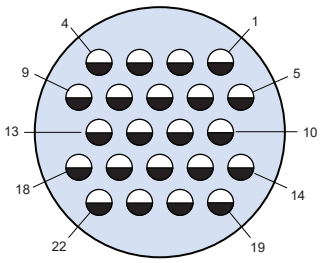


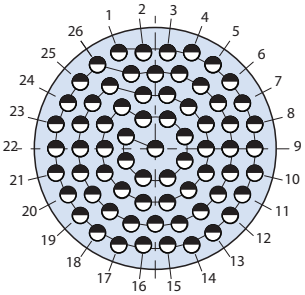


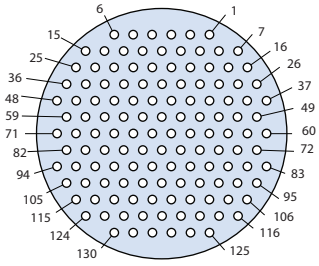
Series 801, 802	19-100[1]	21-5[1]	21-12
Series 805	21-100	23-5	23-12
No. of Contacts	100	5	12
Contact Size	#23	#8	#12
DWV Voltage (VAC)	750	1800	1800
Current Rating (Amps)	3	33	17

Contact Legend

#23	○	#16	◒
#20HD	◒	#12	⊕
#20	●	#8	◉







Series 801, 802	21-22	21-269	21-130
Series 805	23-22	23-269	23-130
No. of Contacts	22	69	130
Contact Size	#16	#20HD	#23
DWV Voltage (VAC)	1800	1000	750
Current Rating (Amps)	10	5	3

1. Not available for Series 802

Dimensions in Inches (millimeters) are subject to change without notice.

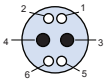
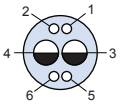
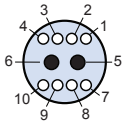
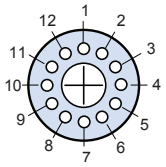
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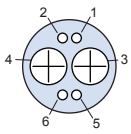
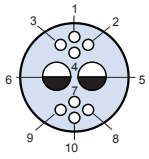
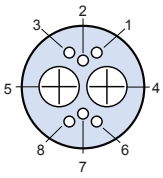
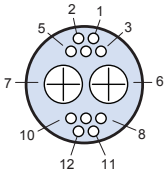
Series 80 Mighty Mouse
Combo Contact Arrangements
Mating Face View of Pin Connector
(Socket Contact Numbering is Mirrored)

Contact Legend
#23 ○ #16
#20HD #12
#20 #8

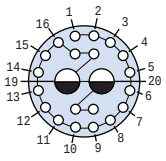
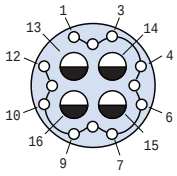
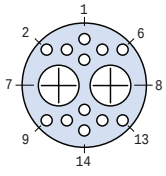
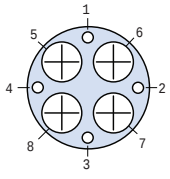
Series 800, 801, 802, 803, 804	8-200		9-200		9-201		10-200	
Series 805	10-200		11-200		11-201		12-200	
No. of Contacts	2	4	2	4	2	8	1	12
Contact Size	#20	#23	#16	#23	#20	#23	#12	#23
DWV Voltage (VAC)	1000	750	1800	750	1000	750	1800	750
Current Rating (Amps)	5	3	10	3	5	3	17	3

Contact Legend
#23 ○ #16
#20HD #12
#20 #8

Series 800, 802, 803, 804	10-201		10-202		12-200		12-201	
Series 801	10-201		10-202		13-200		13-201	
Series 805	12-201		12-202		15-200		15-201	
No. of Contacts	2	4	2	8	2	6	2	10
Contact Size	#12	#23	#16	#23	#12	#23	#12	#23
DWV Voltage (VAC)	1800	750	1800	750	1800	750	1800	750
Current Rating (Amps)	17	3	10	3	17	3	17	3

Contact Legend
#23 ○ #16
#20HD #12
#20 #8

Series 800, 802, 803, 804	12-202		12-203		12-204		12-205	
Series 801	13-202		13-203		13-204		13-205	
Series 805	15-202		15-203		15-204		15-205	
No. of Contacts	2	20	4	12	2	12	4	4
Contact Size	#16	#23	#16	#23	#12	#23	#12	#23
DWV Voltage (VAC)	1800	1300	1800	1300	1800	1300	1800	1300
Current Rating (Amps)	10	3	10	3	17	3	17	3

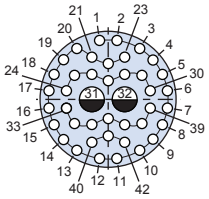
Dimensions in Inches (millimeters) are subject to change without notice.

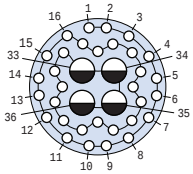
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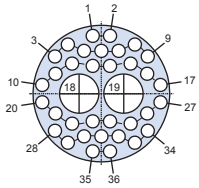
Series 80 Mighty Mouse
Combo Contact Arrangements
Mating Face View of Pin Connector
(Socket Contact Numbering is Mirrored)

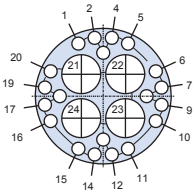
Contact Legend

#23	○	#16	◒
#20HD	◓	#12	⊕
#20	●	#8	◉





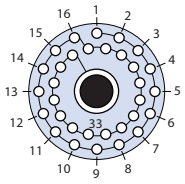


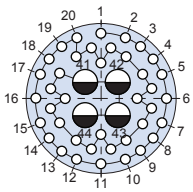


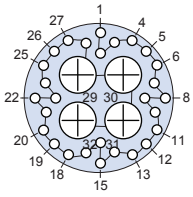
Series 802, 803, 804	14-204		14-205		14-206		14-207	
Series 801	16-204		16-205		16-206		16-207	
Series 805	18-204		18-205		18-206		18-207	
No. of Contacts	2	40	4	32	2	34	4	20
Contact Size	#16	#23	#16	#23	#12	#23	#12	#23
DWV Voltage (VAC)	1800	1300	1800	1300	1800	1300	1800	1300
Current Rating (Amps)	10	3	10	3	17	3	17	3

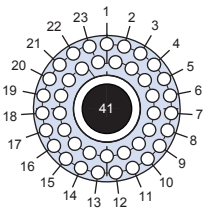
Contact Legend

#23	○	#16	◒
#20HD	◓	#12	⊕
#20	●	#8	◉





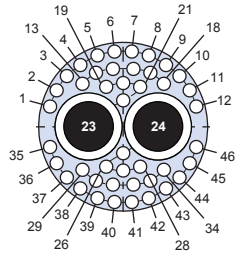


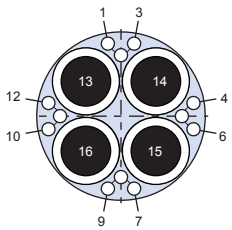


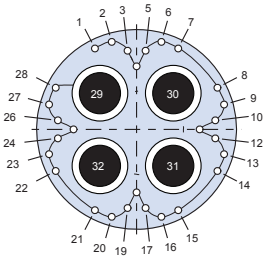
Series 802	N/A		15-203		15-204		N/A	
Series 801	16-208		17-203		17-204		17-205	
Series 805	18-208		19-203		19-204		19-205	
No. of Contacts	1	32	4	40	4	28	1	40
Contact Size	#8	#23	#16	#23	#12	#23	#8	#23
DWV Voltage (VAC)	1800	1300	1800	1300	500	1300	500	1300
Current Rating (Amps)	33	3	10	3	17	3	33	3

Contact Legend

#23	○	#16	◒
#20HD	◓	#12	⊕
#20	●	#8	◉







Series 801	19-201		19-202		21-200	
Series 805	21-201		21-202		23-200	
No. of Contacts	2	44	4	12	4	28
Contact Size	#8	#23	#8	#23	#8	#23
DWV Voltage (VAC)	1800	1300	1800	1300	1800	1300
Current Rating (Amps)	33	3	33	3	33	3

Dimensions in Inches (millimeters) are subject to change without notice.

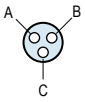
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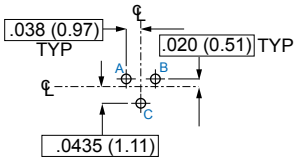
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

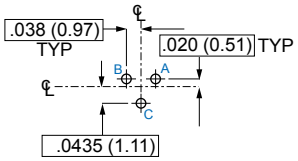
Insert Arrangement	Pin Connector	Socket Connector



Insert Arrangement
5-3
3 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **5-3**
Series 800, 802, 803,804: **5-3**
Series 805: **N/A**

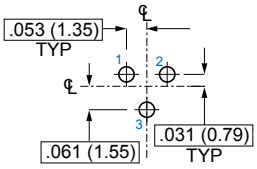


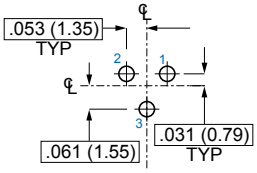




Insert Arrangement
6-23, 8-23
3 #20HD Contacts
.028 (0.56) Max. Dia. Tail

Series 801: **6-23**
Series 800, 802, 803,804: **6-23**
Series 805: **8-23**

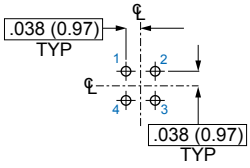


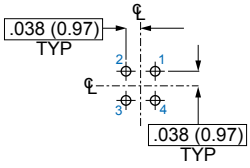


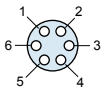


Insert Arrangement
6-4, 8-4
4 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **5-3**
Series 800, 802, 803,804: **5-3**
Series 805: **N/A**

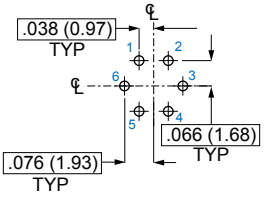


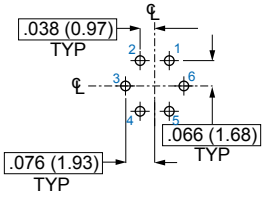




Insert Arrangement
6-6, 8-6
6 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **5-3**
Series 800, 802, 803,804: **5-3**
Series 805: **N/A**

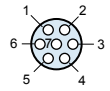




Dimensions in Inches (millimeters) are subject to change without notice.

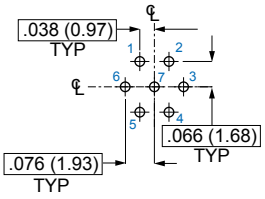
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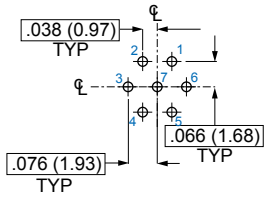
Insert Arrangement	Pin Connector	Socket Connector

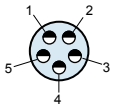


Insert Arrangement
6-7, 8-7
7 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **6-7**
Series 800, 802, 803,804: **6-7**
Series 805: **8-7**

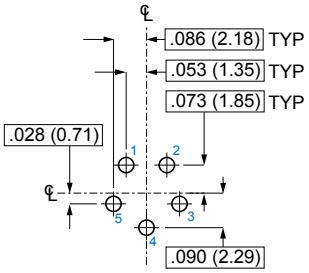


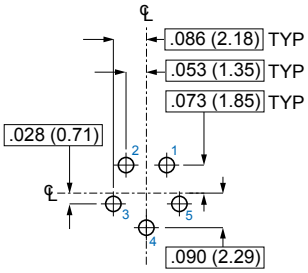


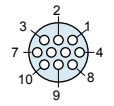


Insert Arrangement
7-25, 9-25
5 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **7-25**
Series 800, 802, 803,804: **7-25**
Series 805: **9-25**

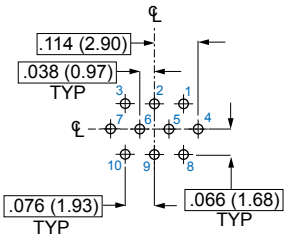


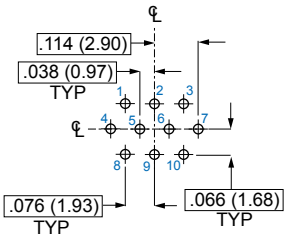




Insert Arrangement
7-10, 9-10
10 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **7-10**
Series 800, 802, 803,804: **7-10**
Series 805: **9-10**

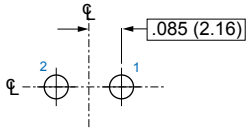


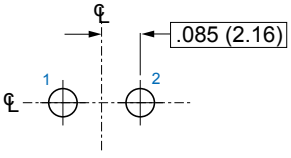




Insert Arrangement
8-2, 10-2
2 #16 Contacts
.064 (1.63) Max. Dia. Tail

Series 801: **8-2**
Series 800, 802, 803,804: **8-2**
Series 805: **10-2**



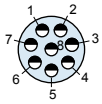


Dimensions in Inches (millimeters) are subject to change without notice.

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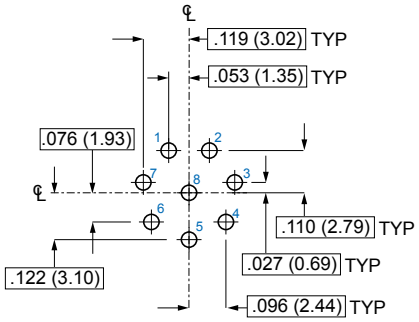
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

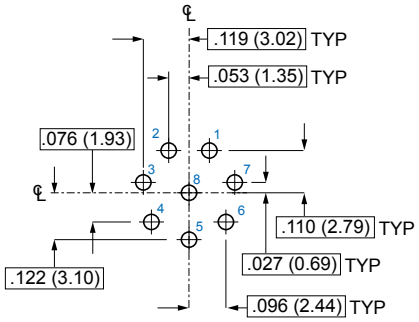
Insert Arrangement	Pin Connector	Socket Connector

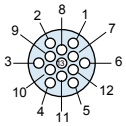


Insert Arrangement
8-28, 10-28
8 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **8-28**
Series 800, 802, 803,804: **8-28**
Series 805: **10-28**

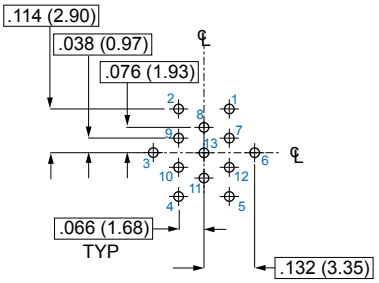


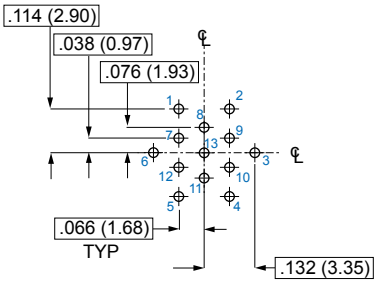


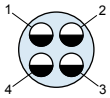


Insert Arrangement
8-13, 10-13
13 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **8-13**
Series 800, 802, 803,804: **8-13**
Series 805: **10-13**

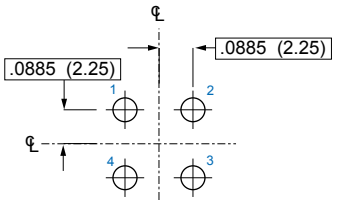


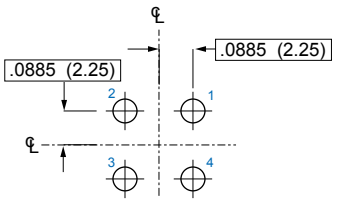




Insert Arrangement
9-4, 11-4
4 #16 Contacts
.064 (1.63) Max. Dia. Tail

Series 801: **9-4**
Series 800, 802, 803,804: **9-4**
Series 805: **11-4**

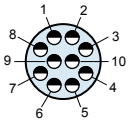




Dimensions in Inches (millimeters) are subject to change without notice.

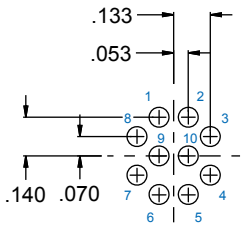
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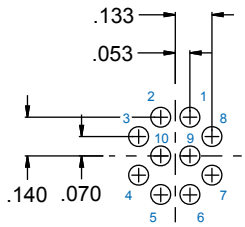
Insert Arrangement	Pin Connector	Socket Connector

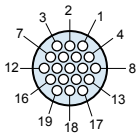


Insert Arrangement
9-210, 11-210
10 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **9-210**
Series 800, 802, 803,804: **9-210**
Series 805: **11-210**

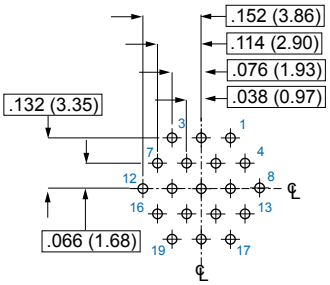


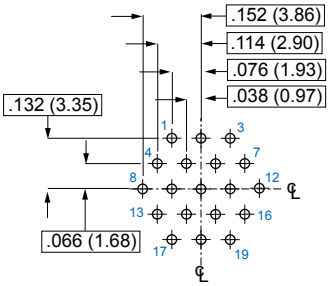


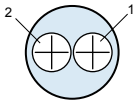


Insert Arrangement
9-19, 11-19
19 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **9-19**
Series 800, 802, 803,804: **9-19**
Series 805: **11-19**

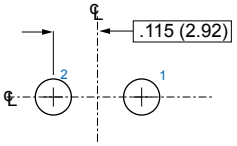


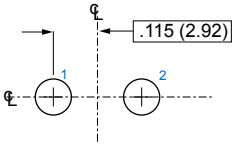




Insert Arrangement
10-2, 12-2
2 #12 Contacts
.096 (2.44) Max Dia. Tail

Series 801: **10-2**
Series 800, 802, 803,804: **10-2**
Series 805: **12-2**



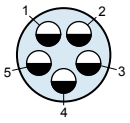


Dimensions in Inches (millimeters) are subject to change without notice.

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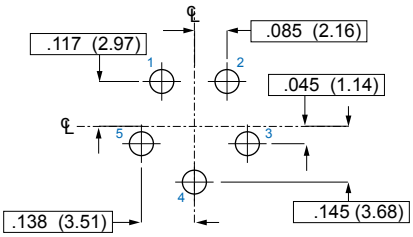
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

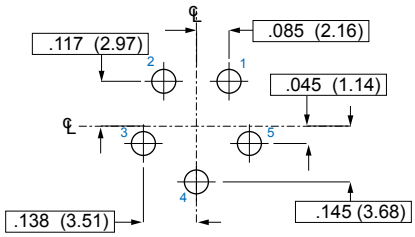
Insert Arrangement	Pin Connector	Socket Connector

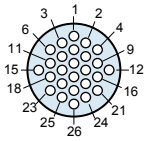


Insert Arrangement
10-5, 12-5
5 #16 Contacts
.064 (1.63) Max. Dia. Tail

Series 801: **10-5**
Series 800, 802, 803,804: **10-5**
Series 805: **12-5**

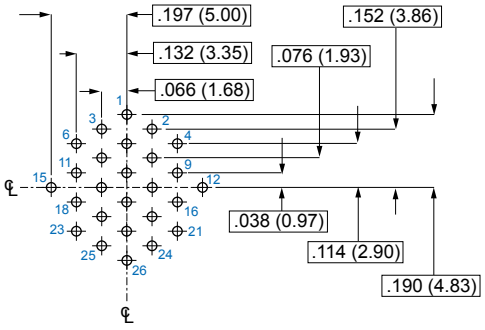


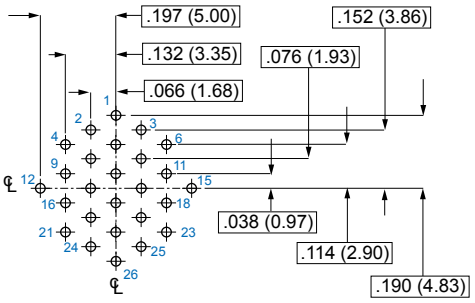


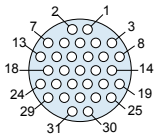


Insert Arrangement
10-26, 12-26
26 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **10-26**
Series 800, 802, 803,804: **10-26**
Series 805: **12-26**

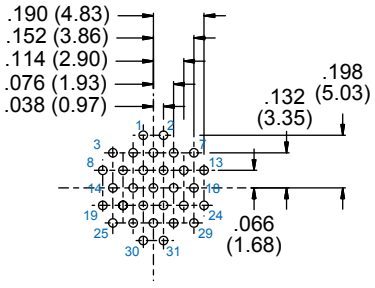


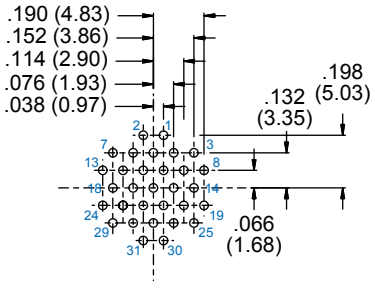




Insert Arrangement
11-31, 13-31
26 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801, 804: **11-31**
Series 805: **13-31**

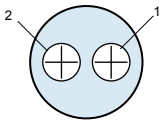




Dimensions in Inches (millimeters) are subject to change without notice.

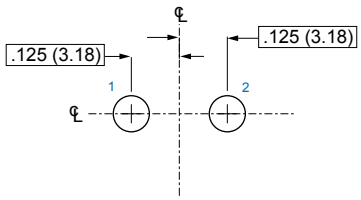
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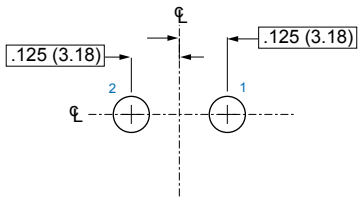
Insert Arrangement	Pin Connector	Socket Connector

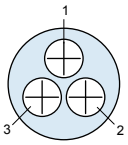


Insert Arrangement
12-2, 13-2, 15-2
2 #12 Contacts
.096 (2.44) Max Dia. Tail

Series 801: **13-2**
Series 800, 802, 803,804: **12-2**
Series 805: **15-2**

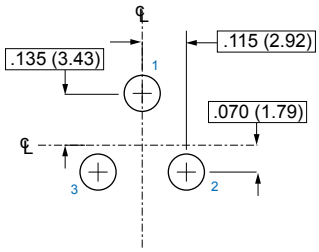


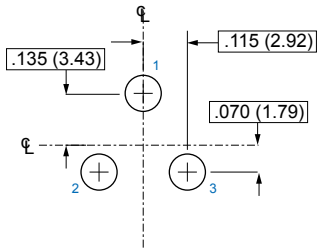


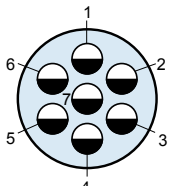


Insert Arrangement
12-3, 13-3, 15-3
3 #12 Contacts
.096 (2.44) Max Dia. Tail

Series 801: **13-3**
Series 800, 802, 803,804: **12-3**
Series 805: **15-3**

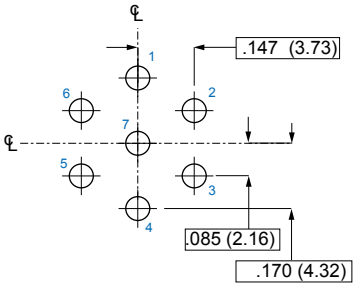


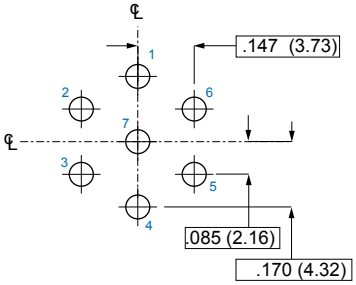




Insert Arrangement
12-7, 13-7, 15-7
7 #16 Contacts
.064 (1.63) Max. Dia. Tail

Series 801: **13-7**
Series 800, 802, 803,804: **12-7**
Series 805: **15-7**



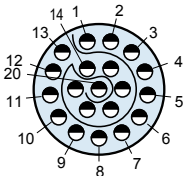


Dimensions in Inches (millimeters) are subject to change without notice.

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Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

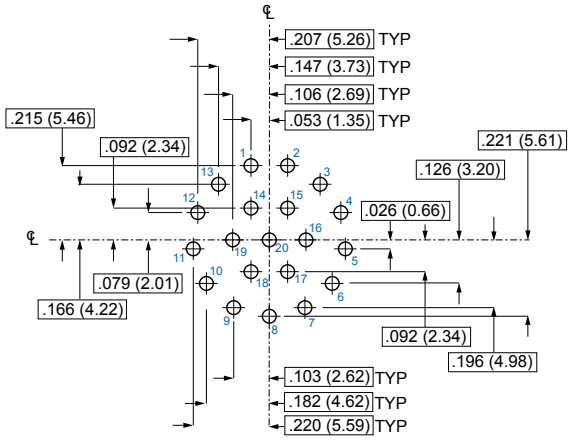
Insert Arrangement



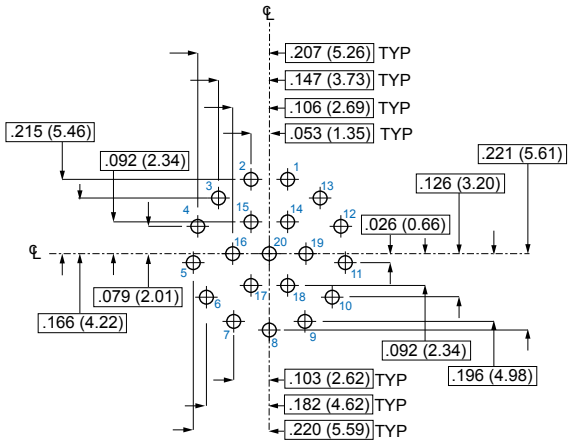
Insert Arrangement
12-220, 13-220, 15-220
20 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **13-220**
Series 800, 802, 803,804: **12-220**
Series 805: **15-220**

Pin Connector



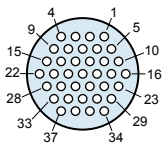
Socket Connector



Dimensions in Inches (millimeters) are subject to change without notice.

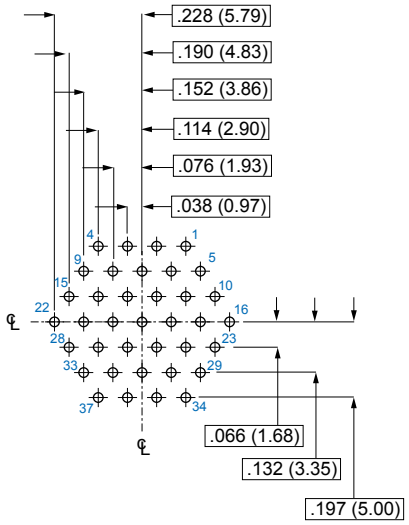
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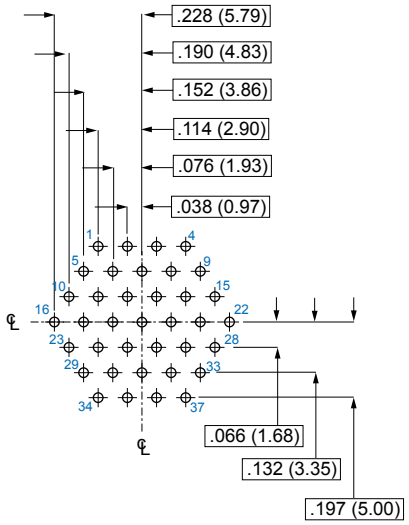
Insert Arrangement	Pin Connector	Socket Connector



Insert Arrangement
12-37, 13-37, 15-37
37 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **13-37**
Series 800, 802, 803,804: **12-37**
Series 805: **15-37**



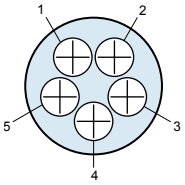


Dimensions in Inches (millimeters) are subject to change without notice.

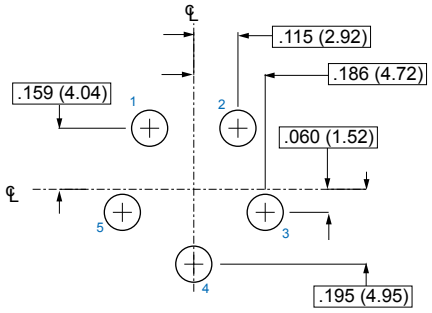
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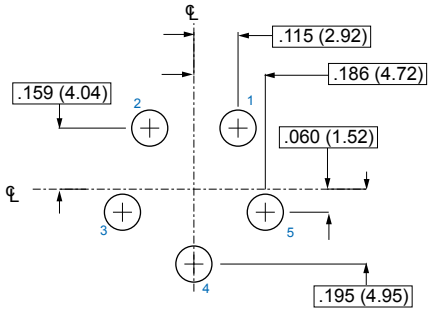
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

Insert Arrangement	Pin Connector	Socket Connector

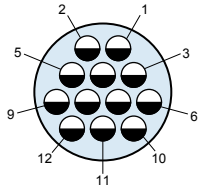


Insert Arrangement
14-5, 16-5, 18-5
5 #12 Contacts
.096 (2.44) Max Dia. Tail

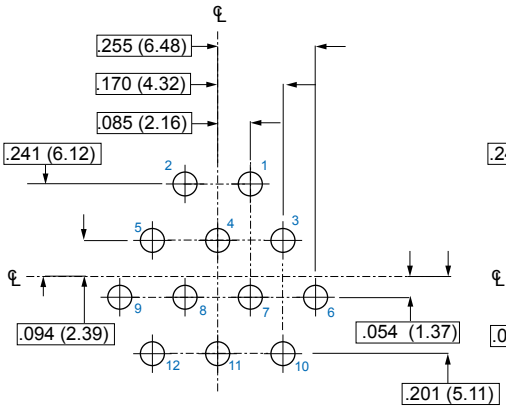


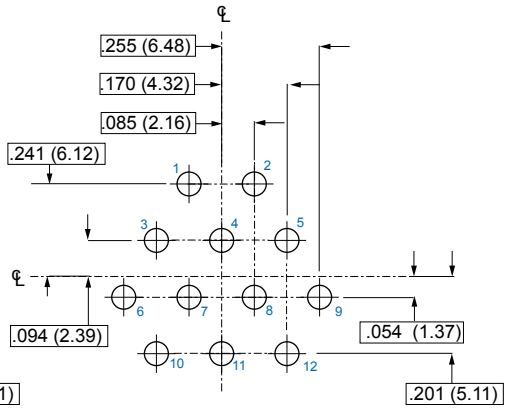


Series 801: **16-5**
Series 802, 803, 804: **14-5**
Series 805: **18-5**



Insert Arrangement
14-12, 16-12, 18-12
12 #16 Contacts
.064 (1.63) Max Dia. Tail



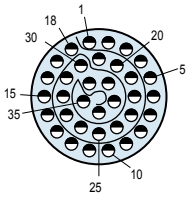


Series 801: **16-12**
Series 802, 803, 804: **14-121**
Series 805: **18-12**

Dimensions in Inches (millimeters) are subject to change without notice.

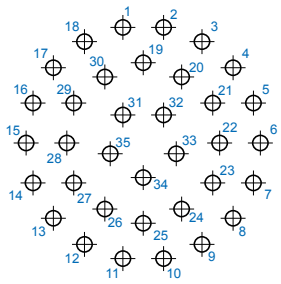
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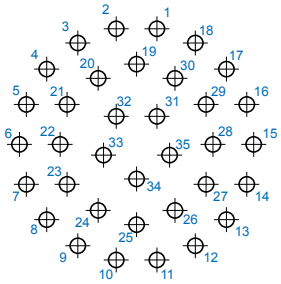
Insert Arrangement	Pin Connector	Socket Connector



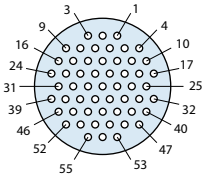
Insert Arrangement
14-235, 16-235, 18-235
35 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **16-235**
Series 802, 803,804: **14-235**
Series 805: **18-235**



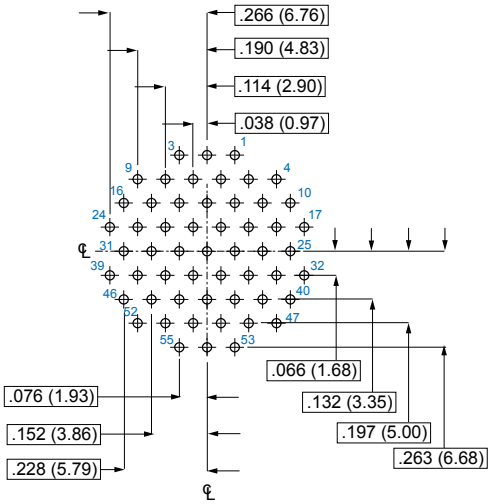


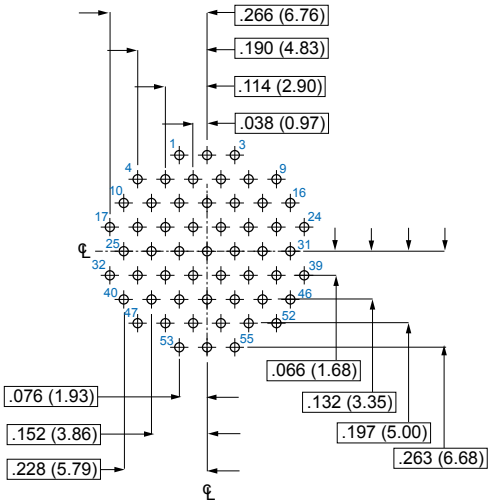
Pin No.	X		Y		Pin No.	X		Y		Pin No.	X		Y	
	In.	mm.	In.	mm.		In.	mm.	In.	mm.		In.	mm.	In.	mm.
1	-.053	-1.35	.301	7.65	**13**	-.234	-5.94	-.196	-4.98	**25**	.000	0.00	-.209	-5.31
2	.053	1.35	.301	7.65	**14**	-.287	-7.29	-.104	-2.64	**26**	-.100	-2.54	-.172	-4.37
3	.153	3.89	.264	6.71	**15**	-.305	-7.75	.000	0.00	**27**	-.181	-4.60	-.104	-2.64
4	.234	5.94	.196	4.98	**16**	-.287	7.29	.104	2.64	**28**	-.199	-5.05	.000	0.00
5	.287	7.29	.104	2.64	**17**	-.234	-5.94	.196	4.98	**29**	-.181	-4.60	.104	2.64
6	.305	7.75	.000	0.00	**18**	-.153	-3.89	.264	6.71	**30**	-.100	-2.54	.172	4.37
7	.287	7.29	-.104	-2.64	**19**	.000	0.00	.209	5.31	**31**	-.053	-1.35	.073	1.85
8	.234	5.94	-.196	-4.98	**20**	.100	2.54	.172	4.37	**32**	.053	1.35	.073	1.85
9	.153	3.89	-.264	-6.71	**21**	.181	4.60	.104	2.64	**33**	.086	2.18	-.028	-0.71
10	.053	1.35	-.301	-7.65	**22**	.199	5.05	.000	0.00	**34**	.000	0.00	-.090	-2.29
11	-.053	-1.35	-.301	-7.65	**23**	.181	4.60	-.104	-2.64	**35**	-.086	-2.18	-.028	-0.71
12	-.153	-3.89	-.264	-6.71	**24**	.100	2.54	-.172	-4.37					



Insert Arrangement
14-55, 16-55, 18-55
55 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **16-55**
Series 802, 803, 804: **14-55**
Series 805: **18-55**



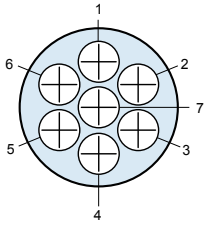


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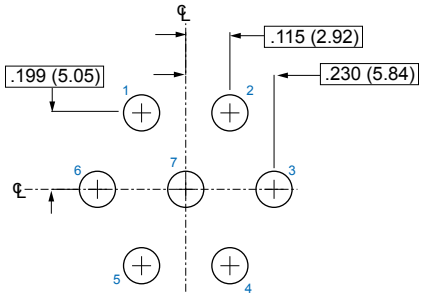
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

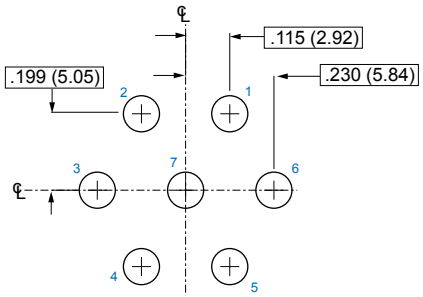
Insert Arrangement	Pin Connector	Socket Connector

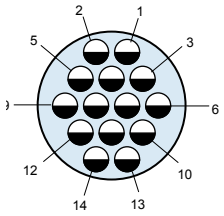


Insert Arrangement
15-7, 17-7, 19-7
7 #12 Contacts
.096 (2.44) Max Dia. Tail

Series 801: **17-7**
Series 802: **15-7**
Series 805: **19-7**

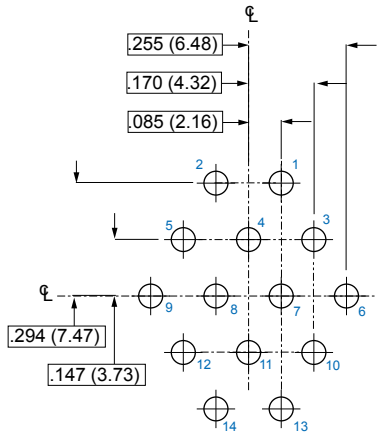


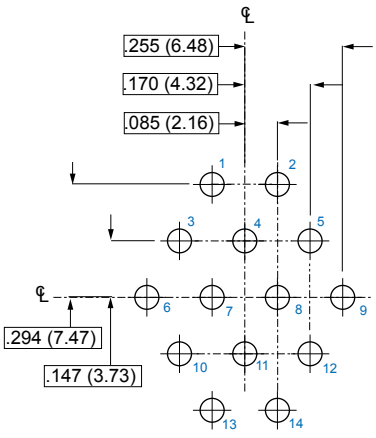




Insert Arrangement
15-14, 17-14, 19-14
14 #16 Contacts
.064 (1.63) Max Dia. Tail

Series 801: **17-14**
Series 802: **15-14**
Series 805: **19-14**

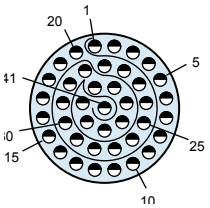




Dimensions in Inches (millimeters) are subject to change without notice.

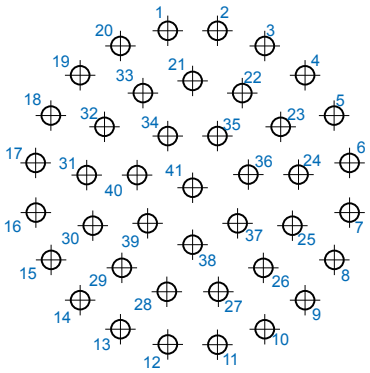
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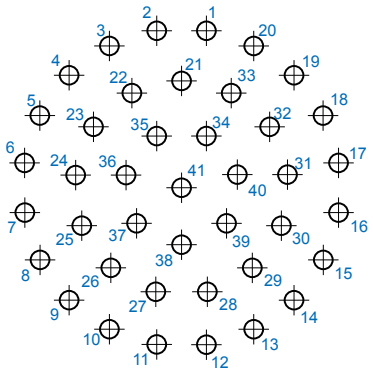
Insert Arrangement	Pin Connector	Socket Connector



Insert Arrangement
15-241, 17-241, 18-241
41 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **17-241**
Series 802: **15-241**
Series 805: **19-241**





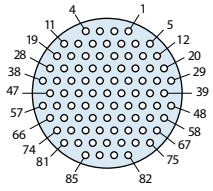
Pin No.	X		Y		Pin No.	X		Y		Pin No.	X		Y	
	In.	mm.	In.	mm.		In.	mm.	In.	mm.		In.	mm.	In.	mm.
1	-.053	-1.35	.335	8.51	**15**	-.302	-7.67	-.154	-3.91	**29**	-.151	-3.84	-.171	-4.34
2	.053	1.35	.335	8.51	**16**	-.335	-8.51	-.053	-1.35	**30**	-.213	-5.41	-.081	-2.06
3	.154	3.91	.302	7.67	**17**	-.335	-8.51	.053	1.35	**31**	-.226	-5.74	.028	0.71
4	.240	6.10	.240	6.10	**18**	-.302	-7.67	.154	3.91	**32**	-.188	-4.78	.130	3.30
5	.302	7.67	.154	3.91	**19**	-.240	-6.10	.240	6.10	**33**	-.106	-2.69	.202	5.13
6	.335	8.51	.053	1.35	**20**	-.154	-3.91	.302	7.67	**34**	-.053	-1.35	.110	2.79
7	.335	8.51	-.053	-1.35	**21**	.000	0.00	.228	5.79	**35**	.053	1.35	.110	2.79
8	.302	7.67	-.154	-3.91	**22**	.106	2.69	.202	5.13	**36**	.119	3.02	.027	0.69
9	.240	6.10	-.240	-6.10	**23**	.188	4.78	.130	3.30	**37**	.096	2.44	-.076	-1.93
10	.154	3.91	-.302	-7.67	**24**	.226	5.74	.028	0.71	**38**	.000	0.00	-.122	-3.10
11	.053	1.35	-.335	-8.51	**25**	.213	5.41	-.081	-2.06	**39**	-.096	-2.44	-.076	-1.93
12	-.053	-1.35	-.335	-8.51	**26**	.151	3.84	-.171	-4.34	**40**	-.119	-3.02	.027	0.69
13	-.154	-3.91	-.302	-7.67	**27**	.055	1.40	-.222	-5.64	**41**	.000	0.00	.000	0.00
14	-.240	-6.10	-.240	-6.10	**28**	-.055	-1.40	-.222	-5.64					

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Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

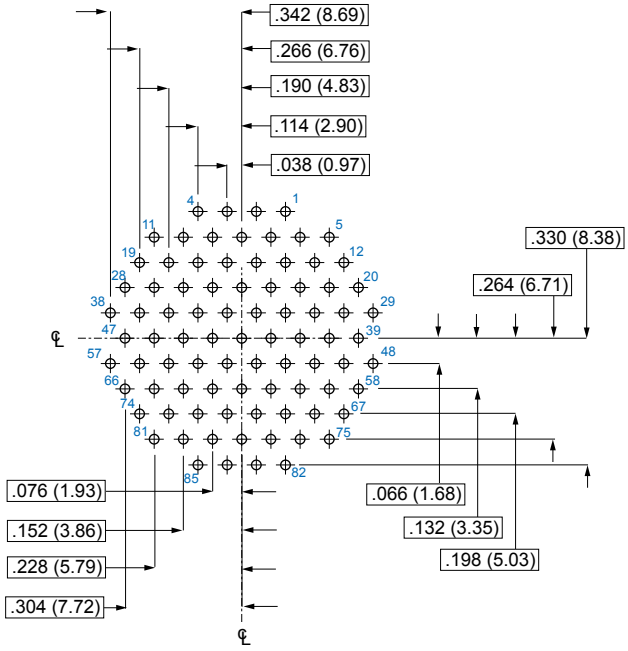
Insert Arrangement



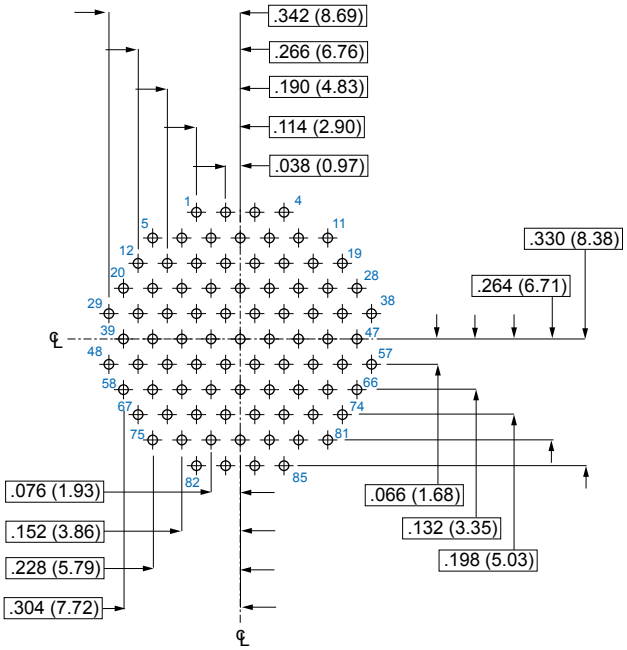
Insert Arrangement
15-85, 17-85, 19-85
85 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **17-85**
Series 802: **15-85**
Series 805: **19-85**

Pin Connector



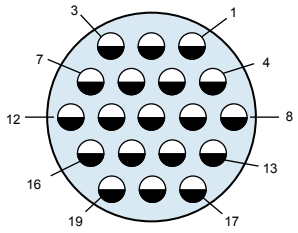
Socket Connector



Dimensions in Inches (millimeters) are subject to change without notice.

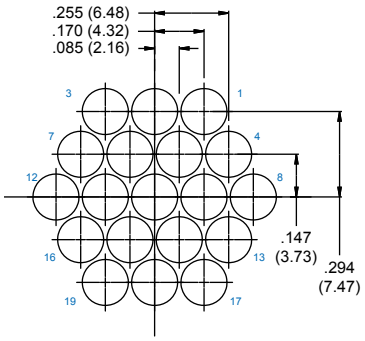
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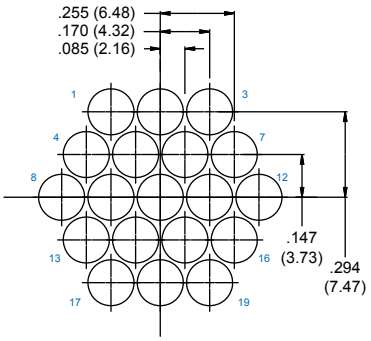
Insert Arrangement	Pin Connector	Socket Connector



Insert Arrangement
19-19, 19-19, 21-19
19 #16 Contacts
.064 (1.63) Max Dia. Tail

Series 801: **19-19**
Series 805: **21-19**



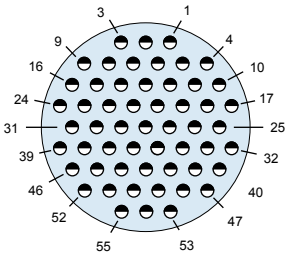


Dimensions in Inches (millimeters) are subject to change without notice.

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Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

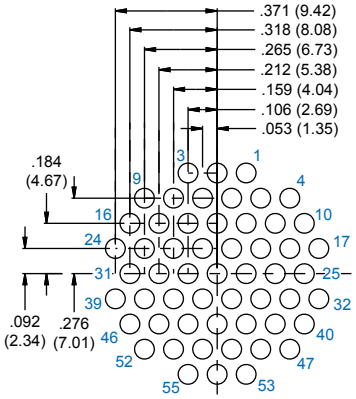
Insert Arrangement



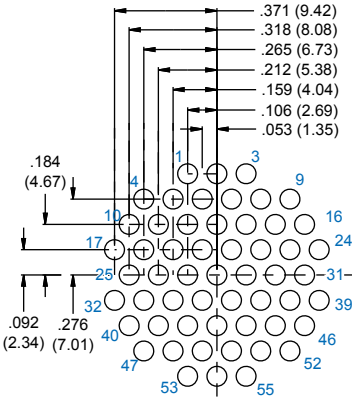
Insert Arrangement
19-255 21-255
55 #20HD Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **19-255**
Series 802: **19-255**
Series 805: **21-255**

Pin Connector



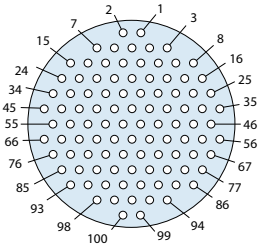
Socket Connector



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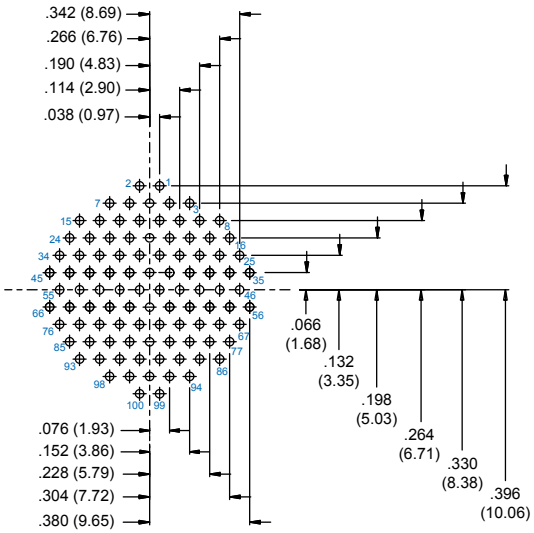
Insert Arrangement



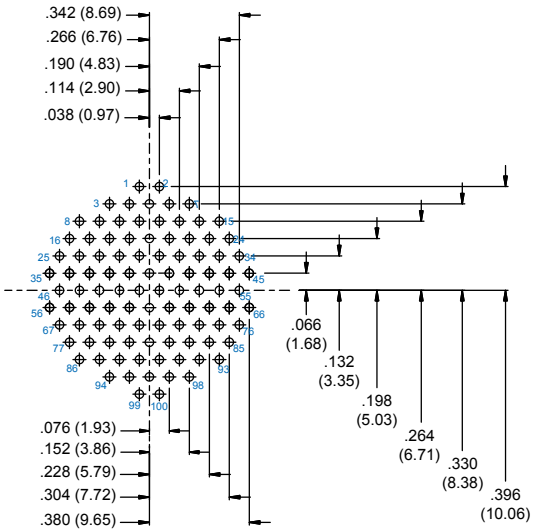
Insert Arrangement
19-100 21-100
100 #23 Contacts
.022 (.559) Max Dia

Series 801: **19-100**
Series 802: **19-100**
Series 805: **21-100**

Pin Connector



Socket Connector

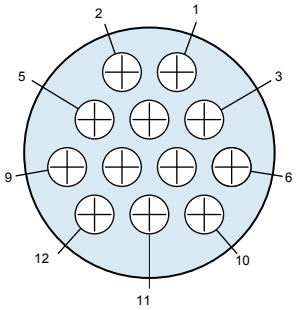


Dimensions in Inches (millimeters) are subject to change without notice.

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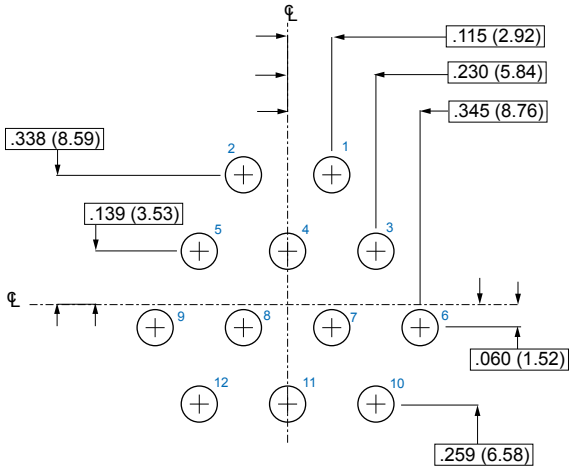
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

Insert Arrangement	Pin Connector

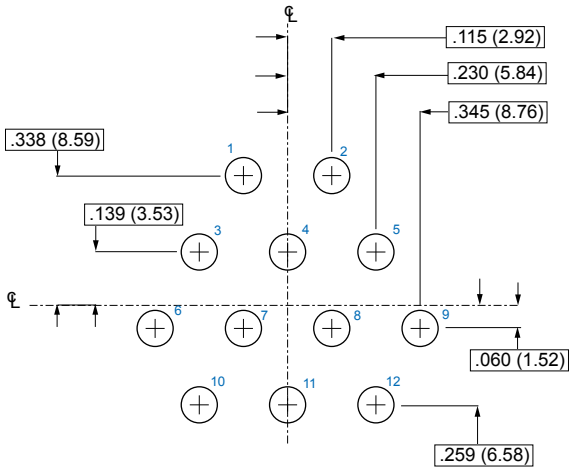


Insert Arrangement
21-12, 23-12
12 #12 Contacts
.096 (2.44) Max Dia

Series 801: **21-12**
Series 802 : **21-12**
Series 805: **23-12**



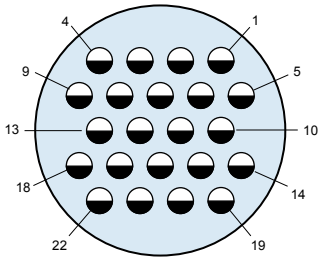
Socket Connector



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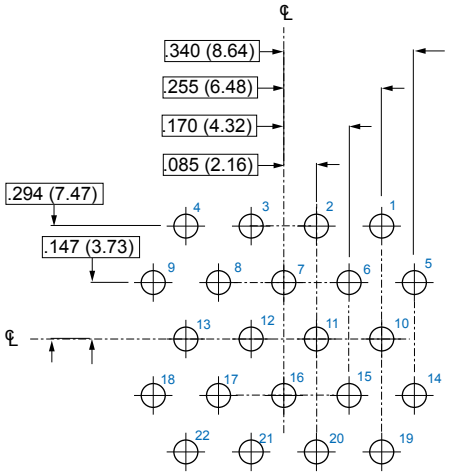
Insert Arrangement



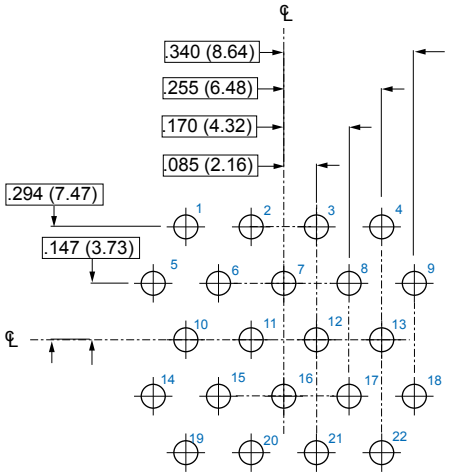
Insert Arrangement
21-22, 23-22
22 #16 Contacts
.064 (1.63 Max. Dia. Tail)

Series 801: **21-22**
Series 800,802, 803, 804: **21-22**
Series 805: **23-22**

Pin Connector



Socket Connector

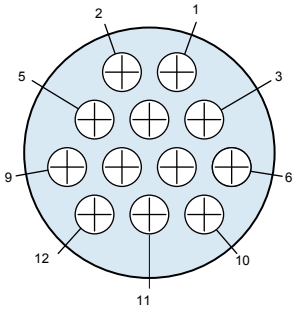


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Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

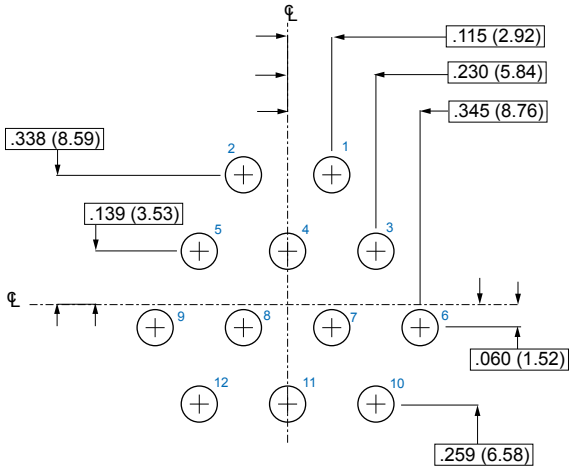
Insert Arrangement



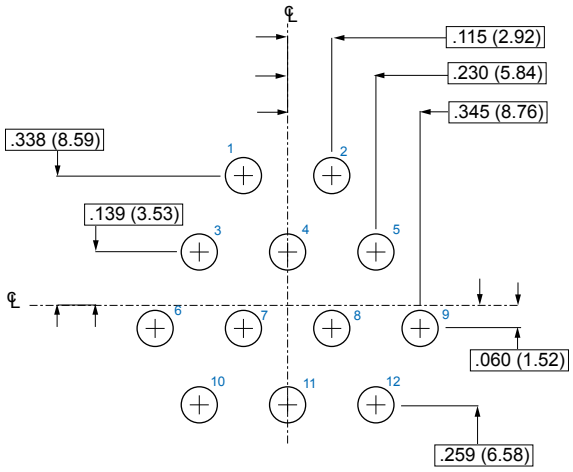
Insert Arrangement
21-12, 23-12
12 #12 Contacts
.096 (2.44) Max Dia

Series 801: **21-12**
Series 802 : **21-12**
Series 805: **23-12**

Pin Connector



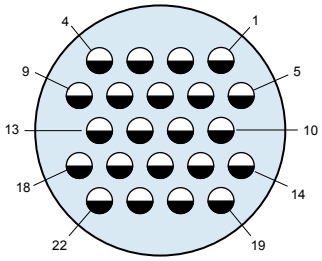
Socket Connector



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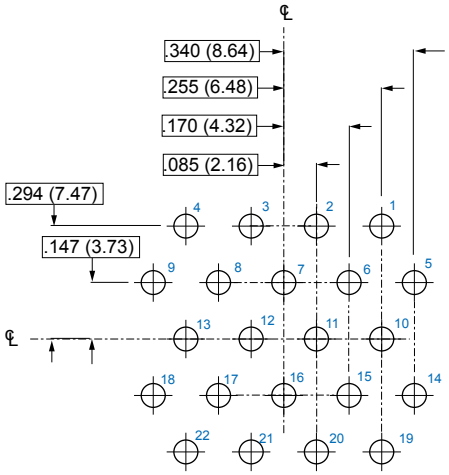
Insert Arrangement



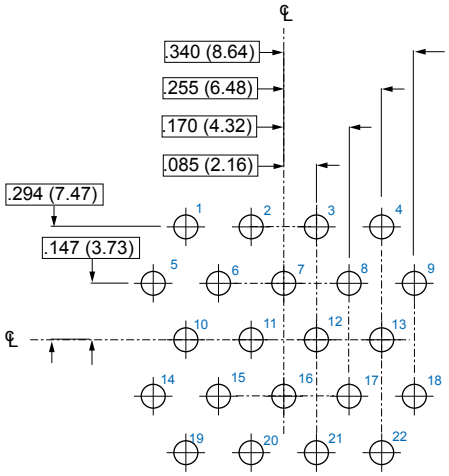
Insert Arrangement
21-22, 23-22
22 #16 Contacts
.064 (1.63 Max. Dia. Tail)

Series 801: **21-22**
Series 800,802, 803, 804: **21-22**
Series 805: **23-22**

Pin Connector



Socket Connector

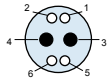


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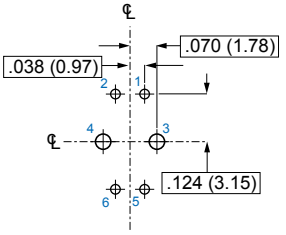
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

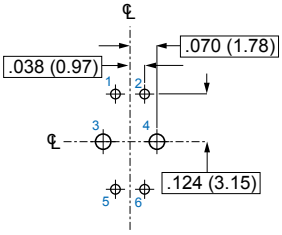
Insert Arrangement	Pin Connector	Socket Connector

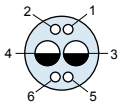


Insert Arrangement
8-200, 10-200
2 #20 Contacts
.028 (0.71) Max. Dia. Tail
4 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **8-200**
Series 800, 802, 803,804: **8-200**
Series 805: **10-200**

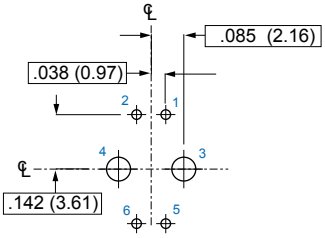


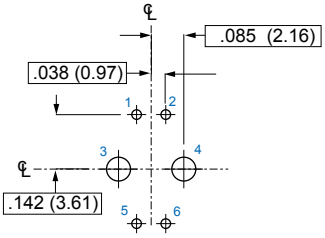


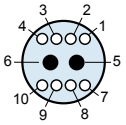


Insert Arrangement
9-200, 11-200
4 #23 Contacts
.022 (0.56) Max. Dia. Tail
2 #16 Contacts
.064 (1.63) Max. Dia. Tail

Series 801: **9-200**
Series 800, 802, 803,804: **9-200**
Series 805: **11-200**

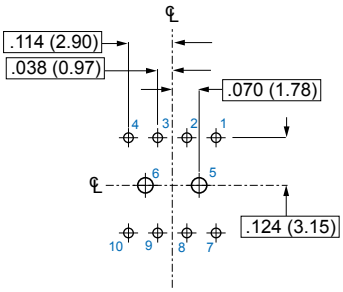


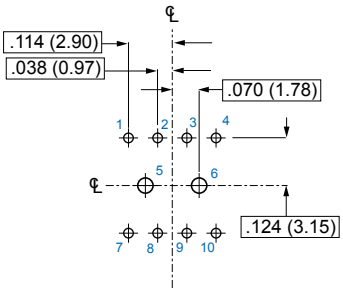




Insert Arrangement
9-201, 11-201
2 #20 Contacts
.028 (0.71) Max Dia Tail
8 #23 Contacts
.022 (0.56) Max Dia Tail

Series 801: **9-201**
Series 800, 802, 803,804: **9-201**
Series 805: **11-201**

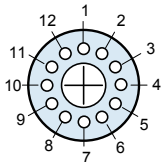




Dimensions in Inches (millimeters) are subject to change without notice.

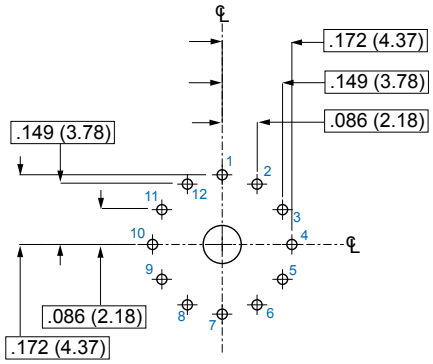
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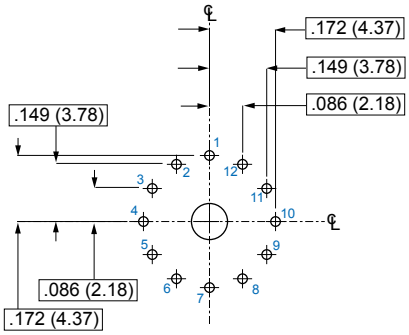
Insert Arrangement	Pin Connector	Socket Connector

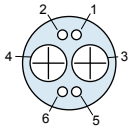


Insert Arrangement
10-200, 12-200
1 #12 Contact
.096 (2.44) Max Dia Tail
12 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **10-200**
Series 800, 802, 803,804: **10-200**
Series 805: **12-200**

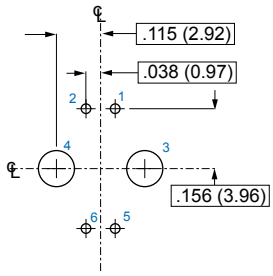


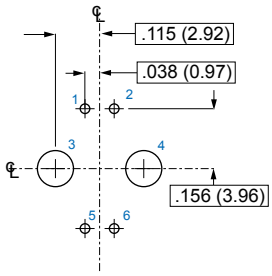


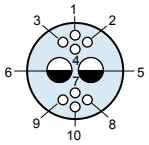


Insert Arrangement
10-201, 12-201
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
4 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **10-201**
Series 800, 802, 803,804: **10-201**
Series 805: **12-201**

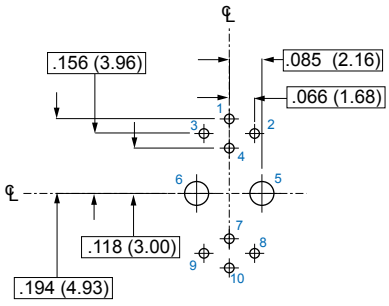


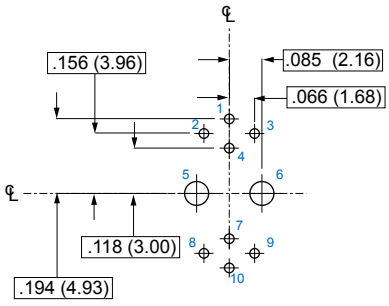




Insert Arrangement
10-202, 12-202
2 #16 Contacts
.064 (1.63) Max. Dia. Tail)
8 #23 Contacts
.022 (0.5 Max. Dia. Tail)

Series 801: **10-203**
Series 800, 802, 803,804: **10-202**
Series 805: **12-202**



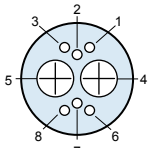


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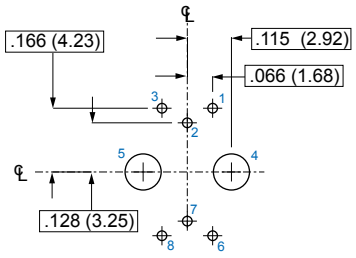
Series 80 Mighty Mouse Technical Reference
Straight PCB Footprints
Component Mounting Side of PCB

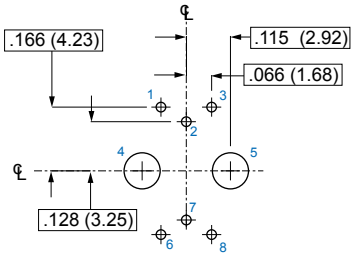
Insert Arrangement	Pin Connector	Socket Connector

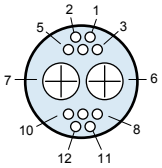


Insert Arrangement
12-200, 13-200, 15-200
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
6 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **13-200**
Series 800, 802, 803,804: **12-200**
Series 805: **15-200**

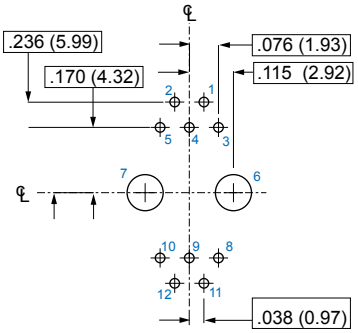


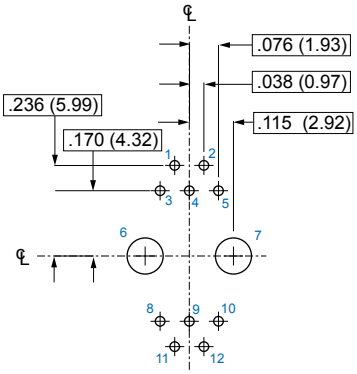


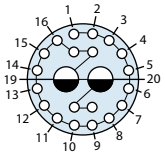


Insert Arrangement
12-201, 13-201, 15-201
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
10 #23 Contacts
.022 (0.56) Max. Dia. Tail

Series 801: **13-201**
Series 800, 802, 803,804: **12-201**
Series 805: **15-201**

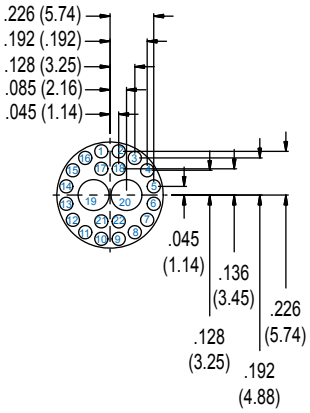


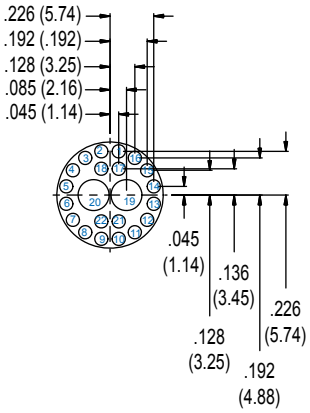




Insert Arrangement
12-202, 13-202, 15-202
2 #16 Contacts
.064 (1.63) Max. Dia. Tail
20 #23 Contacts
.028 (0.71) Max. Dia. Tail

Series 801: **13-202**
Series 800, 802, 803,804: **12-202**
Series 805: **15-202**

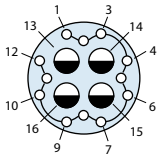




Dimensions in Inches (millimeters) are subject to change without notice.

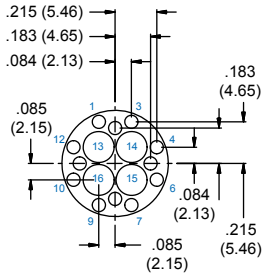
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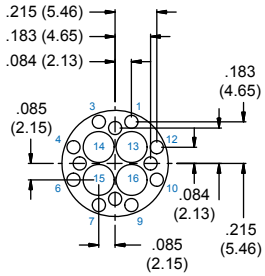
Insert Arrangement	Pin Connector	Socket Connector

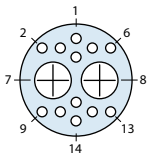


Insert Arrangement
12-203, 13-203, 15-203
4 #16 Contacts
.064 (1.63) Max. Dia. Tail
12 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **13-203**
Series 800, 802, 803,804: **12-203**
Series 805: **15-203**

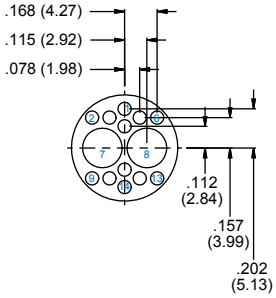


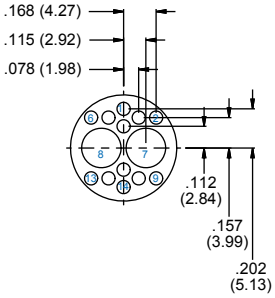


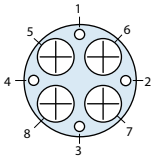


Insert Arrangement
12-204, 13-204, 15-204
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
12 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **13-204**
Series 800, 802, 803,804: **12-204**
Series 805: **15-204**

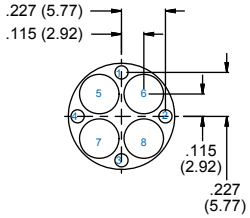


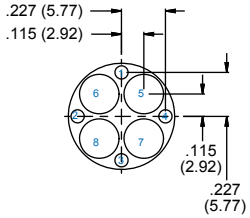




Insert Arrangement
12-205, 13-205, 15-205
4 #12 Contacts
.096 (2.44) Max. Dia. Tail
4 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **13-205**
Series 800, 802, 803,804: **12-205**
Series 805: **15-205**



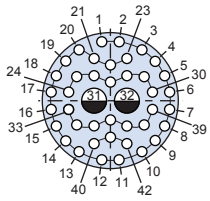


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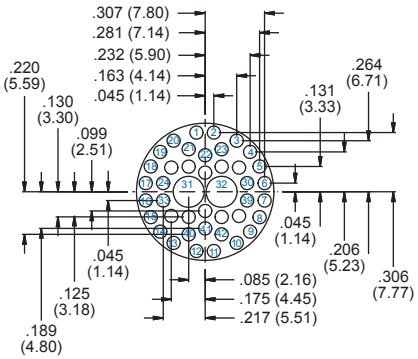
Series 80 Mighty Mouse Technical Reference
Combo Arrangements
Straight PCB Footprints
Component Mounting Side of PCB

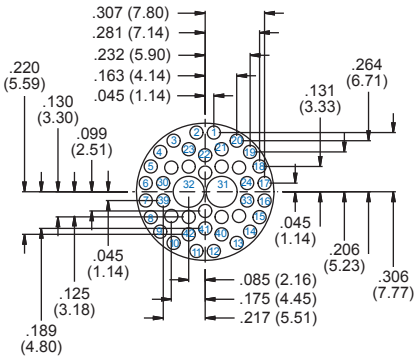
Insert Arrangement	Pin Connector	Socket Connector

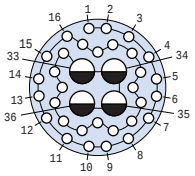


Insert Arrangement
14-204, 16-204, 18-204
2 #16 Contacts
.064 (1.63) Max. Dia. Tail
40 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **16-204**
Series 802, 803,804: **14-204**
Series 805: **18-204**

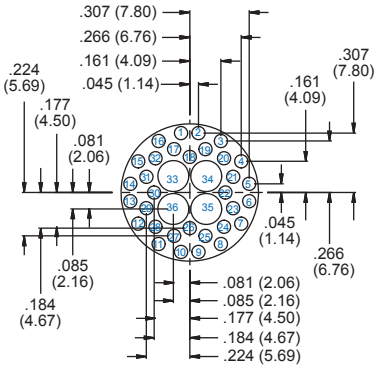


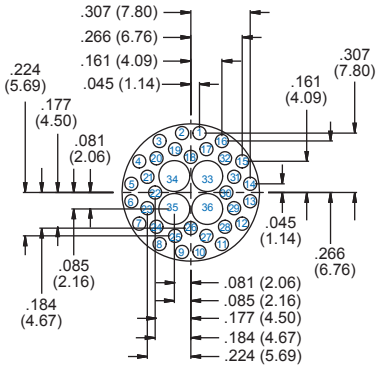


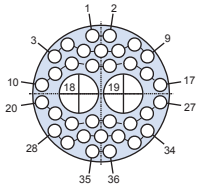


Insert Arrangement
14-205, 16-205, 18-205
4 #16 Contacts
.064 (1.63) Max. Dia. Tail
32 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **16-205**
Series 802, 803,804: **14-205**
Series 805: **18-205**

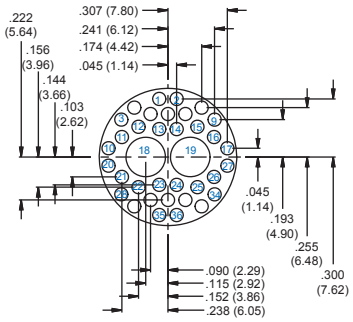


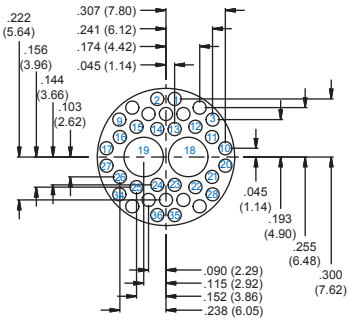




Insert Arrangement
14-206, 16-206, 18-206
2 #12 Contacts
.096 (2.44) Max. Dia. Tail
34 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **16-206**
Series 802, 803,804: **14-206**
Series 805: **18-206**



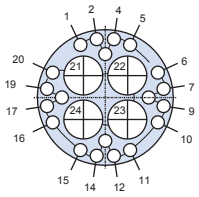


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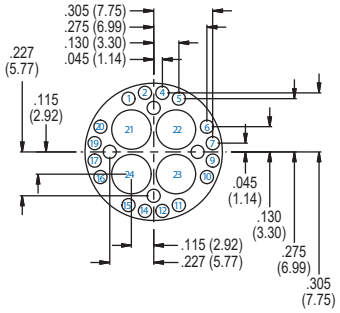
Series 80 Mighty Mouse Technical Reference
Combo Arrangements
Straight PCB Footprints
Component Mounting Side of PCB

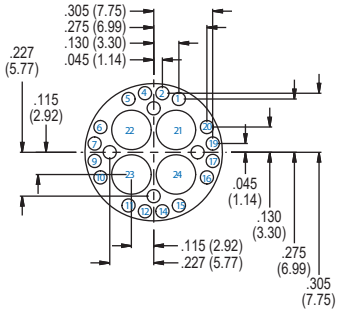
Insert Arrangement	Pin Connector	Socket Connector

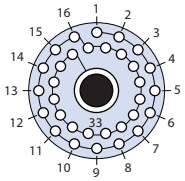


Insert Arrangement
14-207, 16-207, 18-207
4 #12 Contacts
.096 (2.44) Max. Dia. Tail
20 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **16-207**
Series 802, 803,804: **14-207**
Series 805: **18-207**

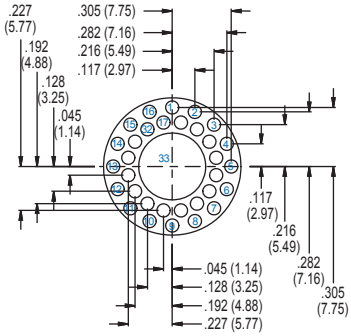


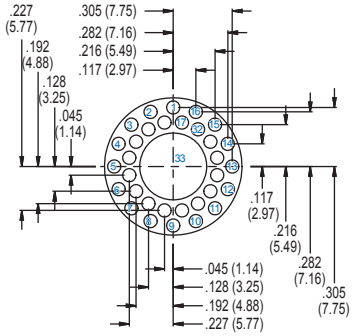


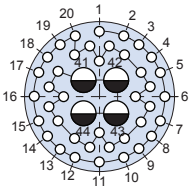


Insert Arrangement
16-208, 18-208
1 #8 Contacts
.182 (4.62) Max. Dia. Tail
32 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **16-208**
Series 805: **18-208**

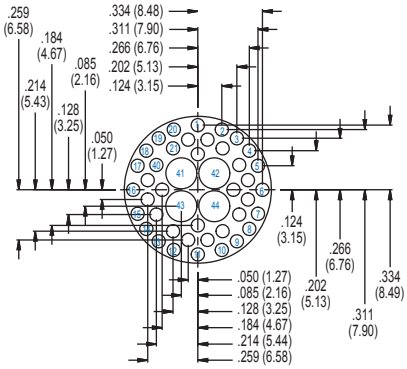


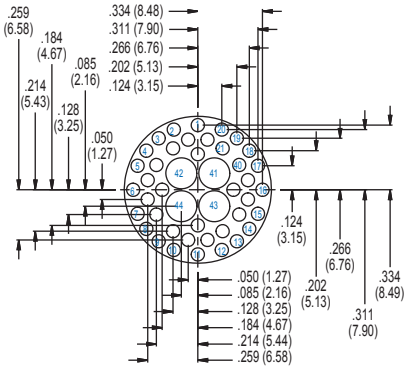




Insert Arrangement
15-203, 17-203, 19-203
4 #16 Contacts
.064 (1.63) Max. Dia. Tail
40 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **17-203**
Series 802: **15-203**
Series 805: **19-203**



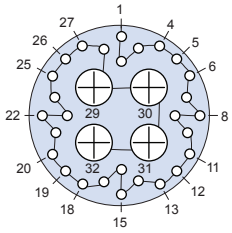


Dimensions in Inches (millimeters) are subject to change without notice.

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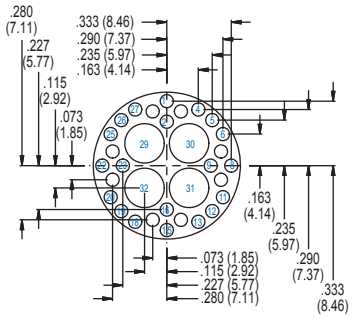
Series 80 Mighty Mouse Technical Reference
Combo Arrangements
Straight PCB Footprints
Component Mounting Side of PCB

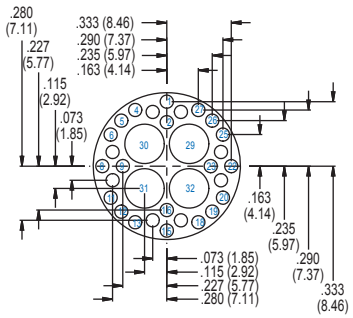
Insert Arrangement	Pin Connector	Socket Connector

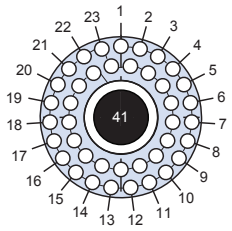


Insert Arrangement
15-204, 17-204, 19-204
4 #12 Contacts
.096 (2.44) Max. Dia. Tail
28 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **17-204**
Series 802: **15-204**
Series 805: **19-204**

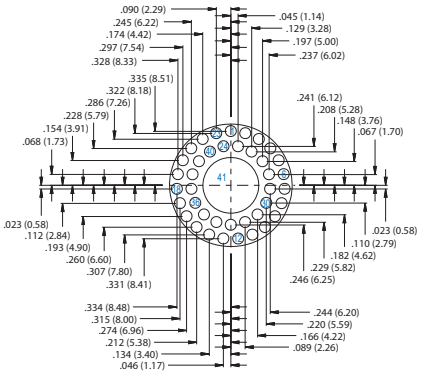


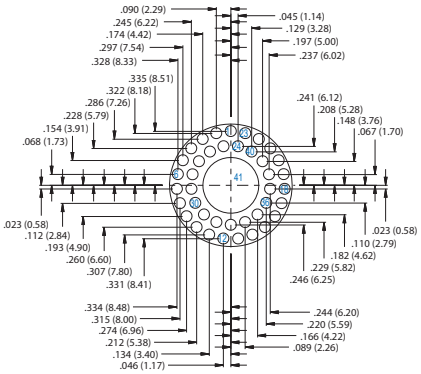




Insert Arrangement
17-205, 19-205
1 #8 Contacts
.182 (4.62) Max. Dia. Tail
40 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **17-205**
Series 805: **19-205**

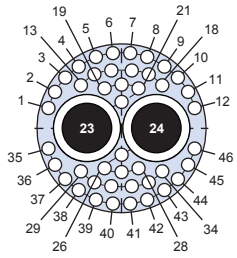




Dimensions in Inches (millimeters) are subject to change without notice.

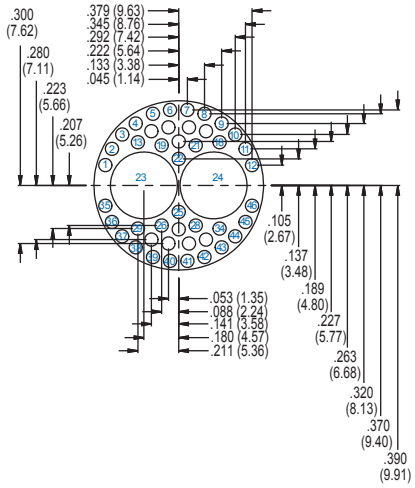
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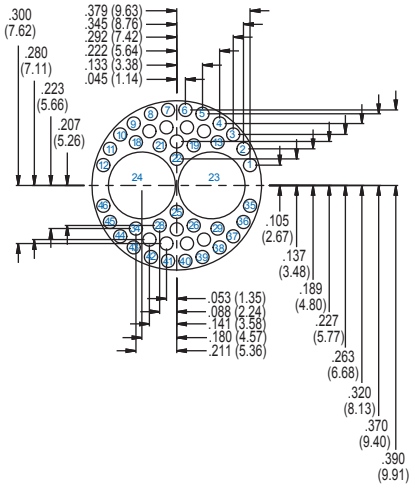
Insert Arrangement	Pin Connector	Socket Connector

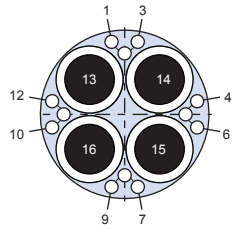


Insert Arrangement
19-201, 21-201
2 #8 Contacts
.182 (4.62) Max. Dia. Tail
44 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **19-201**
Series 805: **21-201**

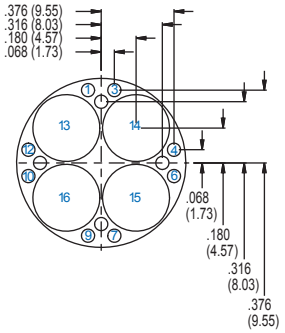


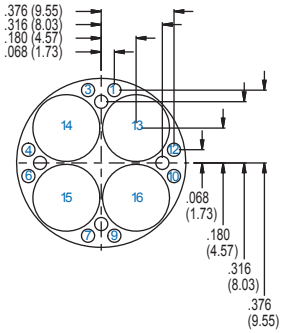




Insert Arrangement
19-202, 21-202
4 #8 Contacts
.182 (4.62) Max. Dia. Tail
12 #23 Contacts
.022 (0.71) Max. Dia. Tail

Series 801: **19-202**
Series 805: **21-202**



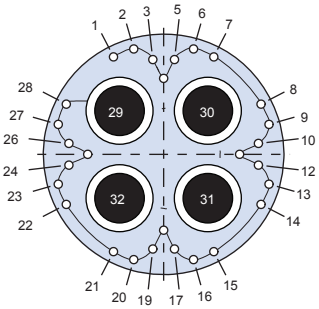


Dimensions in Inches (millimeters) are subject to change without notice.

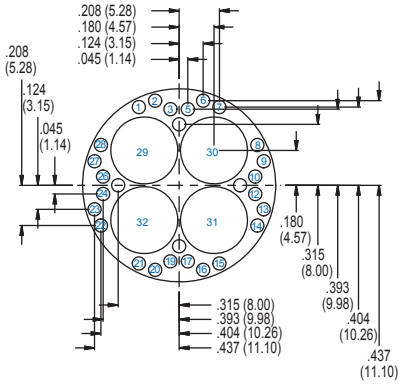
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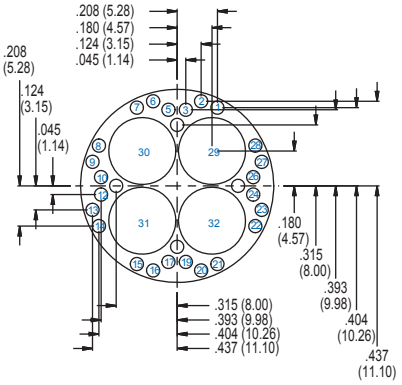
Series 80 Mighty Mouse Technical Reference
Combo Arrangements
Straight PCB Footprints
Component Mounting Side of PCB

Insert Arrangement	Pin Connector	Socket Connector



Insert Arrangement
21-200, 23-200
4 #8 Contacts
.182 (4.62) Max. Dia. Tail
28 #23 Contacts
.022 (0.71) Max. Dia. Tail





Series 801: **21-200**
Series 805: **23-200**

Dimensions in Inches (millimeters) are subject to change without notice.

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Series 80 Mighty Mouse Technical Reference
Recommended Torque Values

Series 800 Recommended Torque Values						
Series 800	Coupling Torque		Jam Nut Tightening		Backshell Tightening	
	In-lbs.		In-lbs.		In-lbs.	
	Min.	Max.	Min.	Max.	Min.	Max.
5	16	20	20	25	12	16
6	18	22	20	25	14	18
7	20	24	20	25	16	20
8	20	24	20	25	16	20
9	20	24	25	30	16	20
10	20	24	25	30	16	20
12	20	24	25	30	16	20

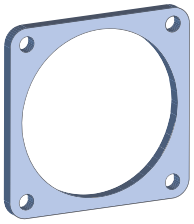
Series 801, 802, 803, 804, 805 Recommended Torque Values							
Shell Size Series 801, 802, 803, 804	Shell Size Series 805	Coupling Torque		Jam Nut Tightening		Backshell Tightening	
		In-lbs.		In-lbs.		In-lbs.	
		Min.	Max.	Min.	Max.	Min.	Max.
5	-	16	20	20	25	12	16
6	8	18	22	20	25	14	18
7	9	20	24	20	25	16	20
8	10	22	26	20	25	18	22
9	11	24	28	20	25	20	24
10	12	26	30	25	30	22	26
12, 13	15	32	36	25	30	28	32
14, 16	18	38	42	25	30	28	32
15, 17	19	40	44	25	30	28	32
21	23	48	52	25	30	28	32

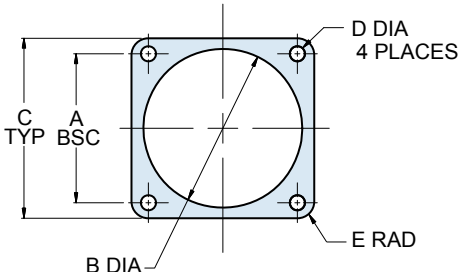
Series 804 Recommended Mate/Demate Values	
Shell Size/Insert Arrangement	In-lbs.
5-3	11
6-4	11
6-7	12
7-10	12
8-13	13
9-19	14
10-26	16

Dimensions in Inches (millimeters) are subject to change without notice.

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Flange Gaskets for Series 800 Mighty Mouse Receptacles

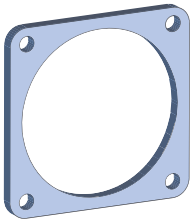


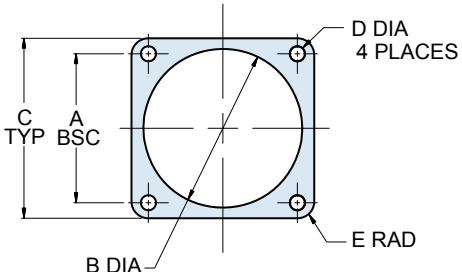


These flange gaskets provide sealing between square flange receptacles and the mounting panel. Choose fluorosilicone, Viton®, or conductive fluorosilicone material (Chomerics 1298 silver-filled). Gaskets are .032" (0.8) thick.

Shell Size	Part Number			Dimensions									
				A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
5	809-108F01	809-108V01	809-108X01	.363	9.22	.342	8.69	.527	13.39	.093	2.36	.078	1.98
6	809-108F02	809-108V02	809-108X02	.423	10.74	.405	10.29	.588	14.94	.093	2.36	.078	1.98
7	809-108F03	809-108V03	809-108X03	.483	12.27	.467	11.86	.650	16.51	.125	3.18	.078	1.98
8	809-108F04	809-108V04	809-108X04	.542	13.77	.530	13.46	.709	18.01	.125	3.18	.078	1.98
9	809-108F05	809-108V05	809-108X05	.719	18.26	.593	15.06	.938	23.83	.125	3.18	.105	2.67
10	809-108F06	809-108V06	809-108X06	.719	18.26	.655	16.64	.938	23.83	.125	3.18	.105	2.67
12	809-108F07	809-108V07	809-108X07	.812	20.62	.780	19.81	1.031	26.19	.125	3.18	.105	2.67

Flange Gaskets for Series 801 Mighty Mouse Receptacles





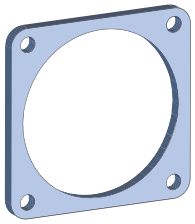
These flange gaskets provide sealing between square flange receptacles and the mounting panel. Choose fluorosilicone, Viton®, or conductive fluorosilicone material (Chomerics 1298 silver-filled). Gaskets are .032" (0.8) thick.

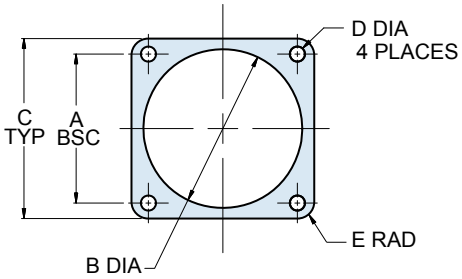
Shell Size	Part Number			Dimensions									
				A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
5	809-108F11	809-108V11	809-108X11	.363	9.22	.342	8.69	.530	13.46	.093	2.36	.078	1.98
6	809-108F12	809-108V12	809-108X12	.423	10.74	.405	10.29	.590	14.99	.093	2.36	.078	1.98
7	809-108F13	809-108V13	809-108X13	.483	12.27	.467	11.86	.650	16.51	.093	2.36	.078	1.98
8	809-108F14	809-108V14	809-108X14	.545	13.84	.530	13.46	.712	18.08	.093	2.36	.078	1.98
9	809-108F16	809-108V16	809-108X16	.607	15.42	.560	14.22	.850	21.59	.125	3.18	.105	2.67
10	809-108F15	809-108V15	809-108X15	.670	17.02	.655	16.64	.890	22.61	.125	3.18	.105	2.67
11	809-108F45	809-108V45	809-108X45	.715	18.16	.717	18.21	.935	23.75	.125	3.18	.105	2.67
13	809-108F17	809-108V17	809-108X17	.812	20.62	.842	21.39	1.030	26.16	.125	3.18	.105	2.67
16	809-108F18	809-108V18	809-108X18	.607	15.42	1.030	26.16	1.219	30.96	.125	3.18	.105	2.67
17	809-108F19	809-108V19	809-108X19	.812	20.62	1.092	27.74	1.280	32.51	.125	3.18	.105	2.67
19	809-108F44	809-108V44	809-108X44	1.191	30.25	1.218	30.94	1.432	36.37	.125	3.18	.105	2.67
21	809-108F43	809-108V43	809-108X43	1.322	33.58	1.332	33.83	1.570	39.88	.125	3.18	.105	2.67

Dimensions in Inches (millimeters) are subject to change without notice.

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Flange Gaskets for Series 802 Mighty Mouse Receptacles

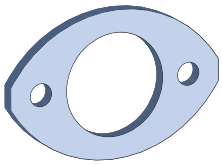


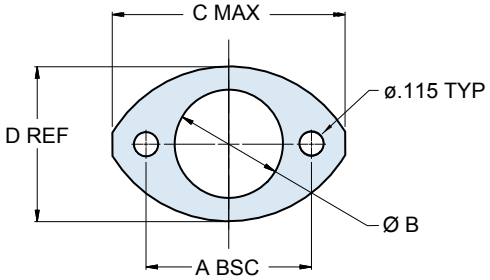


These flange gaskets provide sealing between square flange receptacles and the mounting panel. Choose fluorosilicone, Viton, or neoprene material. Gaskets are .032" (0.8) thick.

Shell Size	Part Number			Dimensions									
				A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Neoprene	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
5	809-108F51	809-108V51	809-108N51	.500	12.70	.448	11.38	.885	22.48	.125	3.18	.105	2.67
6	809-108F52	809-108V52	809-108N52	.625	15.88	.572	14.53	1.010	25.65	.125	3.18	.105	2.67
7	809-108F53	809-108V53	809-108N53	.688	17.48	.635	16.13	1.072	27.23	.125	3.18	.105	2.67
8	809-108F54	809-108V54	809-108N54	.750	19.05	.698	17.73	1.135	28.83	.125	3.18	.105	2.67
9	809-108F55	809-108V55	809-108N55	.812	20.62	.760	19.30	1.195	30.35	.125	3.18	.105	2.67
10	809-108F56	809-108V56	809-108N56	.875	22.23	.822	20.88	1.260	32.00	.125	3.18	.105	2.67
12	809-108F57	809-108V57	809-108N57	.938	23.83	.885	22.48	1.323	33.60	.125	3.18	.105	2.67
14	809-108F58	809-108V58	809-108N58	1.125	28.58	1.072	27.23	1.510	38.35	.125	3.18	.105	2.67
15	809-108F59	809-108V59	809-108N59	1.188	30.18	1.135	28.83	1.573	39.95	.125	3.18	.105	2.67
21	809-108F60	809-108V60	809-108N60	1.375	34.93	1.448	36.78	1.760	44.70	.125	3.18	.105	2.67

Flange Gaskets for Series 803 Mighty Mouse Receptacles





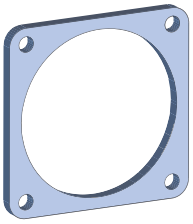
These flange gaskets provide sealing between elliptical flange receptacles and the mounting panel. Choose fluorosilicone, Viton®, or conductive fluorosilicone material (Chomerics 1298 silver-filled). Gaskets are .032" (0.8) thick.

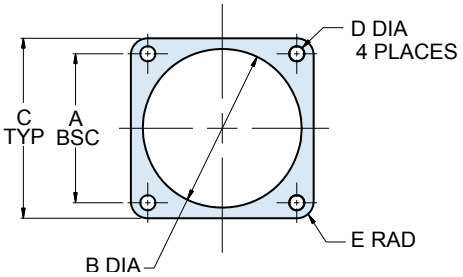
Shell Size	Part Number			Dimensions							
				A Bsc.		B Dia.		C Max.		D Ref.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	In.	mm.	In.	mm.	In.	mm.	In.	mm.
5	809-108F31	809-108V31	809-108X31	.513	13.03	.345	8.00	.710	18.03	.460	11.68
6	809-108F32	809-108V32	809-108X32	.598	15.19	.405	10.29	.795	20.19	.522	13.26
7	809-108F33	809-108V33	809-108X33	.708	17.98	.475	12.07	.900	22.86	.590	14.99
8	809-108F34	809-108V34	809-108X34	.964	24.51	.545	13.84	1.160	29.46	.670	17.02
9	809-108F35	809-108V35	809-108X35	1.017	25.83	.605	15.37	1.215	30.86	.721	18.31
10	809-108F36	809-108V36	809-108X36	1.101	37.97	.682	17.32	1.295	32.89	.795	20.19
12	809-108F37	809-108V37	809-108X37	1.204	30.58	.757	19.23	1.400	35.56	.874	22.20
14	809-108F38	809-108V38	809-108X38	1.280	32.51	.910	23.11	1.555	39.50	1.050	26.67
15	809-108F39	809-108V39	809-108X39	1.370	34.80	.970	24.64	1.640	41.66	1.150	29.21

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Flange Gaskets for Series 805 Mighty Mouse Receptacles





These flange gaskets provide sealing between square flange receptacles and the mounting panel. Choose fluorosilicone, Viton®, or conductive fluorosilicone material (Chomerics 1298 silver-filled). Gaskets are .032" (0.8) thick.

Shell Size	Part Number			Dimensions									
				A Bsc.		B Dia.		C Typ.		D Dia.		E Rad.	
	Fluorosilicone	Viton®	Conductive Fluorosilicone	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
8	809-108F20	809-108V20	809-108X20	.660	16.76	.530	13.46	.850	21.59	.093	2.36	.078	1.98
9	809-108F21	809-108V21	809-108X21	.723	18.36	.590	14.99	.913	23.19	.093	2.36	.078	1.98
10	809-108F22	809-108V22	809-108X22	.785	19.94	.660	16.76	.975	24.77	.093	2.36	.078	1.98
11	809-108F23	809-108V23	809-108X23	.848	21.54	.720	18.29	1.039	26.39	.093	2.36	.078	1.98
12	809-108F24	809-108V24	809-108X24	.909	23.09	.780	19.81	1.099	27.91	.093	2.36	.078	1.98
13	809-108F29	809-108V29	809-108X29	.973	24.71	.842	21.39	1.163	29.54	.093	2.36	.078	1.98
15	809-108F25	809-108V25	809-108X25	1.058	26.87	.970	24.64	1.288	32.72	.125	3.18	.105	2.67
18	809-108F26	809-108V26	809-108X26	1.255	31.88	1.160	29.46	1.475	37.47	.125	3.18	.105	2.67
19	809-108F27	809-108V27	809-108X27	1.327	33.71	1.220	30.99	1.537	39.04	.125	3.18	.105	2.67
21	809-108F30	809-108V30	809-108X30	1.452	36	1.342	34.09	1.663	42.24	.125	3.18	.105	2.67
23	809-108F28	809-108V28	809-108X28	1.570	39.88	1.458	37.03	1.797	45.64	.125	3.18	.105	2.67

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Glenair Hermetic Connector Products
Space Grade Application Guidelines

What is outgassing?

Plastic and rubber materials give off gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of diffusion. In a spacecraft the gases coming off polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA specification EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space flight projects.

What screening level is required?

NASA defines three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space flight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the final inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The fluorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven bake out or thermal vacuum outgassing are sufficient to reduce outgas levels to NASA standards. Oven bake out is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modification code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

Screening Level and Available Outgassing Modification Codes

Screening Level	Screening Only	Oven Bakeout 48 Hour at 175° C	Thermal Vacuum Outgassing** 24 Hour at 125° C
NASA, Level 1 Highest Reliability	429B	429J	429C
NASA, Level 2 High Reliability	429	429K	429A
NASA, Level 3 Standard Reliability	Use Standard Part Number		429L

* Inspection is not performed/required for MIL-DTL-38999, Class G ** Thermal vacuum of 10^-6 Torr

Table II: NASA EEE-INST-02, Table 2A Screening Levels

Inspection	Level 1	Level 2	Level 3
Visual	100%	100%	100%
Mechanical	2(0)	2(0)	
Dielectric Withstanding Voltage	2(0)	2(0)	
Insulation Resistance	2(0)	2(0)	
Contact Engagement & Separation Force	2(0)		
Hermeticity (Sealed Receptacles Only)	100%	100%	
Coupling Force	2(0)		

Required inspection quantity shown. Number in parenthesis indicates acceptance of failures allowed for all quantities inspected.

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800-013
Series 800 Mighty Mouse Hermetic Receptacles
with UN Mating Thread
How to Order Information



Series 800 Hermetic

Series 800 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulators and Alloy 52 iron alloy contacts.

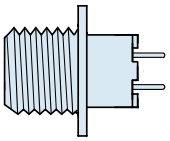
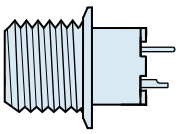
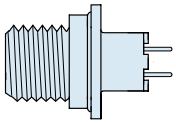
1 X 10^{-7} cc/second maximum helium leak rate.

Three Shell Styles: solder mount, jam nut or square flange.

Solder Cup Contacts for wire attachment, or ***PC Tail Contacts*** for attachment to flexible or rigid circuits.

HOW TO ORDER

Sample Part Number

800-013	-07	Z1	7-10	P	Z
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size- Insert Arrangement**	**Contact Type**	**Shell Key Position**
800-013 Hermetic Receptacle	 **-02** Square Flange  **-03** Solder Mount  **-07** Jam Nut	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel / Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Pin, Solder Cup **C** Pin, PC Tail **S** Socket, Solder Cup **D** Sockets, PC Tail	**N** Normal **X** Pos. X **Y** Pos. Y **Z** Pos. Z

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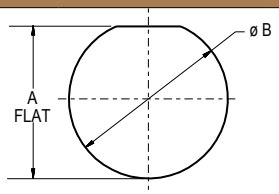
SERIES 800 RECOMMENDED TORQUE VALUES

Shell Size	Coupling Torque				Jam Nut				Backshell			
	In-Lbs.		N-m		In-Lbs.		N-m		In-Lbs.		N-m	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
5	13	17	1.5	1.9	20	25	2.2	2.8	13	17	1.5	1.9
6	18	22	2.0	2.5	20	25	2.2	2.8	18	22	2.0	2.5
7	20	25	2.3	2.8	20	25	2.2	2.8	30	40	3.4	4.5
8	30	40	3.4	4.5	20	25	2.2	2.8	30	40	3.4	4.5
9	30	40	3.4	4.5	25	30	2.8	3.3	35	45	4.0	5.1
10	35	45	4.0	5.1	25	30	2.8	3.3	35	45	4.0	5.1
12	35	45	4.0	5.1	25	30	2.8	3.3	35	45	4.0	5.1

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

SERIES 800 PANEL CUTOUTS



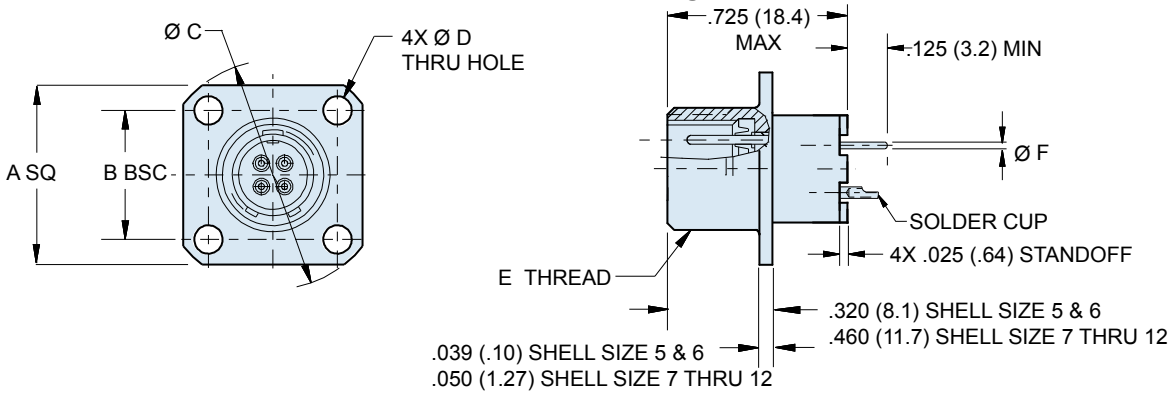
Shell Size	A Flat		øB	
	In.	mm.	In.	mm.
5	.302 / .298	7.67/ 7.57	.318	8.08
6	.365 / .361	9.27/ 9.17	.386	9.80
7	.424 / .420	10.77/ 10.67	.449	11.40
8	.486/ .482	12.34/ 12.24	.510	12.95
9	.543/ .539	13.79/ 13.69	.574	14.58
10	.617/ .613	15.67/ 15.57	.635	16.12
12	.725/ .721	18.42/ 18.31	.760	19.30

Dimensions in Inches (millimeters) are subject to change without notice.

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800-013-02 and 800-013-03
Series 800 Mighty Mouse Hermetic Receptacles
Square Flange Mount with UN Mating Thread
Connector Dimensions

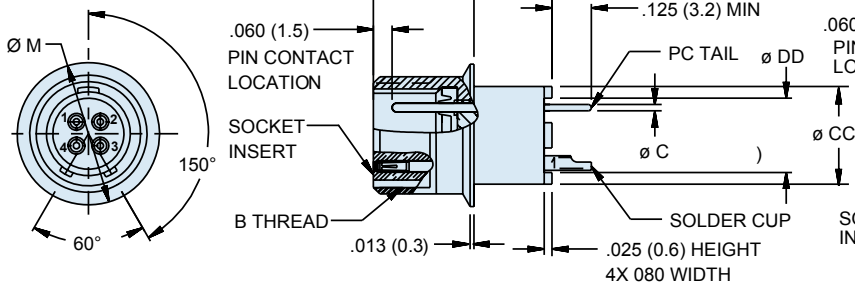
800-013-02 Square Flange Dimensions



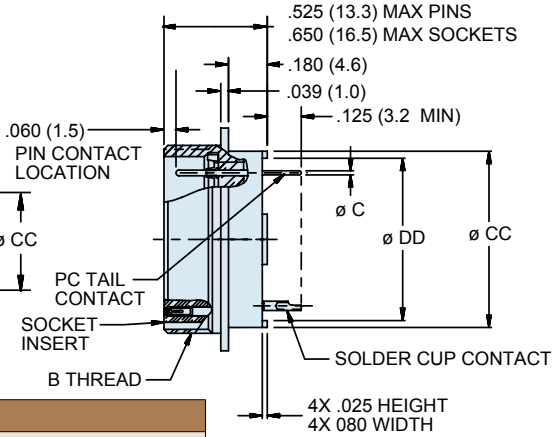
800-013-02 SQUARE FLANGE HERMETIC RECEPTACLE DIMENSIONS										
Shell Size	A SQ		B BSC		Ø C		Ø D		E Threads Mating	Ø F PC TAIL DIA. ± .002 (0.05)
	In.	mm.	In.	mm.	In.	mm.	In. ± .005	mm. ± 0.13		
5	.527	13.39	.363	9.22	.680	17.27	.094	2.39	.3125-28 UN-2A	Size #23 .020 (0.51)
6	.588	14.92	.423	10.74	.750	19.05			.5000-32 UN-2A	
7	.650	16.51	.483	12.27	.830	21.08	.096	2.44	.4375-28 UNEF-2A	Size #20 .026 (0.66)
8	.710	18.03	.542	13.77	.938	23.83	.091	2.31	.5000-32 UN-2A	
9	.938	23.83	.719	18.26	1.250	31.75	.130	3.30	.5625-32 UN-2A	Size #16 .062 (1.57)
10	.938	23.83	.719	18.26	1.250	31.75			.6250-32 UN-2A	Size #12 .094 (2.34)
12	1.031	26.19	.812	20.62	1.375	34.93			.7500-28 UN-2A	

800-013-03 Solder Mount Dimensions

Shell Size 5 and 6



Shell Size 7 thru 12

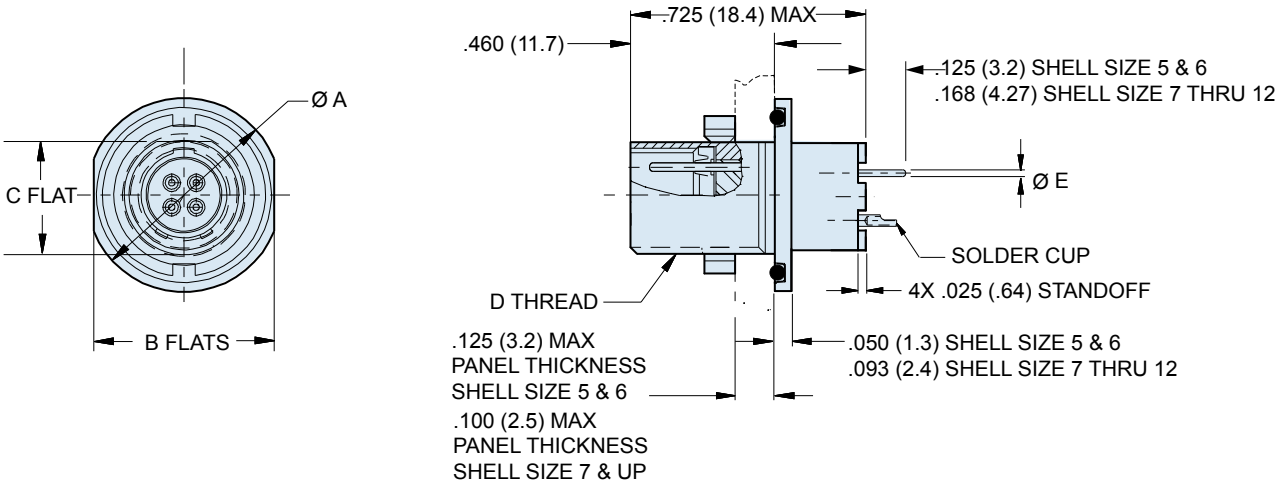


DIMENSIONS				
Shell Size	Ø A		B Threads	Ø C PC TAIL DIA. ± .002 (0.05)
	In.	mm.		
5	.400	10.16	.3125-28 UN-2A	Size #22 .020 (0.51)
6	.455	11.56	.3750-28 UN-2A	
7	.520	13.21	.4375-28 UNEF-2A	Size #20 .026 (0.66)
8	.650	16.51	.5000-32 UN-2A	
9	.764	19.41	.5625-32 UN-2A	Size #16 .062 (1.57)
10	.775	19.69	.6250-32 UN-2A	Size #12 .094 (2.34)
12	.858	21.79	.7500-28 UN-2A	

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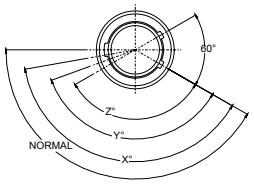
800-013-07
Series 800 Mighty Mouse Hermetic Receptacles
Jam Nut Mount with UN Mating Thread
Hermetic Connector Dimensions



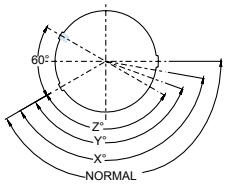
DIMENSIONS

Shell Size	Ø A		B FLATS		C		D Threads Mating	Ø E PC TAIL DIA. ± .002 (0.05)
	In.	mm.	In.	mm.	In.	mm.		
5	.541	13.74	.500	12.70	.285	7.24	.3125-28 UN-2A	**Size #23** .020 (0.51) **Size #20** .026 (0.66) **Size #16** .062 (1.57) **Size #12** .094 (2.34)
6	.610	15.49	.562	14.27	.352	8.94	.3750-28 UN-2A	
7	.670	17.02	.635	16.13	.411	10.44	.4375-28 UNEF-2A	
8	.775	19.69	.735	18.67	.473	12.01	.5000-32 UN-2A	
9	.875	22.23	.806	20.47	.530	13.46	.5625-32 UN-2A	
10	.980	24.89	.940	23.88	.604	15.34	.6250-32 UN-2A	
12	1.062	26.97	.986	25.04	.712	18.08	.7500-28 UN-2A	

SERIES 800 KEY POSITIONS



Plug

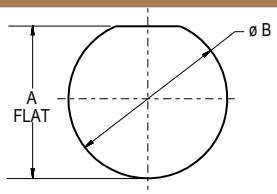


Receptacle

Key Position	Key Rotation
Normal (N)	150°
X	140°
Y	130°
Z	120°

Shell size 5 and 6: master key is located at top dead center for normal (N) position. Shell size 7 thru 12: master key is rotated 90° from TDC.

SERIES 800 PANEL CUTOUTS

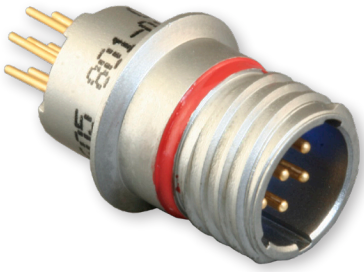


Shell Size	A Flat		øB	
	In.	mm.	In.	mm.
5	.302 / .298	7.67/ 7.57	.318	8.08
6	.365 / .361	9.27/9.17	.386	9.80
7	.424 / .420	10.77/ 10.67	.449	11.40
8	.486/ .482	12.34/ 12.24	.510	12.95
9	.543/ .539	13.79/ 13.69	.574	14.58
10	.617/.613	15.67/ 15.57	.635	16.12
12	.725/.721	18.42/ 18.31	.760	19.30

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801-012
Series 801 Mighty Mouse Hermetic Receptacle
Double-Start ACME Threads How to Order Information



Series 801 Solder Mount Hermetic

Series 801 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulators and Alloy 52 iron alloy contacts.

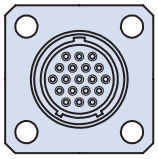
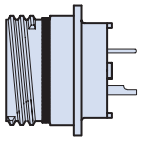
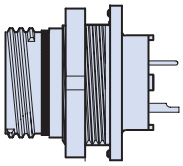
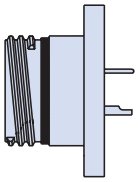
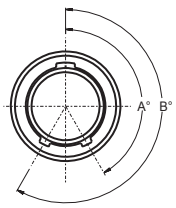
1 X 10^{-7} cc/second maximum helium leak rate.

Four Shell Styles: solder mount, jam nut, square flange or weld Mount.

Solder Cup Contacts or ***PC Tail Contacts*** for attachment to flexible or rigid circuits or rigid boards.

HOW TO ORDER

Sample Part Number

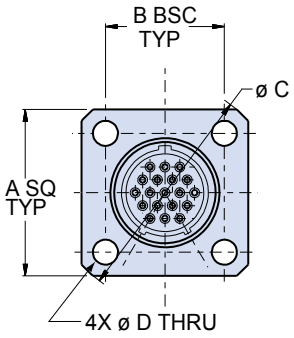
801-012	-03	Z1	7-10	P	A
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size/Insert Arrangement**	**Contact Type**	**Shell Key Position**
801-012 Hermetic Receptacles with Printed Circuit Board Contacts or Solder Cup Contacts	 **-02** **Square Flange**  **-03** **Solder Mount**  **-07** **Jam Nut**  **-13** **Weld Mount**	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel / Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Pin, Solder Cup **C** Pin, PC Tail **S** Socket, Solder Cup **D** Sockets, PC Tail	**A** Normal **B** Pos. B **C** Pos. C **D** Pos. D **E** Pos. E **F** Pos. F 

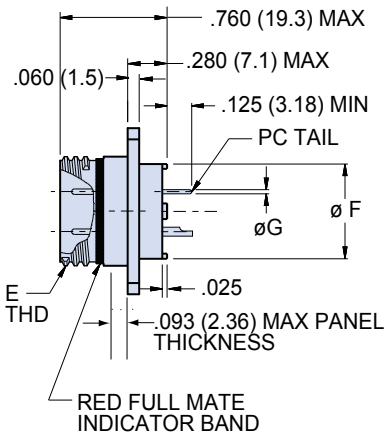
	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

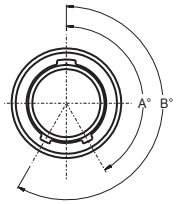




DIMENSIONS

Shell Size	A SQ		B BSC		Ø C		Ø D		E Thread	Ø F		Ø G Tail Dia
	In.	mm.	In.	mm.	In.	mm.	In. ±.003	mm. ± 0.08		In.	mm.	
5	.530	13.46	.363	9.22	.680	17.27	.093	2.36	.3125-.05P-.1L-2A	.244	6.20	
6	.590	14.99	.423	10.74	.750	19.05	.093	2.36	.375-.05P-1L-2A	.330	8.38	
7	.650	16.51	.483	12.27	.850	21.59	.093	2.36	.4375-.05P-1L2A	.432	10.97	**#23** .018/.022 (0.46/0.56)
8	.712	18.08	.545	13.84	.938	23.83	.093	2.36	.5000-.05P-1L2A	.493	12.52	
9	.850	21.59	.607	15.42	1.125	28.58	.128	3.25	.5625-.05P-.1L-2A	.551	14.00	
10	.890	22.61	.670	17.02	1.188	30.18	.128	3.25	.6250-.05P-1L2A	.620	15.75	**#16** .060/.064 (1.52/1.63)
11	.935	23.75	.715	18.16	1.250	31.75	.128	3.25	.6875-.05P-1L2A	.662	16.81	
13	1.030	26.16	.812	20.62	1.375	34.93	.128	3.25	.8125-.1P-.2L-2A	.703	17.86	
16	1.219	31.96	.981	24.92	1.625	41.28	.128	3.25	1.000-.1P-.2L-2A	.863	21.92	**#12** .092/.096 (2.34/2.44)
17	1.280	32.51	1.060	26.92	1.700	43.18	.128	3.25	1.062-.1P-.2L-2A	.912	23.16	
19	1.432	36.37	1.191	30.25	1.900	48.26	.128	3.25	1.1875-.1P-.2L-2A	1.018	25.86	
21	1.565	39.75	1.322	33.58	2.100	53.34	.128	3.25	1.3125-.1P-.2L-2A	1.170	29.72	

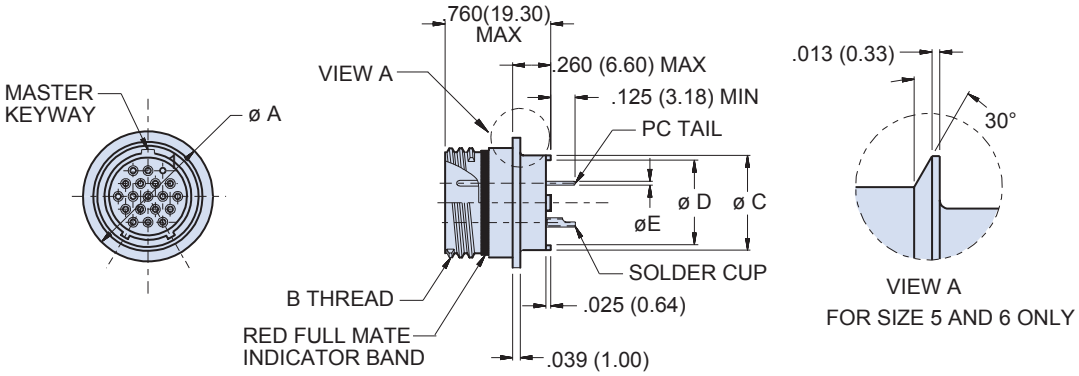
KEY POSITIONS



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.
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801-012-03
Series 801 Mighty Mouse Hermetic Receptacles
Double-Start ACME Threads • Solder Mount
Connector Dimensions



Solder Mount Hermetic
801-012-03

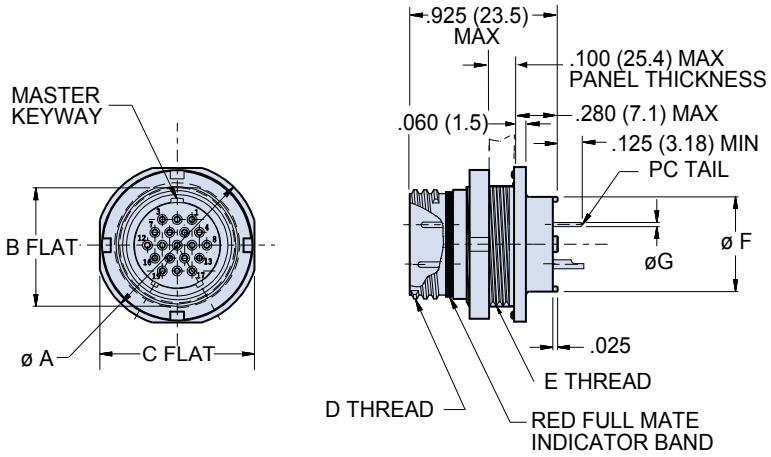
DIMENSIONS								
Shell Size	Ø A		B Thread	Ø C		Ø D		Ø E Tail Dia.
	In.	mm.		In.	mm.	In.	mm.	
5	.395	10.03	.3125-.05P-.1L-2A	.244	6.20	.197	5.00	
6	.455	11.56	.375-.05P-.1L-2A	.330	8.38	.236	5.99	
7	.520	13.21	.4375-.05P-1L-2A	.432	11.97	.324	8.23	**#23** .018/.022 (0.46/0.56)
8	.580	14.73	.5000-.05P-1L-2A	.493	12.52	.390	9.91	
9	.645	16.38	.5625-.05P-.1L-2A	.551	14.00	.444	11.28	**#20** .024/.028 (0.61/0.71)
10	.705	18.01	.6250-.05P-1L-2A	.620	15.75	.520	13.21	
11	.770	19.56	.6875-.05P-1L-2A	.662	16.81	.557	14.15	**#16** .060/.064 (1.52/1.63)
13	.895	22.73	.8125-.1P-.2L-2A	.703	17.86	.596	15.14	
16	1.080	27.43	1.000-.1P-.2L-2A	.863	21.92	.756	19.20	
17	1.145	29.08	1.062-.1P-.2L-2A	.912	23.16	.805	20.45	**#12** .092/.096 (2.34/2.44
19	1.270	32.26	1.1875-.1P-.2L-2A	1.018	25.86	.910	23.11	
21	1.395	35.43	1.3125-.1P-.2L-2A	1.170	29.72	1.061	26.95	

KEY POSITIONS		
	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

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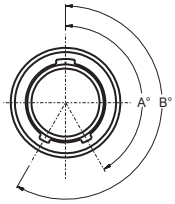
801-012-07
Series 801 Mighty Mouse Hermetic Receptacle
with Double-Start ACME Threads • Jam-Nut Mount
Connector Dimensions



DIMENSIONS

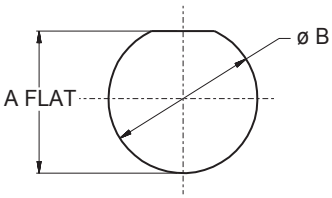
Shell Size	Ø A		B Flat		C Flat		D Thread	E Thread UN-2A	ø F		Ø G Tail Dia.
	In.	mm.	In.	mm.	In.	mm.			In.	mm.	
5	.575	14.61	.350	8.89	.545	13.84	.3125-.05P-.1L-2A	.375-28	.244	6.20	
6	.635	16.13	.410	10.41	.595	15.11	.375-.05P-.1L-2A	.4375-28	.330	8.38	
7	.755	19.18	.536	13.61	.723	18.36	.4375-.05P-.1L2A	.5625-32	.432	10.97	**#23** .018/.022 (0.46/0.56)
8	.755	19.18	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32	.493	12.52	
9	.830	21.08	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.625-28	.551	14.00	**#20** .024/.028 (0.61/0.71)
10	.890	22.61	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28	.620	15.75	
11	.960	24.38	.718	18.24	.925	23.50	.6875-.05P-.1L-2A	.7500-28	.662	16.81	
13	1.078	27.38	.845	21.46	1.044	26.52	.8125-.1P-.2L-2A	.875-28	.703	17.86	**#16** .060/.064 (1.52/1.63)
16	1.264	32.11	1.022	25.96	1.230	31.24	1.000-.1P-.2L-2A	1.0625-20	.863	21.92	
17	1.325	33.66	1.096	27.84	1.290	32.77	1.062-.1P-.2L-2A	1.1250-28	.912	23.16	**#12** .092/.096 (2.34/2.44
19	1.450	36.83	1.225	31.11	1.415	35.94	1.1875-.1P-.2L-2A	1.2500-28	1.018	25.86	
21	1.625	41.28	1.345	34.16	1.577	40.06	1.3125-.1P-.2L-2A	1.375-28	1.170	29.72	

KEY POSITIONS



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

SERIES 801 JAM NUT PANEL CUTOUT



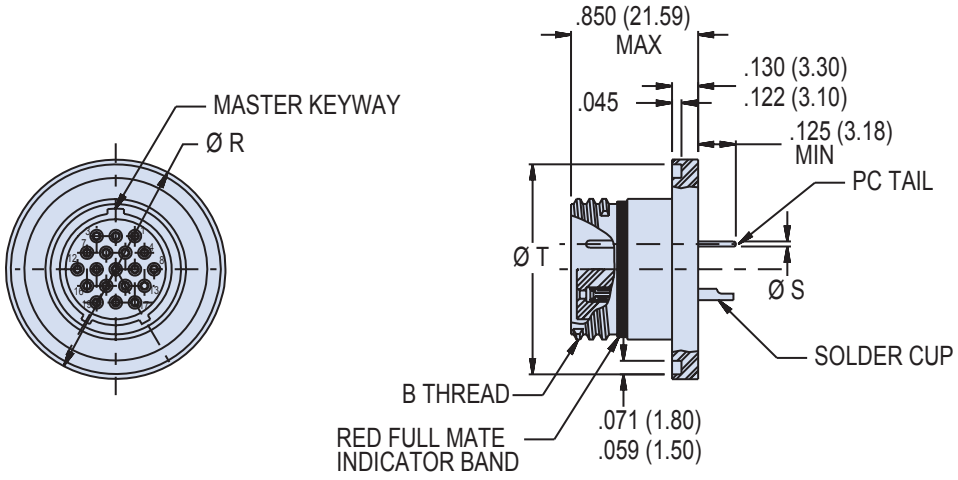
Shell Size	A Flat In. ± .002	A Flat mm. ± 0.05	Ø B In.	Ø B mm.
5	.356	9.04	.385	9.78
6	.416	10.57	.448	11.37
7	.542	13.77	.573	14.55
8	.542	13.77	.573	14.55
9	.602	15.29	.635	16.13
10	.666	16.92	.698	17.73
11	.726	18.44	.760	19.30
13	.851	21.62	.885	22.48
16	1.028	26.11	1.075	27.31
17	1.102	27.99	1.135	28.83
19	1.233	31.32	1.260	32.00
21	1.351	34.32	1.385	35.18

Dimensions in Inches (millimeters) are subject to change without notice.

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C

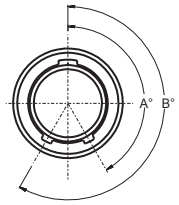
801-012-13
Series 801 Mighty Mouse Hermetic Receptacle
with Double-Start ACME Threads • Weld Mount
Connector Dimensions



DIMENSIONS

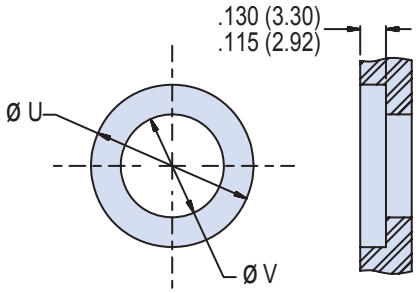
Shell Size	Ø R		Ø T		Ø S Tail Dia.
	In.	mm.	In.	mm.	
5	.600	15.24	.555	14.10	#23 .018/.022 (0.46/0.56) #20 .024/.028 (0.61/0.71) #16 .060/.064 (1.52/1.63) #12 .092/.096 (2.34/2.44
6	.665	16.89	.620	15.75	
7	.730	18.54	.685	17.40	
8	.788	20.02	.745	18.92	
9	.912	23.16	.869	22.07	
10	.975	24.77	.933	23.70	
11	1.062	26.97	1.019	25.88	
13	1.162	29.51	1.119	28.42	
16	1.288	32.72	1.245	31.62	
17	1.360	34.54	1.315	33.40	
19	1.495	37.97	1.452	36.88	
21	1.625	41.28	1.580	40.13	

KEY POSITIONS



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

SERIES 801 WELD MOUNT PANEL CUTOUT



Shell Size	Ø U		Ø V Min	
	In. ± .002	mm. ± 0.05	In.	mm.
5	.606	15.39	.180	4.57
6	.671	17.04	.240	6.10
7	.736	18.69	.330	8.38
8	.794	20.17	.390	9.91
9	.918	23.32	.455	11.56
10	.981	24.92	.520	13.21
11	1.068	27.13	.580	14.73
13	1.168	29.67	.610	15.49
16	1.294	32.87	.775	19.69
17	1.366	34.70	.825	20.96
19	1.501	38.13	.930	23.62
21	1.631	41.43	1.080	27.43

Dimensions in Inches (millimeters) are subject to change without notice.

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Series 801 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulators and Alloy 52 iron alloy contacts.

1 X 10^{-7} cc/second maximum helium leak rate.

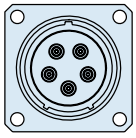
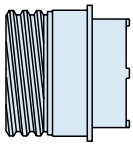
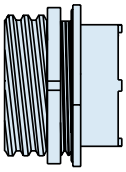
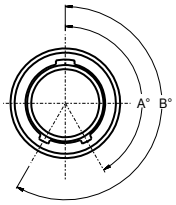
Three Shell Styles: solder mount, jam nut or square flange.

Cable Adapters with Crimp Rings provided with each connector for reliable cable termination.

Series 801 Solder Mount Hermetic

HOW TO ORDER

Sample Part Number

801-059	-03	Z1	16-5	P	A	-02
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size/Insert Arrangement**	**Contact Type**	**Shell Key Position**	**Cable Attachment**
801-059 Hermetic Receptacle, Quick Coupling, Co-Ax Pins	 **-02** **Square Flange**  **-03** **Solder Mount**  **-07** **Jam Nut Rear Mount Only**	**Z1** Stainless Steel / Passivated **ZB** Stainless Steel / Olive Drab Chromate over Cadmium **ZC** Stainless Steel / Zinc Cobalt Alloy/Black Chromate **ZL** Stainless Steel / Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Co-Ax Pin	**A** Normal **B** Pos. B **C** Pos. C **D** Pos. D **E** Pos. E **F** Pos. F  	**Cables Accommodated:** **-01** M17/113-RG316 **-02** M17/152-00001 (RG316DS) **-03** M17/93-RG178 **-04** RG-178 Double Shield per DSCC 06017 **-05** M17/94-RG179 **Note:** Each connector is supplied with sufficient cable adapters and crimp rings to terminate appropriate cable for insertion into contact rear. After cable is terminated and adapter inserted into contact rear, the rear of the connector must be potted to cover adapters.

	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

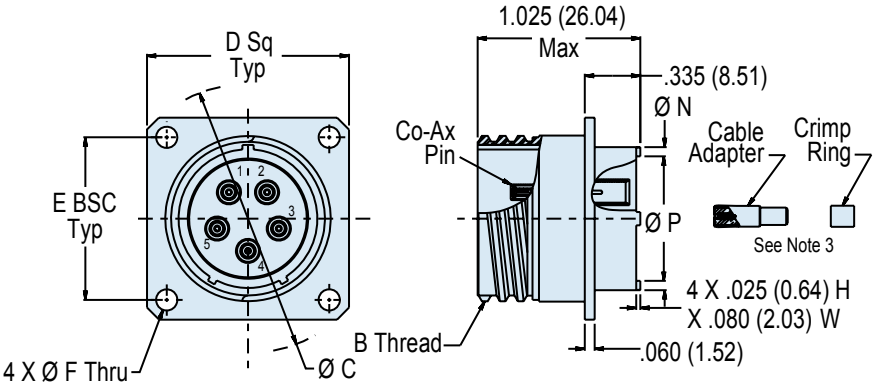
Dimensions in Inches (millimeters) are subject to change without notice.

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801-059-02
Series 801 Mighty Mouse Hermetic Receptacle
Quick Coupling • Square Flange • Co-Ax Pins
Connector Dimensions

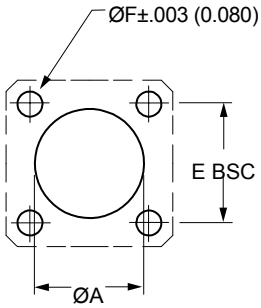


Square Flange Panel Mount Hermetic
801-059-02

DIMENSIONS

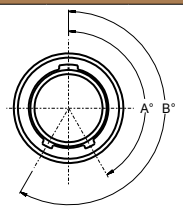
Shell Size	B Thread	Ø C		D Sq		Ø N		Ø P	
		In.	mm.	In. ±.003	mm. ± 0.08	In.	mm.	In.	mm.
6	.3750-.05P-.1L-2A	.750	19.05	.590	14.99	.330	8.38	.236	6.20
7	.4375-.05P-.1L-2A	.850	21.59	.650	16.51	.432	10.97	.324	8.38
8	.5000-.05P-.1L-2A	.938	23.83	.712	18.08	.493	12.52	.390	10.97
9	.5625-.05P-.1L-2A	1.125	28.56	.850	21.59	.551	14.00	.444	12.52
10	.6250-.05P-.1L-2A	1.188	30.18	.890	22.61	.620	15.75	.520	14.00
11	.6875-.05P-.1L-2A	1.250	31.75	.935	23.75	.662	16.81	.557	15.75
13	.8125-.1P-.2L-2A	1.375	34.93	1.030	26.16	.703	17.86	.596	17.86
16	1.0000-.1P-.2L-2A	1.625	41.28	1.219	30.96	.863	21.92	.756	21.92
17	1.0625-.1P-.2L-2A	1.700	43.18	1.280	32.51	.912	23.16	.805	23.16
19	1.8750-.1P-.2L-2A	1.900	48.26	1.432	36.37	1.018	25.86	.910	29.72
21	1.3125-.1P-.2L-2A	2.100	53.34	1.565	39.75	1.170	29.72	1.061	26.95

SERIES 801 PANEL CUTOUT



Shell Size	Ø A		E BSC		Ø F	
	In	mm.	In	mm.	In	mm.
6	.455	11.56	.423	9.22	.096 .091	2.44 2.31
7	.520	13.21	.483	12.27		
8	.580	14.73	.545	13.84		
9	.645	16.38	.607	15.42	.130 .126	3.30 3.20
10	.705	17.91	.670	17.02		
11	.770	19.56	.715	18.16		
13	.895	22.73	.812	20.62		
16	1.080	27.43	.981	24.92		
17	1.145	29.08	1.060	26.92		
19	1.283	32.59	1.191	30.25		
21	1.415	35.94	1.322	33.58		

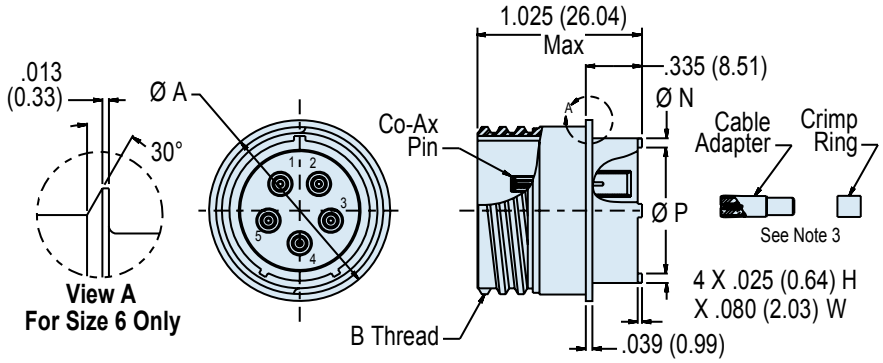
KEY POSITIONS



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

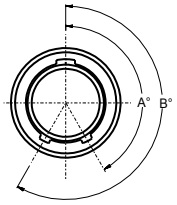
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Solder Mount Hermetic
801-059-03

DIMENSIONS							
Shell Size	Ø A		B Thread	Ø N		Ø M Panel Cutout	
	In.	mm.		In.	mm.	In.	mm.
6	.455	11.56	.3750-.05P-.1L-2A	.330	8.38	.448	11.38
7	.520	13.21	.4375-.05P-.1L-2A	.432	10.97	.573	14.55
8	.580	14.73	.5000-.05P-.1L-2A	.493	12.52	.573	14.55
9	.645	16.38	.5625-.05P-.1L-2A	.551	14.00	.635	16.13
10	.705	17.91	.6250-.05P-.1L-2A	.620	15.75	.698	17.73
11	.770	19.56	.6875-.05P-.1L-2A	.662	16.81	.760	19.30
13	.895	22.73	.8125-.1P-.2L-2A	.703	17.86	.885	22.48
16	1.080	29.08	1.0000-.1P-.2L-2A	.863	21.92	1.075	27.31
17	1.145	29.08	1.0625-.1P-.2L-2A	.912	23.16	1.135	28.83
19	1.283	32.59	1.8750-.1P-.2L-2A	1.018	25.86	1.260	32.00
21	1.415	35.94	1.3125-.1P-.2L-2A	1.170	29.72	1.385	68.83

KEY POSITIONS

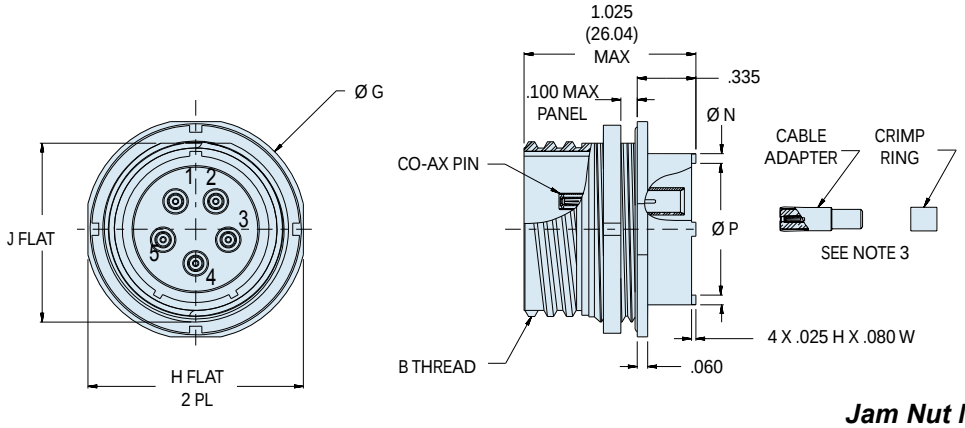


	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

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801-059-07
Series 801 Mighty Mouse Hermetic Receptacle
Quick Coupling, Jam Nut Mount with Co-Ax Pins

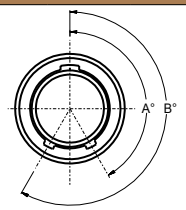


Jam Nut Mount Hermetic
801-059-07

DIMENSIONS

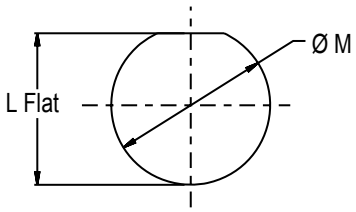
Shell Size	Ø A		J Flat		H Flat		B Thread	K Thread	Ø N		ØP	
	In.	mm.	In.	mm.	In.	mm.			In.	mm.	In.	mm.
6	.455	11.56	.410	10.41	.595	15.11	.3750-.05P-.1L-2A	.4375-28 UNEF-2A	.330	8.38	.236	5.99
7	.520	13.21	.536	13.61	.723	18.36	.4375-.05P-.1L-2A	.5625-32 UN-2A	.432	10.97	.324	8.23
8	.580	14.73	.536	13.61	.723	18.36	.5000-.05P-.1L-2A	.5625-32 UN-2A	.493	12.52	.390	9.91
9	.645	16.38	.596	15.14	.790	20.07	.5625-.05P-.1L-2A	.6250-28 UN-2A	.551	14.00	.444	11.28
10	.705	17.91	.658	16.71	.855	21.72	.6250-.05P-.1L-2A	.6875-28 UN-2A	.620	15.75	.520	13.21
11	.770	19.56	.718	18.24	.925	23.50	.6875-.05P-.1L-2A	.7500-28 UN-2A	.662	16.81	.557	14.15
13	.895	22.73	.845	21.46	1.044	26.52	.8125-.1P-.2L-2A	.8750-28 UN-2A	.703	17.86	.596	15.14
16	1.080	27.43	1.022	25.96	1.230	31.24	1.0000-.1P-.2L-2A	1.0625-20 UN-2A	.863	21.92	.756	19.20
17	1.145	29.08	1.096	27.84	1.290	32.77	1.0625-.1P-.2L-2A	1.1250-28 UN-2A	.912	23.16	.805	20.45
19	1.283	32.59	1.225	31.12	1.415	35.94	1.8750-.1P-.2L-2A	1.2500-28 UN-2A	1.018	25.86	.910	23.11
21	1.415	35.94	1.346	34.19	1.577	40.06	1.3125-.1P-.2L-2A	1.3750-28 UN-2A	1.170	29.72	1.061	26.95

KEY POSITIONS



	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

SERIES 801 JAM NUT PANEL CUTOUT



Recommended Panel Cutout Shell Style -07

Shell Size	L Flat In. ± .002	L Flat mm. ± 0.05	Ø M In.	Ø M mm.
6	.418/.414	10.62/10.52	.448	11.38
7	.544/.540	13.82/13.72	.573	14.55
8	.544/.540	13.82/13.72	.573	14.55
9	.604/.600	15.34/15.24	.635	16.13
10	.668/.664	16.97/16.87	.698	17.73
11	.728/.724	18.49/18.39	.760	19.30
13	.853/.849	21.67/21.56	.885	22.48
16	1.030/1.026	26.16/26.06	1.075	27.31
17	1.104/1.100	28.04/27.94	1.135	28.83
19	1.235/1.231	31.37/31.27	1.260	32.00
21	1.353/1.349	34.37/34.26	1.385	68.83

Dimensions in Inches (millimeters) are subject to change without notice.

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Style 00 Front Mount

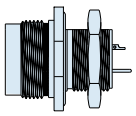
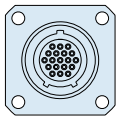
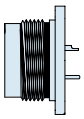
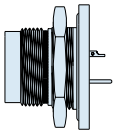
Series 802 Hermetic Receptacles feature gold plated iron alloy contacts and compression glass dielectric material. The 316L stainless steel connector shell provides excellent corrosion protection and is suitable for e-beam welding . The Viton® interfacial seal and piston o-ring offer improved resistance to harsh chemicals.

1 x 10^{-7} cc/Second Maximum Helium Leak Rate. Open face (unmated) pressure rating is 1000 PSI. When mated, Series 802 connectors withstand 3500 PSI hydrostatic pressure.

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

HOW TO ORDER SERIES 802 HERMETIC RECEPTACLES

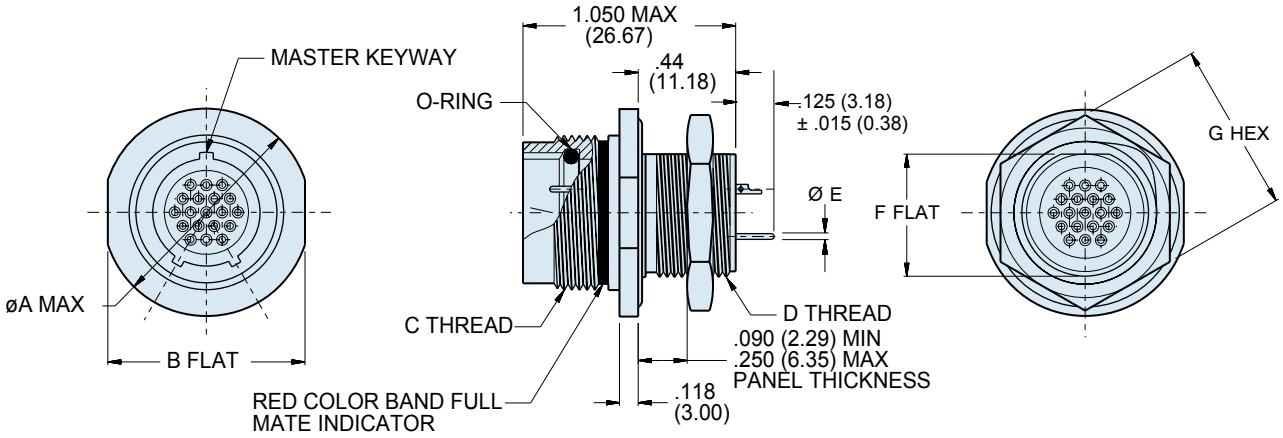
Sample Part Number

802-013	-00	Z1	6-7	P	A
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size- Insert Arrangement**	**Contact Type**	**Shell Key Position**
802-013 Series 802 Hermetic Receptacle with Solder Cup or PCB Contacts	 **-00** Jam Nut for Front Panel Mounting  **-02** Square Flange Mount  **-03** Weld Mount  **-07** Jam Nut for Rear Panel Mounting	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel / Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**E** Pin, Solder Cup **P** Pin, PC Tail **S** Socket, Solder Cup **D** Sockets, PC Tail	**A** Normal **B** Pos. B **C** Pos. C **D** Pos. D

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802-013-00
Series 802 "Aqua Mouse" Submersible
Hermetic Front Mount Jam Nut Receptacle
Connector Dimensions



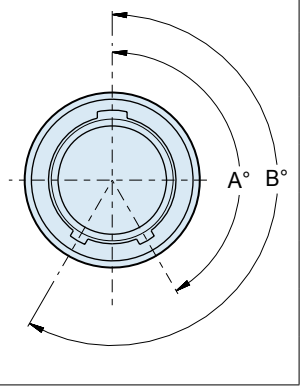
SHELL STYLE 00
FRONT MOUNT JAM NUT

DIMENSIONS

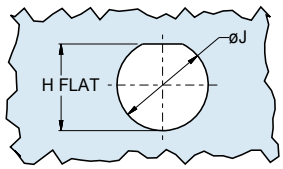
Shell Size	A Max.		B Flat		C Mating Threads	D Threads	Ø E Tail Dia.	F Flat		G Hex	
	In.	mm.	In.	mm.				In.	mm.	In.	mm.
5	.720	18.29	.625	15.88	.438-28 UNEF-2A	.312-28 UN-2A	**#23** .018/.022 (0.46/0.56)	.281	7.14	.500	12.70
6	.780	19.81	.750	19.05	.562-20 UN-2A	.438-28 UN-2A		.344	8.74	.625	15.88
7	.910	23.11	.812	20.62	.625-20 UN-2A	.500-32 UN-2A		.469	11.91	.688	17.48
8	.960	24.38	.875	22.23	.687-20 UN-2A	.562-28 UN-2A	**#20** .024/.028 (0.61/0.71)	.531	13.49	.750	19.05
9	1.030	26.16	.937	23.80	.750-20 UNEF-2A	.625-20 UN-2A		.594	15.09	.812	20.62
10	1.090	27.69	1.000	25.40	.812-20 UNEF-2A	.687-28 UN-2A	**#16** .060/.064 (1.52/1.63)	.656	16.66	.875	22.23
12	1.160	29.46	1.062	26.97	.875-20 UNEF-2A	.750-28 UN-2A		.719	18.26	.938	23.83
14	1.340	34.04	1.250	31.75	1.062-20 UN-2A	.938-28 UN-2A		.893	22.68	1.125	28.58
15	1.410	35.18	1.312	33.32	1.125-20 UN-2A	1.000-28 UN-2A	**#12** .092/.096 (2.34/2.44)	.955	24.26	1.188	30.18
21	1.700	43.18	1.562	39.67	1.4375-20 UN-2A	1.312-28 UN-2A		1.257	31.93	1.500	38.10

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



CUTOUT DIMENSIONS



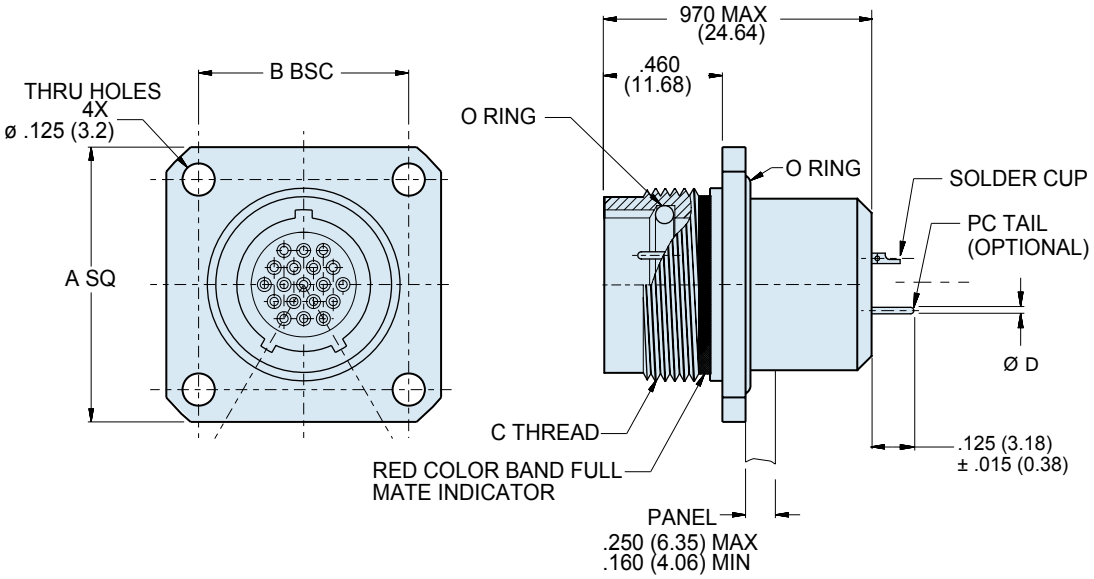
RECOMMENDED PANEL CUTOUT
FOR STYLE 00
FRONT MOUNT JAM NUT

Shell Size	H Flat		Ø J	
	In.	mm.	In.	mm.
5	**.291/.286**	**7.4/7.3**	.322	8.2
6	**.417/.412**	**10.6/10.5**	.448	11.4
7	**.479/.474**	**12.2/12.0**	.510	13.0
8	**.541/.536**	**13.7/13.6**	.572	14.5
9	**.604/.599**	**15.3/15.2**	.635	16.1
10	**.666/.661**	**16.9/16.8**	.697	17.7
12	**.729/.724**	**18.5/18.4**	.760	19.3
14	**.903/.898**	**22.9/22.8**	.948	24.1
15	**.965/.960**	**24.5/24.4**	1.010	25.7
21	**1.267/1.263**	**32.2/32.1**	1.322	33.6

Dimensions in Inches (millimeters) are subject to change without notice.

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802-013-02
Series 802 "Aqua Mouse" Submersible
Square Flange Mount Hermetic Receptacle
Connector Dimensions

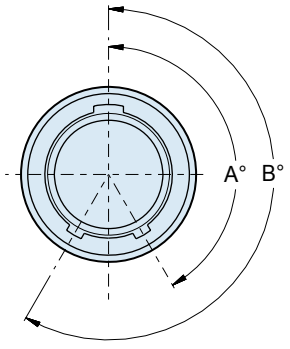


DIMENSIONS

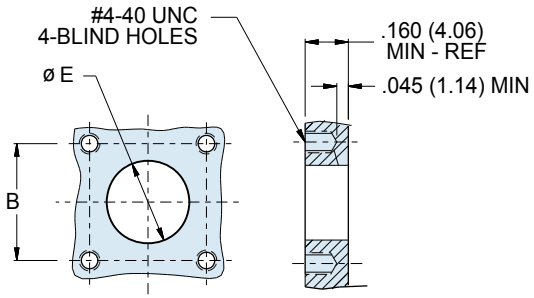
Shell Size	A Square		B BSC.		C Mating Threads	Ø D Tail Dia.	Ø E	
	In.	mm.	In.	mm.			In.	mm.
5	.885	22.48	.500	12.70	.438-28 UNEF	**#23** .018/.022 (0.46/0.56)	.327	8.31
6	1.010	25.65	.625	15.88	.562-20 UN		.390	9.91
7	1.072	27.23	.688	17.48	.625-20 UN		.515	13.08
8	1.135	28.83	.750	19.05	.687-20 UN	**#20** .024/.028 (0.61/0.71)	.577	14.66
9	1.195	30.35	.812	20.62	.750-20 UNEF		.640	16.26
10	1.260	32.00	.875	22.23	.812-20 UNEF	**#16** .060/.064 (1.52/1.63)	.702	17.83
12	1.323	33.60	.938	23.83	.875-20 UNEF		.765	19.43
14	1.510	38.25	1.125	28.58	1.062-20 UN		.953	24.21
15	1.573	39.95	1.188	30.18	1.125-20 UN	**#12** .092/.096 (2.34/2.44)	1.015	25.78
21	1.750	44.45	1.375	34.93	1.4375-20 UN		1.312	33.32

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



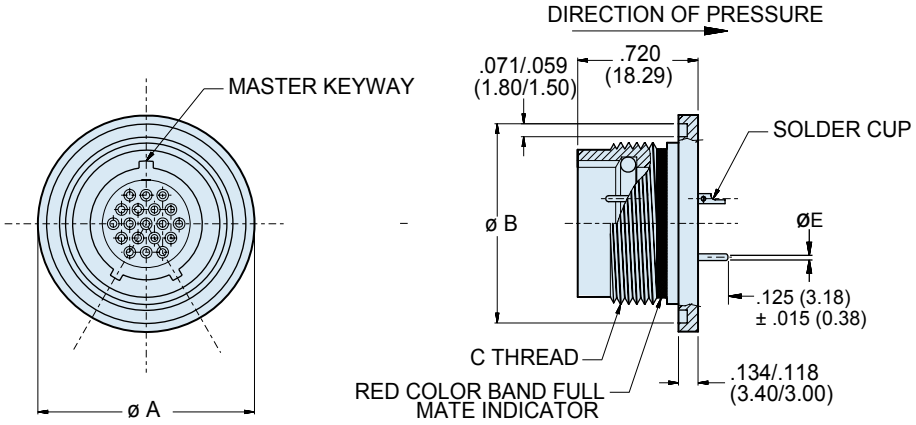
SERIES 802 SQ. FLANGE PANEL CUTOUT



Dimensions in Inches (millimeters) are subject to change without notice.

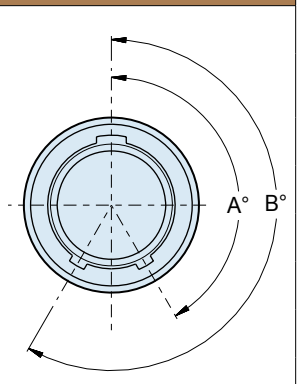
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802-013-03
Series 802 "Aqua Mouse" Submersible
Weld Mount Hermetic Receptacle
Connector Dimensions



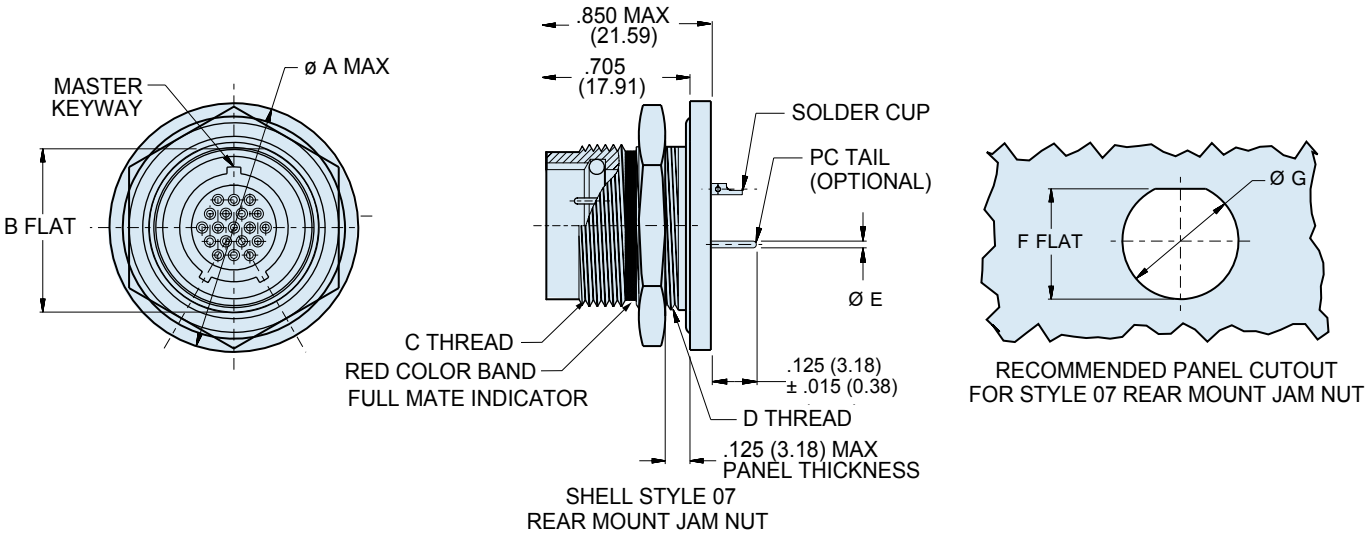
SHELL STYLE 03
WELD MOUNT

DIMENSIONS						
Shell Size	Ø A In. ± .006	Ø A mm. ± 0.15	Ø B In. ± .006	Ø B mm. ± 0.15	C Mating Threads	Ø E Tail Dia.
5	.788	20.02	.745	18.92	.438-28 UNEF	#23 .018/.022 (0.46/0.56)
6	.912	23.16	.869	22.07	.562-20 UN	
7	.975	24.77	.933	23.70	.625-20 UN	
8	1.038	26.37	.995	25.27	.687-20 UN	#20 .024/.028 (0.61/0.71)
9	1.100	27.94	1.057	26.85	.750-20 UNEF	
10	1.162	29.53	1.119	28.42	.812-20 UNEF	
12	1.225	31.12	1.182	30.02	.875-20 UNEF	#16 .060/.064 (1.52/1.63)
14	1.412	35.86	1.369	34.77	1.062-20 UN	
15	1.475	37.47	1.432	36.37	1.125-20 UN	#12 .092/.096 (2.34/2.44)
21	1.795	45.59	1.747	44.38	1.4375-20 UN	

SERIES 802 RECEPTACLE KEY POSITIONS			
Key Position	Key Rotation A°	Key Rotation B°	
Normal (A)	150°	210°	
B	75°	210°	
C	95°	230°	
D	140°	275°	
E	75°	275°	
F	95°	210°	

Dimensions in Inches (millimeters) are subject to change without notice.

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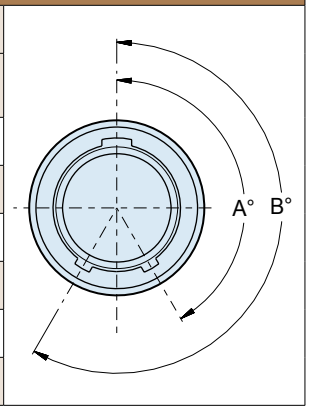


DIMENSIONS

Shell Size	Ø A Max. In.	Ø A Max. mm.	B Flat In. ± .003	B Flat mm. ±0.08	C Mating Threads	D Threads	Ø E Tail Dia.	F Flat In. ± .003	F Flat mm. ±0.08	Ø G In.	Ø G mm.
5	.885	22.48	.466	11.84	.438-28 UNEF	.500-32 UN-2A	#23 .018/.022 (0.46/0.56)	.473	12.01	.510	12.95
6	1.010	25.65	.591	15.01	.562-20 UN	.625-20 UN-2A		.603	15.32	.635	16.13
7	1.072	27.23	.653	16.59	.625-20 UN	.687-28 UN-2A		.662	16.81	.697	17.70
8	1.135	28.83	.727	18.47	.687-20 UN	.750-28 UN-2A	#20 .024/.028 (0.61/0.71)	.735	18.67	.760	19.30
9	1.195	30.35	.778	19.76	.750-20 UNEF	.812-28 UN-2A		.785	19.94	.822	20.88
10	1.260	32.00	.827	21.01	.812-20 UNEF	.875-28 UN-2A	#16 .060/.064 (1.52/1.63)	.835	21.21	.885	22.48
12	1.322	33.58	.890	22.61	.875-20 UNEF	.938-28 UN-2A		.899	22.83	.948	24.08
14	1.510	38.25	1.077	27.36	1.062-20 UN	1.125-28 UN-2A		1.085	27.56	1.135	28.83
15	1.572	39.93	1.140	28.96	1.125-20 UN	1.188-28 UN-2A	#12 .092/.096 (2.34/2.44)	1.155	29.34	1.198	30.43
21	1.940	49.28	1.464	37.19	1.4375-20 UN	1.500-28 UN-2A		1.473	37.41	1.510	39.12

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



Dimensions in Inches (millimeters) are subject to change without notice.

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802-040
Series 802 "Aqua Mouse" Submersible
Hermetic Receptacle How to Order Information
Sizes 12 and 16 Only



802-040-00 Front Mount

Series 802 Hermetic Receptacles feature 316L stainless steel shells, fused vitreous glass insulators and Alloy 52 iron alloy contacts.

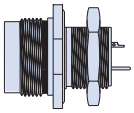
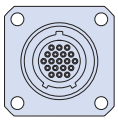
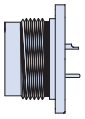
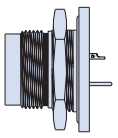
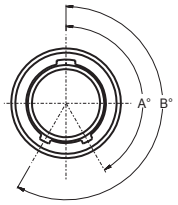
1 X 10^{-7} cc/second maximum helium leak rate.

Four Shell Styles: front mount jam nut, front panel square flange mount, weld mount and rear panel jam nut mount.

Cable Adapters with Crimp Rings provided with each connector for reliable cable termination.

HOW TO ORDER

Sample Part Number

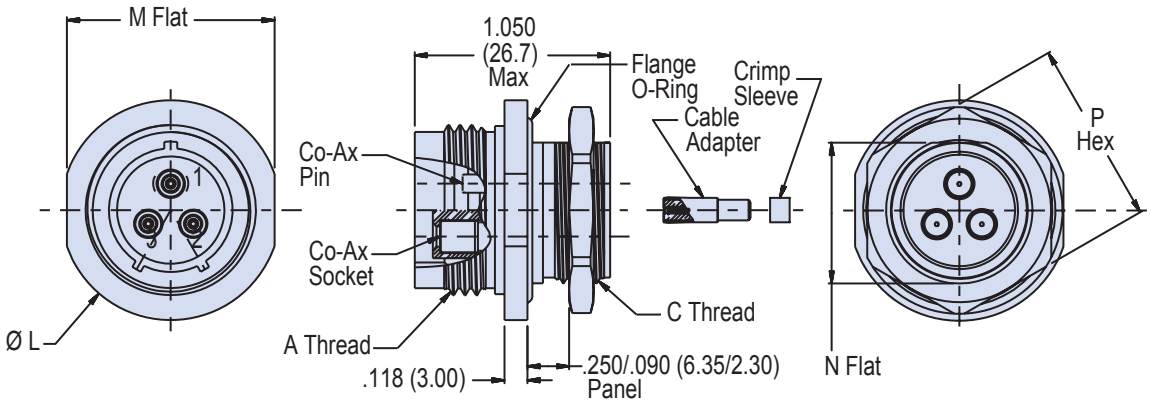
802-040	-07	Z1	12-3	P	A	-210
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size/ Insert Arrangement**	**Contact Type**	**Shell Key Position**	**Cable Style**
802-040 Hermetic Receptacle, Co-Ax Contacts, Sizes 12 and 16 Only	**-00** **Front Mount Jam Nut**  **-02** **Front Panel Square Flange Mount**  **-03** **Weld Mount**  **-07** **Rear Panel Jam Nut Mount** 	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel / Nickel Plated Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Co-Ax Pin **S** Co-Ax Socket	**A** Normal **B** Pos. B **C** Pos. C **D** Pos. D **E** Pos. E **F** Pos. F  	Specify BIN Code per AS39029/27, /28, /76 and /78 **Note:** Each connector is supplied with sufficient cable adapters and crimp rings to terminate appropriate cable for insertion into contact rear. After cable is terminated and adapter inserted into contact rear, the rear of the connector must be potted to cover adapters.

	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

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802-040-00
Series 802 "Aqua Mouse" Submersible
Co-Ax Contacts • Sizes 12 and 16 Only
Front Panel Jam Nut Mount Hermetic Receptacle



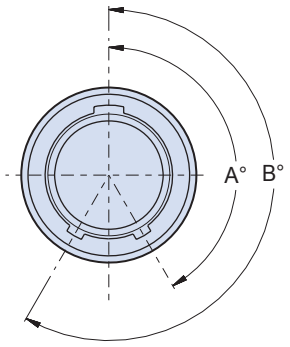
Front Panel Jam Nut Mount Submersible Hermetic
802-040-00

DIMENSIONS

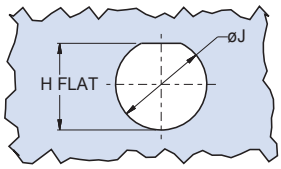
Shell Size	L Max.		M Flat		A Mating Threads	C Threads	N Flat		P Hex	
	In.	mm.	In.	mm.			In.	mm.	In.	mm.
5	.720	18.29	.625	15.88	.438-28 UNEF-2A	.312-28 UN-2A	.281	7.14	.500	12.70
6	.780	19.81	.750	19.05	.562-20 UN-2A	.438-28 UN-2A	.344	8.74	.625	15.88
7	.910	23.11	.812	20.62	.625-20 UN-2A	.500-32 UN-2A	.469	11.91	.688	17.48
8	.960	24.38	.875	22.23	.687-20 UN-2A	.562-28 UN-2A	.531	13.49	.750	19.05
9	1.030	26.16	.937	23.80	.750-20 UNEF-2A	.625-20 UN-2A	.594	15.09	.812	20.62
10	1.090	27.69	1.000	25.40	.812-20 UNEF-2A	.687-28 UN-2A	.656	16.66	.875	22.23
12	1.160	29.46	1.062	26.97	.875-20 UNEF-2A	.750-28 UN-2A	.719	18.26	.938	23.83
14	1.340	34.04	1.250	31.75	1.062-20 UN-2A	.938-28 UN-2A	.893	22.68	1.125	28.58
15	1.410	35.18	1.312	33.32	1.125-20 UN-2A	1.000-28 UN-2A	.955	24.26	1.188	30.18
21	1.700	43.18	1.562	39.67	1.4375-20 UN-2A	1.312-28 UN-2A	1.257	31.93	1.500	38.10

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation	
	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



CUTOUT DIMENSIONS



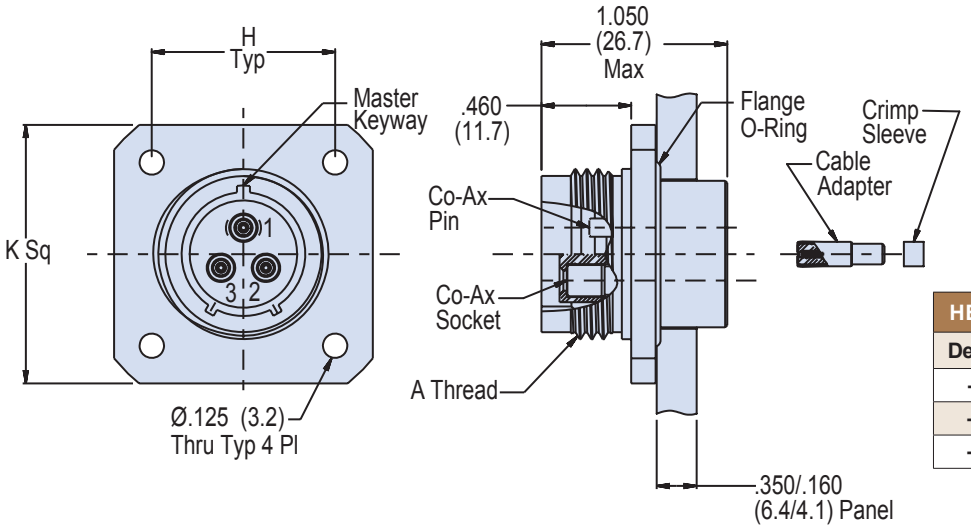
RECOMMENDED PANEL CUTOUT
FOR STYLE 00
FRONT MOUNT JAM NUT

Shell Size	H Flat		Ø J	
	In.	mm.	In.	mm.
5	.291/.286	7.4/7.3	.322	8.2
6	.417/.412	10.6/10.5	.448	11.4
7	.479/.474	12.2/12.0	.510	13.0
8	.541/.536	13.7/13.6	.572	14.5
9	.604/.599	15.3/15.2	.635	16.1
10	.666/.661	16.9/16.8	.697	17.7
12	.729/.724	18.5/18.4	.760	19.3
14	.903/.898	22.9/22.8	.948	24.1
15	.965/.960	24.5/24.4	1.010	25.7
21	1.267/1.263	32.2/32.1	1.322	33.6

Dimensions in Inches (millimeters) are subject to change without notice.

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802-040-02
Series 802 "Aqua Mouse" Submersible
Coax Contacts • Sizes 12 and 16 Only
Front Panel Square Flange Mount Hermetic Receptacle



HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

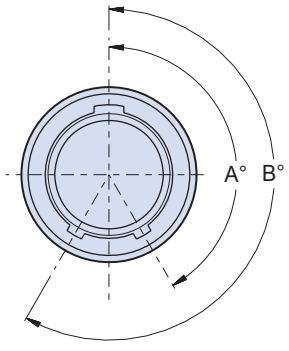
Front Panel Square Flange Mount Submersible Hermetic
802-040-02

DIMENSIONS

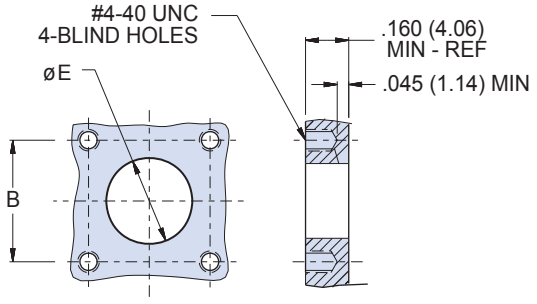
Shell Size	K Square		H Bsc.		A Mating Threads	Ø E	
	In.	mm.	In.	mm.		In.	mm.
5	.885	22.48	.500	12.70	.438-28 UNEF	.327	8.31
6	1.010	25.65	.625	15.88	.562-20 UN	.390	9.91
7	1.072	27.23	.688	17.48	.625-20 UN	.515	13.08
8	1.135	28.83	.750	19.05	.687-20 UN	.577	14.66
9	1.195	30.35	.812	20.62	.750-20 UNEF	.640	16.26
10	1.260	32.00	.875	22.23	.812-20 UNEF	.702	17.83
12	1.323	33.60	.938	23.83	.875-20 UNEF	.765	19.43
14	1.510	38.25	1.125	28.58	1.062-20 UN	.953	24.21
15	1.573	39.95	1.188	30.18	1.125-20 UN	1.015	25.78
21	1.750	44.45	1.375	34.93	1.4375-20 UN	1.312	33.32

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

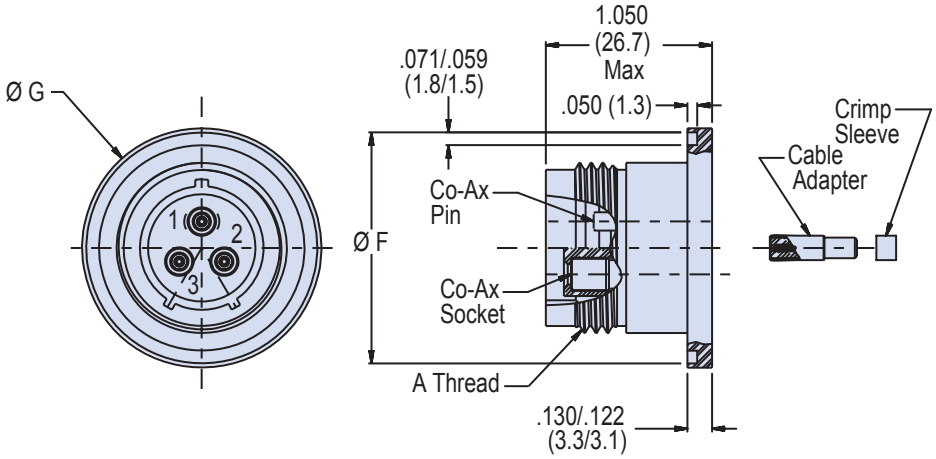


SERIES 802 SQ. FLANGE PANEL CUTOUT



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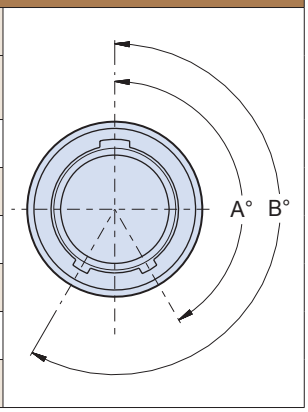
Weld Mount Submersible Hermetic
802-040-03

DIMENSIONS

Shell Size	Ø G In. ± .006	Ø G mm. ± 0.15	Ø F In. ± .006	Ø F mm. ± 0.15	A Mating Threads
5	.788	20.02	.745	18.92	.438-28 UNEF
6	.912	23.16	.869	22.07	.562-20 UN
7	.975	24.77	.933	23.70	.625-20 UN
8	1.038	26.37	.995	25.27	.687-20 UN
9	1.100	27.94	1.057	26.85	.750-20 UNEF
10	1.162	29.53	1.119	28.42	.812-20 UNEF
12	1.225	31.12	1.182	30.02	.875-20 UNEF
14	1.412	35.86	1.369	34.77	1.062-20 UN
15	1.475	37.47	1.432	36.37	1.125-20 UN
21	1.795	45.59	1.747	44.38	1.4375-20 UN

SERIES 802 RECEPTACLE KEY POSITIONS

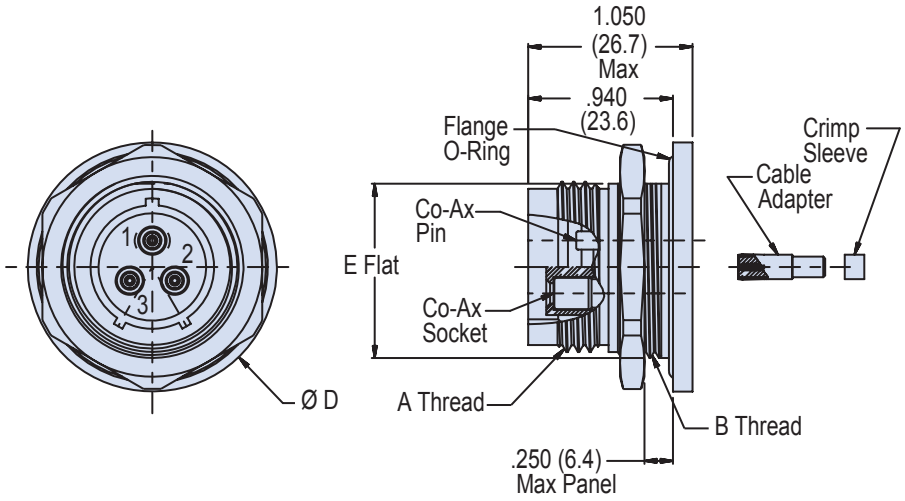
Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



Dimensions in Inches (millimeters) are subject to change without notice.

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802-040-07
Series 802 "Aqua Mouse" Submersible
Coax Contacts • Sizes 12 and 16 Only
Rear Panel Jam Nut Mount Hermetic Receptacle



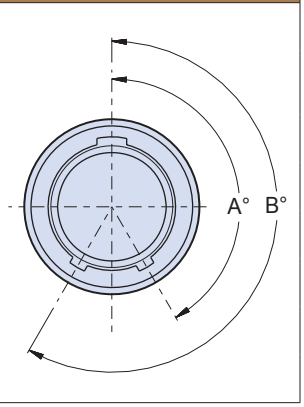
Rear Panel Jam Nut Mount Submersible Hermetic
802-040-07

DIMENSIONS

Shell Size	D Max.		E Flat		A Mating Threads	B Threads
	In.	mm.	In. ± .003	mm. ± 0.08		
5	.885	22.48	.466	11.84	.438-28 UNEF	.500-32 UN-2A
6	1.010	25.65	.591	15.01	.562-20 UN	.625-20 UN-2A
7	1.072	27.23	.653	16.59	.625-20 UN	.687-28 UN-2A
8	1.135	28.83	.716	18.19	.687-20 UN	.750-28 UN-2A
9	1.195	30.35	.778	19.76	.750-20 UNEF	.812-28 UN-2A
10	1.260	32.00	.827	21.01	.812-20 UNEF	.875-28 UN-2A
12	1.322	33.58	.890	22.61	.875-20 UNEF	.938-28 UN-2A
14	1.510	38.25	1.077	27.36	1.062-20 UN	1.125-28 UN-2A
15	1.572	39.93	1.140	28.96	1.125-20 UN	1.188-28 UN-2A
21	1.940	49.28	1.464	37.19	1.4375-20 UN	1.500-28 UN-2A

SERIES 802 RECEPTACLE KEY POSITIONS

Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°



Dimensions in Inches (millimeters) are subject to change without notice.

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803-006
Series 803 Mighty Mouse Hermetic Receptacles
with ¼ Turn Bayonet Coupling
How to Order Information



Series 803 Hermetic Jam Nut Mount

Series 803 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulators and gold-plated Alloy 52 iron alloy contacts.

1 X 10^{-7} cc/second maximum Helium leak rate when tested at 1 atmosphere vacuum.

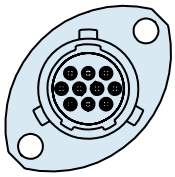
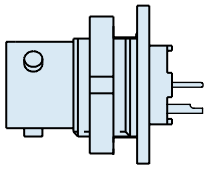
Two Shell Styles are available: Jam Nut and Flange Mount.

Solder Cup Contacts accept up to #22 AWG stranded wire. Or, choose ***Printed Circuit Board Contacts*** for attachment to rigid boards or flexible circuits.

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

HOW TO ORDER

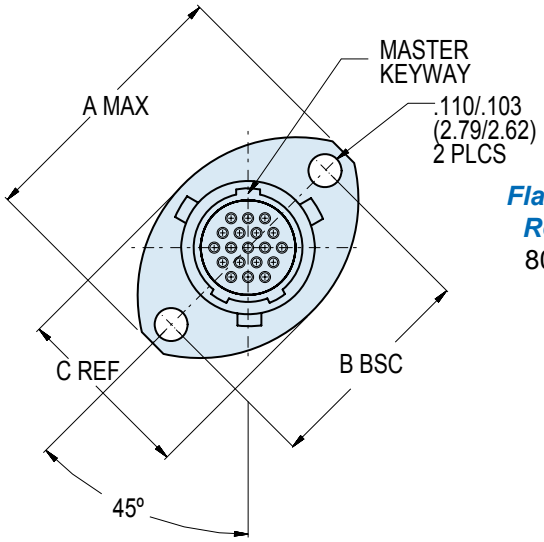
Sample Part Number

803-006	-07	Z1	9-19	P	N
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size/Insert**	**Contact Type**	**Shell Key Position**
803-006 Hermetic Receptacles with Printed Circuit Board Contacts or Solder Cup Contacts	 **-02** Flange Mount  **-07** Jam Nut	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel/ Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Pin, Solder Cup **C** Pin, PC Tail **S** Socket, Solder Cup **D** Sockets, PC Tail	**N** Normal Alternate Key Positions: **X** **Y** **Z**

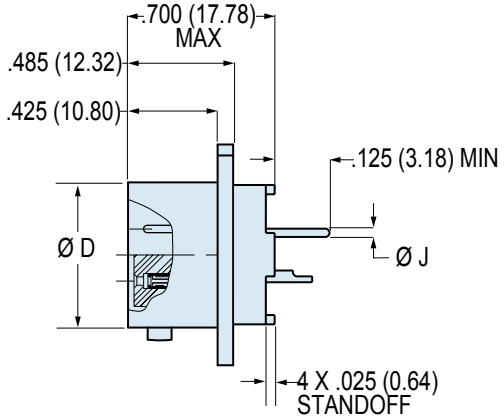
Dimensions in Inches (millimeters) are subject to change without notice.

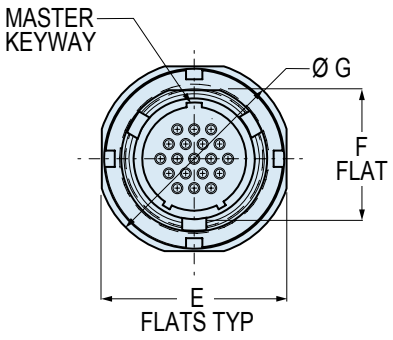
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803-006-02 and 803-006-07
Series 803 Mighty Mouse Hermetic Receptacles
¼ Turn Bayonet Coupling Flange Mount and Jam Nut
Connector Dimensions

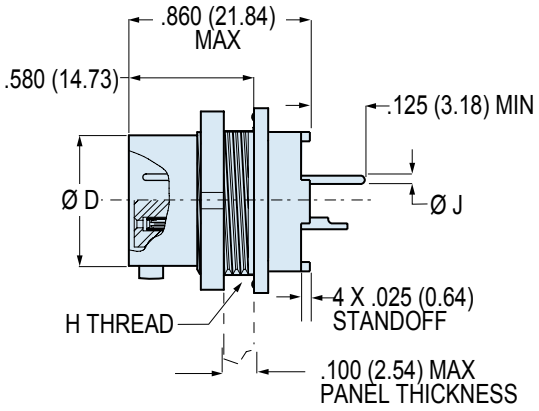


Flange Mount Receptacle
803-006-02





Jam Nut Receptacle
803-006-07



DIMENSIONS

Shell Size	A Max.		B Bsc.		C Ref.		Ø D		E Flats		F Flat		Ø G		H Thread	Ø J Tail Dia.
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		
5	.703	17.86	.513	13.03	.460	11.68	.300	7.62	.545	13.84	.350	8.89	.575	14.61	.3750-32 UNEF-2A	#23 .018/.022 (0.46/0.56)
6	.788	20.02	.598	15.19	.522	13.26	.362	9.19	.595	15.11	.410	10.42	.635	16.13	.4375-28 UNEF-2A	
7	.890	22.61	.708	17.98	.590	14.99	.436	11.07	.723	18.36	.536	13.61	.755	19.18	.5625-32 UN-2A	#20 .024/.028 (0.61/0.71)
8	1.154	29.31	.964	24.49	.668	16.97	.508	12.91	.790	20.07	.593	15.10	.755	19.18	.6250-32 UN-2A	
9	1.207	30.66	1.017	25.83	.721	18.31	.561	14.25	.790	20.07	.593	15.10	.830	21.08	.6250-28 UN-2A	#16 .060/.064 (1.52/1.63)
10	1.291	32.79	1.101	27.97	.795	20.19	.635	16.13	.925	23.51	.721	18.31	.890	22.61	.7500-28 UN-2A	
12	1.394	35.41	1.204	30.58	.874	22.20	.714	18.14	1.044	26.52	.845	21.46	1.078	27.38	.8750-28 UN-2A	#12 .092/.096 (2.34/2.44)
14	1.545	39.24	1.280	32.51	1.050	26.67	.865	21.97	1.230	31.24	1.022	25.96	1.264	32.11	1.0625-20 UN-2A	

Dimensions in Inches (millimeters) are subject to change without notice.

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Series 804 Hermetic Jam Nut Mount

Series 804 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulators and gold-plated Alloy 52 iron alloy contacts.

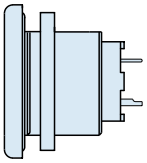
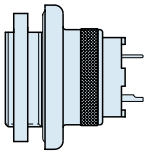
1 X 10^{-7} cc/second maximum helium leak rate when tested at 1 atmosphere vacuum.

Two Shell Styles are available:
Style 00 for front panel mounting
Style 07 for rear panel mounting.

"Push-Pull" Quick-Disconnect
Canted coil spring securely retains mating plug connector and provides low shell-to-shell resistance for excellent EMI shielding. O-ring inside receptacle shell provides water-tight seal when mated.

HOW TO ORDER

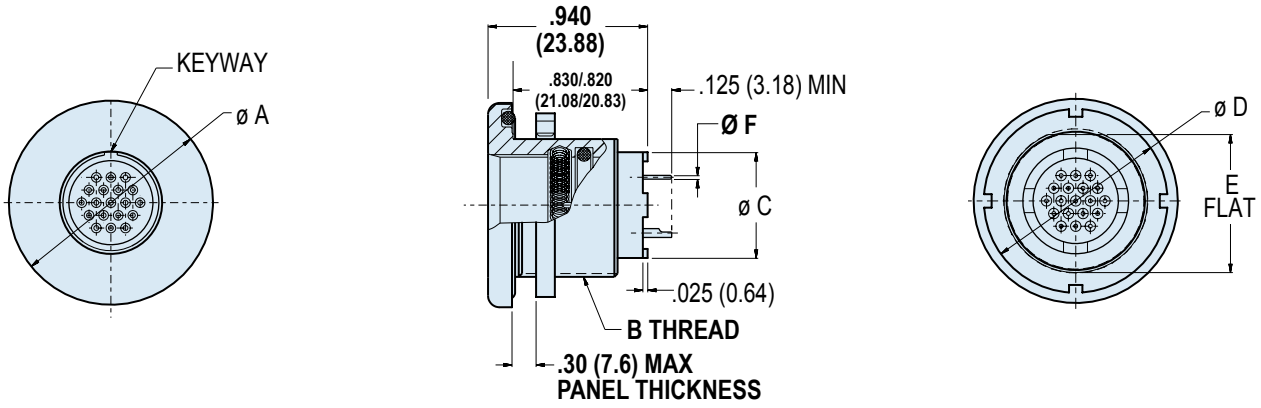
Sample Part Number

804-006	-07	Z1	9-19	P	A
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size/Insert**	**Contact Type**	**Shell Key Position**
804-006 Hermetic Receptacles with Printed Circuit Board Contacts or Solder Cup Contacts	 **-00** Jam Nut, Front Panel  **-07** Jam Nut, Rear Panel	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel/ Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Pin, Solder Cup **C** Pin, PC Tail **S** Socket, Solder Cup **D** Socket, PC Tail	**Omit** for Single Master Key **A** Pos. A (Normal) **B** Pos. B **C** Pos. C **D** Pos. D

Dimensions in Inches (millimeters) are subject to change without notice.

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804-006-00
Series 804 Mighty Mouse Hermetic Receptacles
Front Panel Jam Nut Mount Connector Dimensions

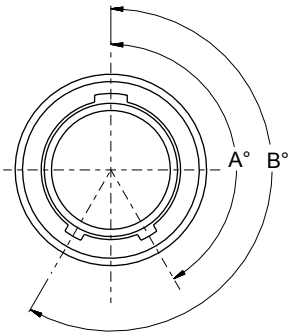


Front Panel Jam Nut
804-006-00

DIMENSIONS

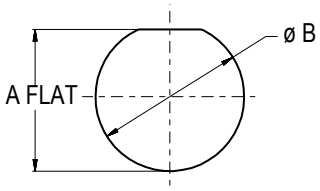
Shell Size	Ø A		B Threads	Ø C		Ø D		E Flat		Ø F Tail Dia.
	In.	mm.		In.	mm.	In.	mm.	In.	mm.	
5	.830	21.08	.5000-32 UN-2A	.244	6.20	.625	15.87	.470	11.94	**#23** .018/.022 (0.46/0.56) **#20** .024/.028 (0.61/0.71) **#16** .060/.064 (1.52/1.63) **#12** .092/.096 (2.34/2.44)
6	.885	22.48	.5625-28 UN-2A	.336	8.53	.688	17.47	.530	13.46	
7	.995	25.27	.6875-32 UN-2A	.432	10.97	.812	20.62	.663	16.84	
8	.995	25.27	.6875-32 UN-2A	.493	12.52	.812	20.62	.663	16.84	
9	1.075	27.31	.7500-28 UN-2A	.551	14.00	.875	22.22	.720	18.29	
10	1.140	28.95	.8125-28 UN-2A	.620	15.75	.938	23.82	.788	20.02	
11	1.190	30.23	.8750-28 UN-2A	.662	16.81	1.000	25.40	.843	21.41	
12	1.340	34.04	1.0000-28 UN-2A	.703	17.86	1.125	28.57	.970	24.64	
14	1.390	35.31	1.0625-20 UN-2A	.863	21.92	1.162	41.15	1.020	25.91	

ALTERNATE KEY POSITIONS



Pos.	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

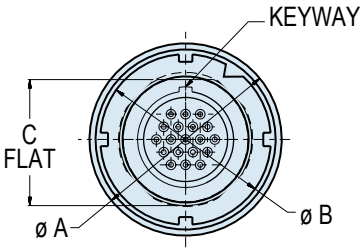
JAM NUT PANEL CUTOUT

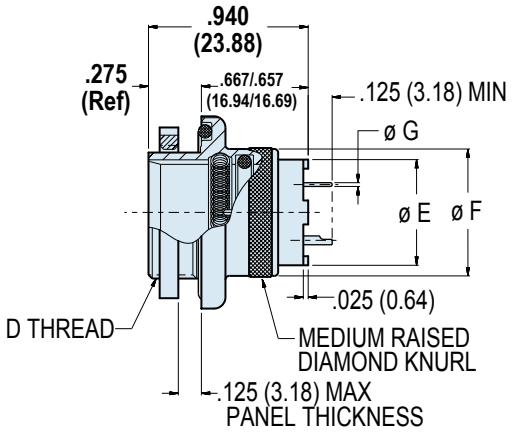


Shell Size	A Flat		Ø B	
	In. ± .002	mm. ± 0.05	In.	mm.
5	.480	12.19	.510	12.95
6	.540	13.72	.575	14.61
7	.674	17.12	.698	17.73
8	.674	17.12	.698	17.73
9	.730	18.54	.760	19.30
10	.799	20.29	.822	20.88
11	.853	21.67	.885	22.48
12	.980	24.89	1.010	25.65
14	1.030	26.16	1.075	27.31

Dimensions in Inches (millimeters) are subject to change without notice.

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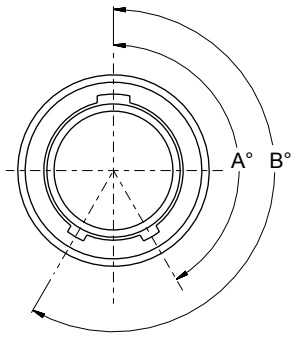


Rear Panel Jam Nut
804-006-07

DIMENSIONS

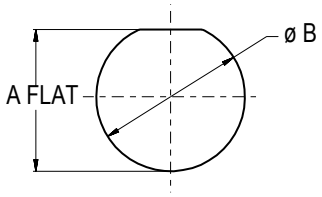
Shell Size	Ø A		Ø B		C Flat		D Threads	Ø E		Ø F		Ø G Tail Dia.
	In.	mm.	In.	mm.	In.	mm.		In.	mm.	In.	mm.	
5	.790	20.07	.562	14.27	.415	10.54	.4375-32 UN-2A	.244	6.20	.450	11.43	
6	.830	21.08	.625	15.87	.467	14.40	.5000-32 UN-2A	.330	8.38	.520	13.21	**#23** .018/.022 (0.46/0.56)
7	.910	23.11	.750	19.05	.594	15.09	.6250-28 UN-2A	.432	10.97	.580	14.73	
8	.955	24.26	.750	19.05	.594	15.09	.6250-28 UN-2A	.493	12.52	.603	15.32	**#20** .024/.028 (0.61/0.71)
9	1.000	25.40	.812	20.62	.655	16.64	.6875-32 UN-2A	.551	14.00	.695	17.65	
10	1.085	27.48	.875	22.22	.721	18.31	.7500-28 UN-2A	.620	15.75	.735	18.67	**#16** .060/.064 (1.52/1.63)
11	1.135	28.83	.938	23.82	.788	20.01	.8125-28 UN-2A	.662	16.81	.810	20.57	
12	1.180	29.97	1.000	25.40	.843	21.41	.8750-28 UN-2A	.703	17.86	.880	22.35	**#12** .092/.096 (2.34/2.44)
14	1.325	33.66	1.125	28.57	.968	24.59	1.0000-28 UN-2A	.863	21.92	1.010	25.65	

ALTERNATE KEY POSITIONS



Pos.	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

JAM NUT PANEL CUTOUT

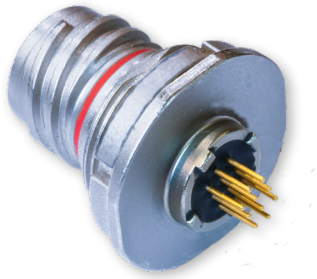


Shell Size	A Flat		Ø B	
	In. ± .002	mm. ± 0.05	In.	mm.
5	.425	10.80	.448	11.38
6	.477	12.12	.510	12.95
7	.604	15.34	.635	16.13
8	.604	15.34	.635	16.13
9	.665	16.89	.695	17.65
10	.731	18.57	.760	19.30
12	.853	21.67	.885	22.48
14	.978	24.84	1.010	25.65

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805-006 Mighty Mouse
Hermetic Receptacles with PC Tails or Solder Cups
How to Order Information



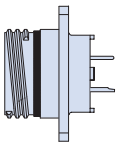
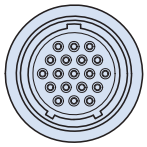
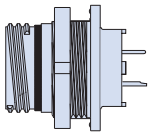
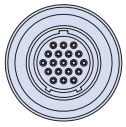
Series 805 Hermetic Receptacles feature 304L stainless steel shells, fused vitreous glass insulator and alloy 52 gold plated contacts. Triple-start ACME thread provides fast mating and cross-threading protection. 1 X 10^{-7} cc/second maximum helium leak rate.

Four Shell Styles: jam nut, square flange, solder mount or weld mount.

Solder Cup Contacts or PC Tails
Solder cup contacts accommodate up to size #22 AWG wire. For attachment to flexible or rigid circuits select PC tails.

HOW TO ORDER SERIES 800 HERMETIC RECEPTACLES

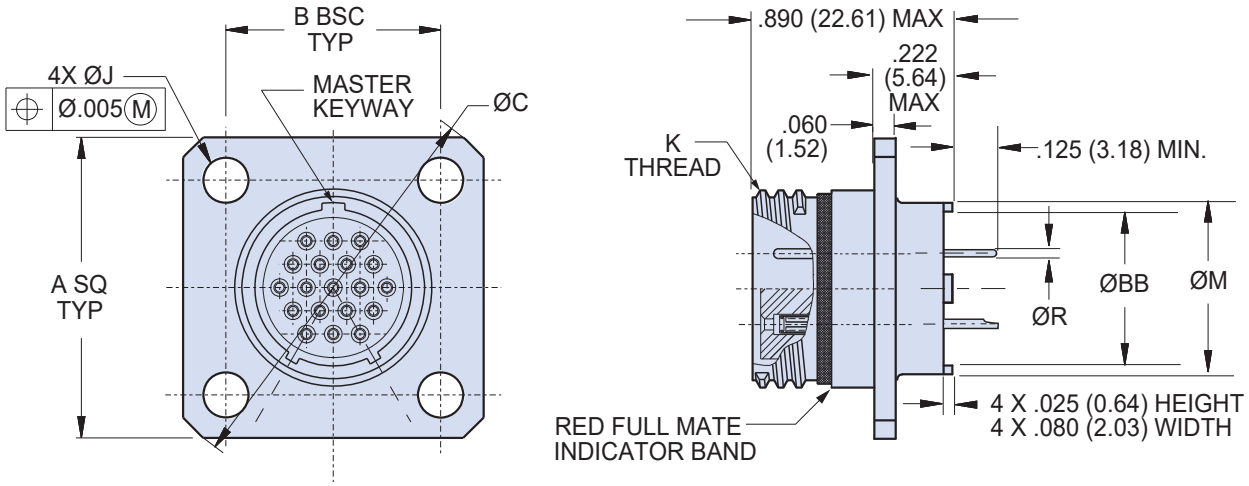
Sample Part Number

805-006	-07	Z1	12-26	C	A
Series	**Shell Style**	**Shell Material / Finish**	**Shell Size- Insert Arrangement**	**Contact Type**	**Shell Key Position**
805-006 Hermetic Receptacle	 **-02** Square Flange  **-03** Solder Mount  **-07** Jam Nut  **-13** Weld Mount	**Z1** Stainless Steel / Passivated **ZL** Stainless Steel / Nickel Plated *Titanium and Inconel® shell materials are available. Consult factory for ordering information.	See Page C-4 for Contact Arrangements	**P** Pin, Solder Cup **C** Pin, PC Tail **S** Socket, Solder Cup **D** Socket, PC Tail	**A** Position A (Normal) **B** Position B **C** Position C **D** Position D **E** Position E **F** Position F

Dimensions in Inches (millimeters) are subject to change without notice.

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805-006-02 Mighty Mouse
Hermetic Receptacles with PC Tails or Solder Cups
Flange Mount Hermetic Receptacles

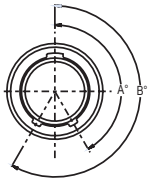


Dimensions								
Shell Size	A SQ	B BSC	BB	Ø C	Ø J Holes	K Threads	Ø M	Ø R Tail Dia.
8	.850 (21.59)	.660 (16.76)	.236 (5.99)	1.150 (29.21)	.096 .091 (2.44) (2.31)	.5000-.1P-.3L-TS-2A	.330 (8.38)	**#23** .018/.022 (0.46/0.56) **#20** .024/.028 (0.61/0.71) **#16** .060/.064 (1.52/1.63) **#12** .092/.096 (2.34/2.44)
9	.913 (23.19)	.723 (18.36)	.322 (8.18)	1.230 (31.24)		.5625-.1P-.3L-TS-2A	.432 (10.97)	
10	.975 (24.76)	.785 (19.94)	.386 (9.80)	1.330 (33.78)		.6250-.1P-.3L-TS-2A	.493 (12.52)	
11	1.039 (26.39)	.848 (21.54)	.442 (11.23)	1.410 (35.81)		.6875-.1P-.3L-TS-2A	.553 (14.05)	
12	1.099 (27.91)	.909 (23.09)	.513 (13.03)	1.500 (38.10)		.7500-.1P-.3L-TS-2A	.620 (15.75)	
13	1.163 (29.54)	.973 (24.71)	.554 (14.07)	1.590 (40.39)		.8125-.1P-.3L-TS-2A	.661 (16.79)	
15	1.288 (32.72)	1.058 (26.87)	.594 (15.09)	1.750 (44.45)	.130 .126 (3.30) (3.20)	.9375-.1P-.3L-TS-2A	.703 (17.86)	
18	1.475 (37.47)	1.255 (31.88)	.755 (19.18)	2.000 (50.80)		1.1250-.1P-.3L-TS-2A	.863 (21.92)	
19	1.537 (39.04)	1.327 (33.71)	.805 (20.45)	2.094 (53.19)		1.1875-.1P-.3L-TS-2A	.912 (23.16)	
21	1.663 (42.24)	1.452 (36.88)	.910 (23.11)	2.270		1.3125-.1P-.3L-TS-2A	1.017 (25.83)	
23	1.787 (45.39)	1.576 (40.03)	1.055 (26.80)	2.440 (61.98)		1.4375-.1P-.3L-TS-2A	1.162 (29.51)	

Performance Specifications	
DWV (VAC Sea Level)	#23: 750 V., #20HD: 1000 V., #12 AND #16: 1800 V.
Insulation Resistance	5000 Megohms Minimum
Operating Temperature	-55° C. to +150° C.
Immersion, Mated	MIL-STD-810 Method 512. One Meter for One Hour.
Hermeticity	1 x 10^{-7} cc/sec Helium Leak Rate @ 1 Atmosphere Di□.

Materials And Finishes	
Shell	304L Stainless Steel
Insulator	Fused Vitreous Glass
Seals	Fluorosilicone Rubber, Blue
Contacts	Iron Alloy (Alloy 52)

Series 805 Key Positions

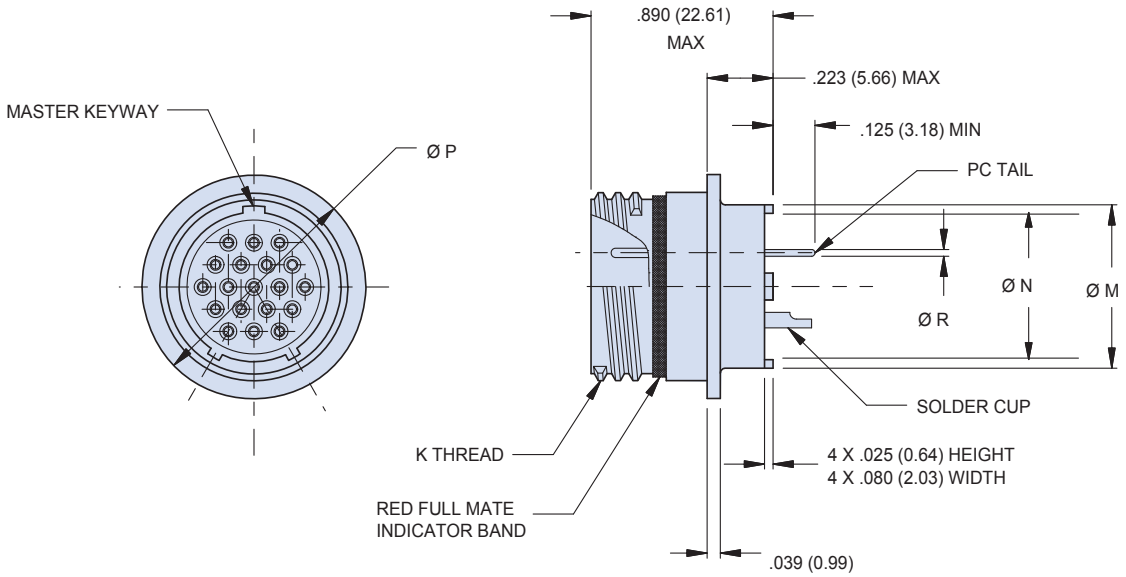


Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

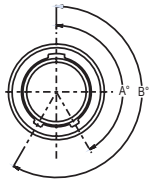
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805-006-03 Mighty Mouse
Hermetic Receptacles with PC Tails or Solder Cups
Solder Mount Receptacles



Dimensions					
Shell Size	Ø P	K Thread	M Ø	N Ø	Ø R Tail Dia.
8	.625 (15.88)	.5000-.1P-.3L-TS-2A	.330 (8.38)	.236 (5.99)	**#23** .018/.022 (0.46/0.56) **#20** .024/.028 (0.61/0.71) **#16** .060/.064 (1.52/1.63) **#12** .092/.096 (2.34/2.44)
9	.688 (17.48)	.5625-.1P-.3L-TS-2A	.432 (10.97)	.322 (8.18)	
10	.750 (19.05)	.6250-.1P-.3L-TS-2A	.493 (12.52)	.386 (9.80)	
11	.812 (20.62)	.6875-.1P-.3L-TS-2A	.553 (14.05)	.442 (11.23)	
12	.875 (22.23)	.7500-.1P-.3L-TS-2A	.620 (15.75)	.513 (13.03)	
13	.938 (23.83)	.7500-.1P-.3L-TS-2A	.661 (16.79)	.554 (14.07)	
15	1.062 (26.97)	.9375-.1P-.3L-TS-2A	.703 (17.86)	.594 (15.09)	
18	1.250 (31.75)	1.1250-.1P-.3L-TS-2A	.863 (21.92)	.755 (19.18)	
19	1.312 (33.32)	1.1875-.1P-.3L-TS-2A	.912 (23.16)	.805 (20.45)	
21	1.438 (36.53)	1.3725-.1P-.3L-TS-2A	1.017 (25.83)	.910 (23.11)	
23	1.562 (39.67)	1.4375-.1P-.3L-TS-2A	1.162 (29.51)	1.055 (26.80)	

Series 805 Key Positions

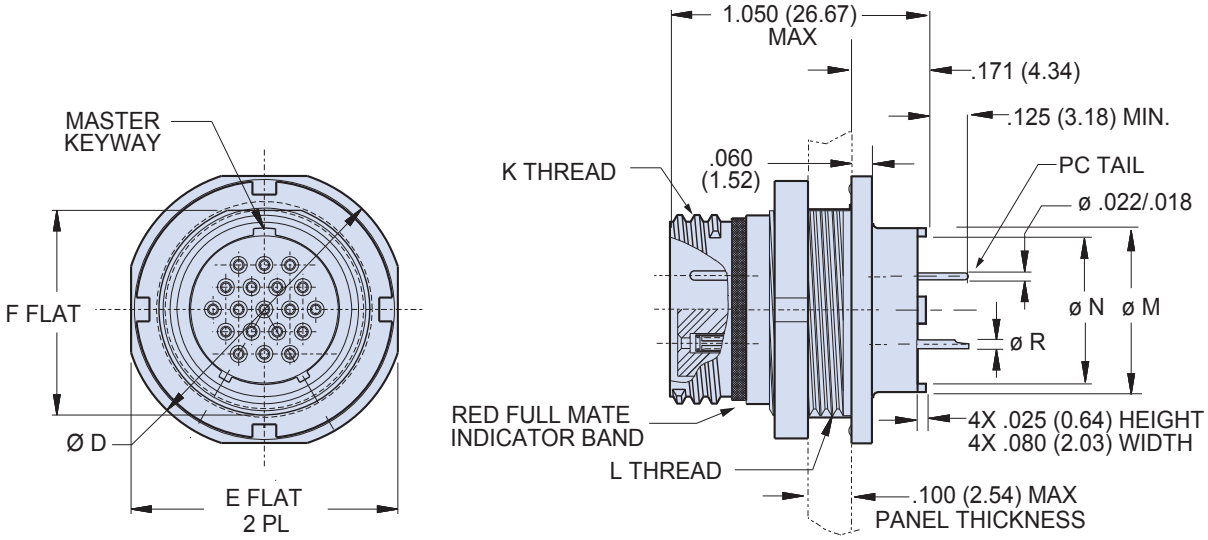


Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

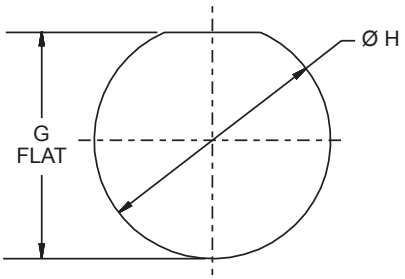
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805-006-07 Mighty Mouse
Hermetic Receptacles with PC Tails or Solder Cups
Jam-Nut Mount Receptacles



Dimensions								
Shell Size	Ø D	E Flat	F Flat	Ø M	Ø N	K Thread	L Thread	Ø R Tail Dia.
8	.760 (19.30)	.730 (18.54)	.535 (13.59)	.330 (8.38)	.236 (5.99)	.5000-.1P-.3L-TS-2A	.5625-28 UNEF-2A	**#23** .018/.022 (0.46/0.56) **#20** .024/.028 (0.61/0.71) **#16** .060/.064 (1.52/1.63) **#12** .092/.096 (2.34/2.44)
9	.880 (22.35)	.850 (21.59)	.661 (16.79)	.432 (10.97)	.322 (8.18)	.5625-.1P-.3L-TS-2A	.6875-28 UN-2A	
10	.880 (22.35)	.850 (21.59)	.661 (16.79)	.493 (12.52)	.386 (9.80)	.6250-.1P-.3L-TS-2A	.6875-28 UN-2A	
11	.955 (24.26)	.925 (23.50)	.721 (18.31)	.553 (14.05)	.442 (11.23)	.6875-.1P-.3L-TS-2A	.7500-28 UN-2A	
12	1.060 (26.92)	1.035 (26.29)	.784 (19.91)	.620 (15.75)	.513 (13.03)	.7500-.1P-.3L-TS-2A	.8125-28 UN-2A	
13	1.120 (28.45)	1.090 (27.69)	.843 (21.41)	.661 (16.79)	.554 (14.07)	.8125-.1P-.3L-TS-2A	.8750-28 UN-2A	
15	1.203 (30.56)	1.173 (29.79)	.970 (24.64)	.703 (17.86)	.594 (15.09)	.9375-.1P-.3L-TS-2A	1.0000-28 UN-2A	
18	1.389 (35.28)	1.359 (34.52)	1.147 (29.13)	.863 (21.92)	.755 (19.18)	1.1250-.1P-.3L-TS-2A	1.1875-28 UN-2A	
19	1.450 (36.83)	1.420 (36.07)	1.221 (31.01)	.912 (23.16)	.805 (20.45)	1.1875-.1P-.3L-TS-2A	1.2500-28 UN-2A	
21	1.580 (40.13)	1.550 (39.37)	1.350 (34.29)	1.017 (25.83)	.910 (23.11)	1.3125-.1P-.3L-TS-2A	1.3750-28 UN-2A	
23	1.705 (43.31)	1.675 (42.55)	1.470 (37.34)	1.162 (29.51)	1.055 (26.80)	1.4375-.1P-.3L-TS-2A	1.5000-25 UN-2A	

Panel Cutout For Jam Nut Receptacle		
Shell Size	G Flat ±.002 (0.05)	Ø H ±.002 (0.05)
8	.545 (13.84)	.573 (14.55)
9	.671 (17.04)	.698 (17.73)
10	.671 (17.04)	.698 (17.73)
11	.731 (18.57)	.760 (19.30)
12	.794 (20.17)	.823 (20.90)
13	.851 (21.62)	.885 (22.48)
15	.979 (24.87)	1.010 (25.65)
18	1.157 (29.39)	1.198 (30.43)
19	1.231 (31.27)	1.260 (32.00)
21	1.358 (34.49)	1.385 (35.18)
23	1.479 (37.57)	1.510 (38.35)

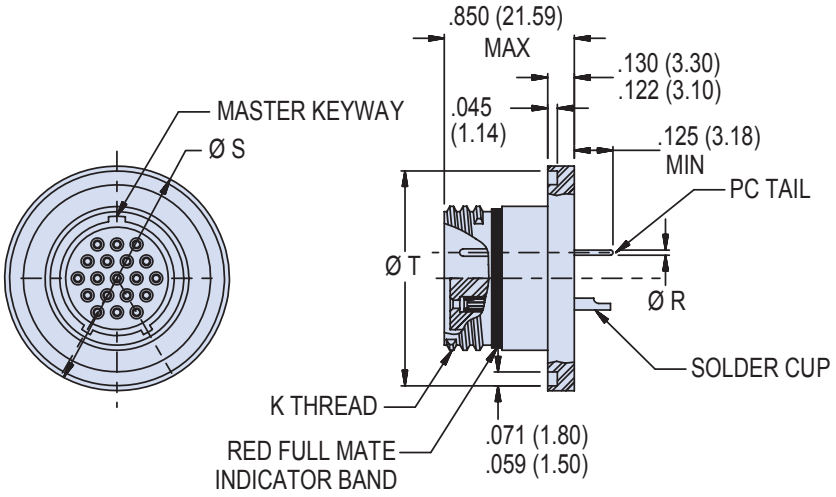


Series 805 Key Positions		
	Key Rotation	
Key Position	A°	B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

Dimensions in Inches (millimeters) are subject to change without notice.

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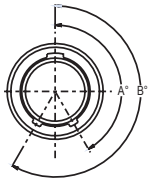
805-006-13
Series 805 Mighty Mouse Triple-Start
Weld Mount, Front Panel Mount Receptacle Dimensions



DIMENSIONS

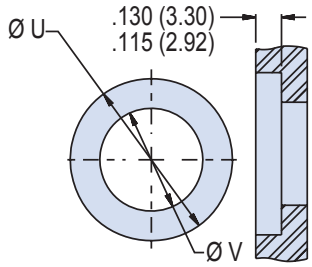
Shell Size	K Thread	Ø S ± .002		Ø T ± .006		Ø R Tail Dia.
		In.	mm.	In.	mm.	
8	.5000-.1p-.3L-TS	.788	20.02	.745	18.92	
9	.5625-.1p-.3L-TS	.912	23.16	.869	22.07	**#23** .018/.022 (0.46/0.56)
10	.6250-.1p-.3L-TS	.975	24.77	.933	23.70	
11	.6875-.1p-.3L-TS	1.038	26.37	.995	25.27	**#20** .024/.028 (0.61/0.71)
12	.7500-.1p-.3L-TS	1.100	27.94	1.057	26.85	
13	.8125-.1p-.3L-TS	1.162	29.51	1.119	28.42	
15	.9375-.1p-.3L-TS	1.288	32.72	1.245	31.63	**#16** .060/.064 (1.52/1.63)
18	1.1250-.1p-.3L-TS	1.475	37.47	1.430	36.32	
19	1.1875-.1p-.3L-TS	1.540	39.12	1.495	37.97	
21	1.3125-.1p-.3L-TS	1.665	42.29	1.620	41.15	**#12** .092/.096 (2.34/2.44)
23	1.4375-.1p-.3L-TS	1.795	45.59	1.750	44.45	

SERIES 805 KEY POSITIONS



Key Position	Key Rotation A°	Key Rotation B°
Normal (A)	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

PANEL CUTOUT FOR WELD MOUNT RECEPTACLE



Shell Size	Ø U ± .003		Ø V Min	
	In.	mm.	In.	mm.
8	.794	20.16	.350	8.89
9	.918	23.32	.455	11.56
10	.981	24.92	.520	13.21
11	1.044	26.52	.575	14.61
12	1.106	28.09	.650	16.51
13	1.168	29.67	.685	17.40
15	1.294	32.87	.730	18.54
18	1.481	37.62	.890	22.61
19	1.546	39.27	.940	23.88
21	1.671	42.44	1.040	26.42
23	1.801	45.75	1.190	30.23

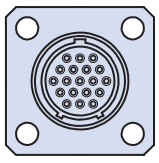
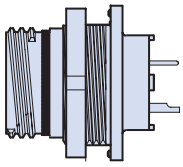
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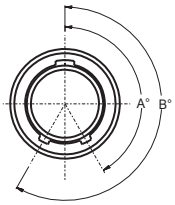
801-122
Series 801 Mighty Mouse CODE RED Hermetic Receptacle
Double-Start ACME Threads How to Order Information

How To Order						
Sample Part Number	**801-122**	**-07**	**ZNU**	**6-4**	**P**	**N**
Series	**801-013** = CODE RED Hermetic Receptacle					
Shell Style (See Table I)	**-02** = Square Flange Mount **-07** = Jam-Nut Rear Panel Mount					
Shell Material and Finish	**M** = Aluminum / Electroless Nickel **ME** = Aluminum / Electroless Nickel, Thick **NF** = Aluminum / Cad-Nickel/Olive Drab **ZN** = Aluminum / Zinc-Nickel/Olive Drab **ZNU/ZR** = Aluminum / Zinc-Nickel/Black Chromate					
Shell Size - Insert Arrangement	See Contact Arrangements page C-4. See Page C-10 for PCB footprints					
Contact Type	**E** = Pin, Solder Cup **F** = Socket, Solder Cup				**P** = Pin, PC Tail **S** = Socket, PC Tail	
Polarization	**A** = Normal **B** = Pos. B **C** = Pos. C **D** = Pos. D **E** = Pos. E **F** = Pos. F					

Table I: Shell Style

	
-02 Square Flange	**-07** Jam-Nut,Rear Panel Mount

Key Positions

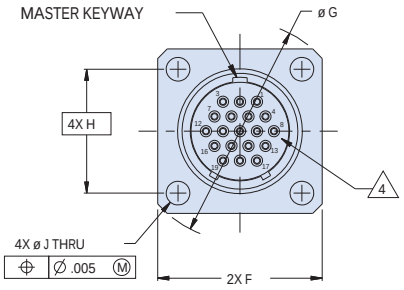


Position	A°	B°
A	150°	210°
B	75°	210°
C	95°	230°
D	140°	275°
E	75°	275°
F	95°	210°

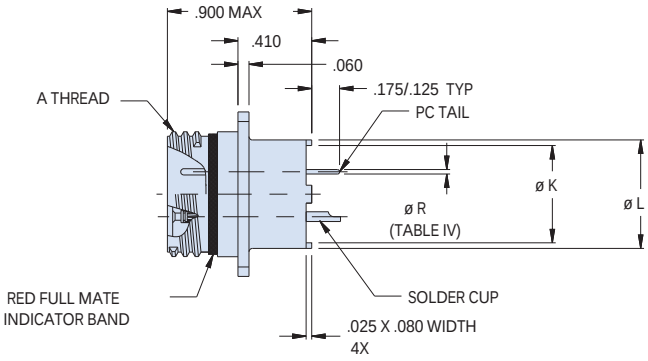
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801-122-02
Series 801 Mighty Mouse CODE RED Hermetic Receptacle
-02 Square Flange

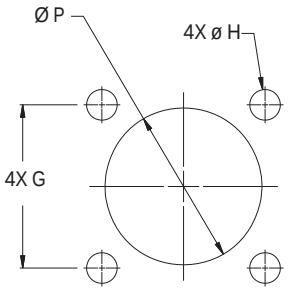


02



Dimensions													
Shell Size	A THREAD	F SQ		Ø G		Ø H		Ø J		ø K		ø L	
		In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
5	.3125-.05P-.1L-2A	.530	13.46	.680	17.27	.363	9.22	.096 .091	2.44 2.31	.197	5.00	.244	6.20
6	.3750-.05P-.1L-2A	.590	14.99	.750	19.05	.423	10.74			.236	5.99	.330	8.38
7	.4375-.05P-.1L2A	.650	16.51	.850	21.59	.483	12.27			.324	8.23	.432	10.97
8	.5000-.05P-.1L-2A	.712	18.08	.938	23.83	.545	13.84			.390	9.91	.493	12.52
9	.5625-.05P-.1L-2A	.850	21.59	1.125	28.58	.607	15.42	.130 .126	3.30 3.20	.444	11.28	.551	14.00
10	.6250-.05P-.1L-2A	.890	22.61	1.188	30.18	.670	17.02			.520	13.21	.620	15.75
11	.6875-.05P-.1L-2A	.935	23.75	1.250	31.75	.715	18.16			.557	14.15	.662	16.81
13	.8125-.1P-.2L-2A	1.030	26.16	1.375	34.93	.812	20.62			.596	15.14	.703	17.86
16	1.000-.1P-.2L-2A	1.219	30.96	1.625	41.28	.981	24.92			.756	19.20	.863	21.92
17	1.062-.1P-.2L-2A	1.280	32.51	1.700	43.18	1.060	26.92			.805	20.45	.912	23.16
19	1.1875-.1P-.2L-2A	1.432	36.37	1.900	48.26	1.191	30.25			.910	23.11	1.018	25.86
21	1.3125-.1P-.2L-2A	1.565	39.75	2.100	53.34	1.322	33.58			1.061	26.95	1.170	29.72

Panel Cut-Out Dimensons						
Shell Size	Ø G		Ø H		Ø P	
	In.	mm.	In.	mm.	In.	mm.
5	.680	17.27	.363	9.22	.330	8.38
6	.750	19.05	.423	10.74	.390	9.91
7	.850	21.59	.483	12.27	.450	11.43
8	.938	23.83	.545	13.84	.510	12.95
9	1.125	28.58	.607	15.42	.575	14.61
10	1.188	30.18	.670	17.02	.640	16.26
11	1.250	31.75	.715	18.16	.700	17.78
13	1.375	34.93	.812	20.62	.825	20.96
16	1.625	41.28	.981	24.92	1.015	25.78
17	1.700	43.18	1.060	26.92	1.075	27.31
19	1.900	48.26	1.191	30.25	1.200	30.48
21	2.100	53.34	1.322	33.58	1.330	33.78

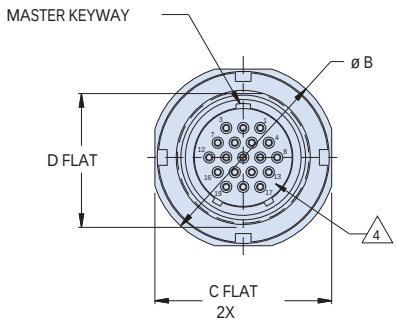


-02 FLANGE

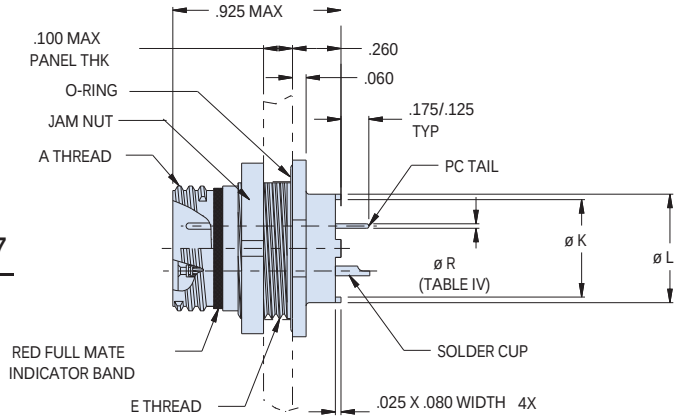
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801-122-07
Series 801 Mighty Mouse CODE RED Hermetic Receptacle
-07 Jam Nut

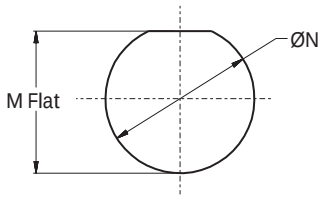


07



Dimensions											
Shell Size	A THREAD	Ø B		C Flat		D Flat		E Thread UN-2A	ø K		ø L	
		In.	mm.	In.	mm.	In.	mm.		In.	mm.	In.	mm.
5	.3125-.05P-.1L-2A	.575	14.61	.545	13.84	.350	8.89	.3750-28	.197	5.00	.244	6.20
6	.3750-.05P-.1L-2A	.635	16.13	.595	15.11	.410	10.41	.4375-28	.236	5.99	.330	8.38
7	.4375-.05P-.1L2A	.755	19.18	.723	18.36	.536	13.61	.5625-32	.324	8.23	.432	10.97
8	.5000-.05P-.1L-2A	.755	19.18	.723	18.36	.536	13.61	.5625-32	.390	9.91	.493	12.52
9	.5625-.05P-.1L-2A	.830	21.08	.790	20.07	.596	15.14	.6250-28	.444	11.28	.551	14.00
10	.6250-.05P-.1L-2A	.890	22.61	.855	21.72	.658	16.71	.6875-28	.520	13.21	.620	15.75
11	.6875-.05P-.1L-2A	.960	24.38	.925	23.50	.718	18.24	.7500-28	.557	14.15	.662	16.81
13	.8125-.1P-.2L-2A	1.078	27.38	1.044	26.52	.845	21.46	.8750-28	.596	15.14	.703	17.86
16	1.000-.1P-.2L-2A	1.264	32.11	1.230	31.24	1.022	25.96	1.0625-20	.756	19.20	.863	21.92
17	1.062-.1P-.2L-2A	1.325	33.66	1.290	32.77	1.096	27.84	1.1250-28	.805	20.45	.912	23.16
19	1.1875-.1P-.2L-2A	1.450	36.83	1.415	35.94	1.225	31.11	1.2500-28	.910	23.11	1.018	25.86
21	1.3125-.1P-.2L-2A	1.625	41.28	1.577	40.06	1.346	34.19	1.3750-28	1.061	26.95	1.170	29.72

Series 801 Jam Nut Panel Cutout



Shell Size	M Flat ± .002 (.005)		Ø N	
5	.356	9.04	.385 .380	9.8 9.7
6	.416	10.57	.448 .443	11.4 11.3
7	.542	13.77	.573 .568	14.6 14.4
8	.542	13.77	.573 .568	14.6 14.4
9	.602	15.29	.635 .630	16.1 16.0
10	.664	16.87	.698 .693	17.7 17.6
11	.726	18.44	.760 .755	19.3 19.2
13	.851	21.62	.885 .880	22.5 22.4
16	1.028	26.11	1.075 1.070	27.3 27.2
17	1.102	27.99	1.135 1.130	28.8 28.7
19	1.233	31.32	1.260 1.255	32.0 31.9
21	1.351	34.32	1.385 1.380	35.2 35.1

Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-26482
TYPE

BAYONET-LOCK

Hermetic Connectors
Fast and Reliable Mating



Glenair MIL-DTL-26482 Series I and II Bayonet-Lock Connectors are ideally suited for vacuum chambers and other military and commercial applications that utilize this general purpose medium density cylindrical connector and require helium leak test rates of less than $1x10^{-7}$ cc/second. The bayonet mechanism provides fast and easy coupling, especially when the connector is situated in an awkward or hard to reach location. A wide range of available mounting styles—including both narrow and wide flange mounts—provide complete flexibility in interconnect system design. PCB and solder cup contacts allow easy integration and termination to I/O cabling and electronic sub-systems. Glenair MIL-DTL-26482 Type hermetics are interchangeable and intermateable with the wide range of industry-standard bayonet connectors designed around MIL-DTL-26482 and/or qualified to VG 95328, including ITT Cannon KPT.

GLASS-SEALED
Hermetic
CONNECTORS

Glenair®

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Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

A Comprehensive Line of MIL-DTL-26482 Series I and II Type Bayonet Glass Sealed Hermetic Connectors

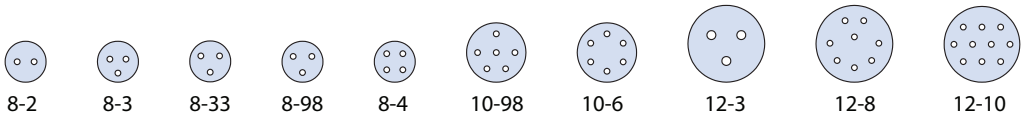
MIL-DTL-26482 Series I and II Bayonet Lock Connectors are general purpose medium density connectors, with a variety of mounting styles incuding bulkhead feed-thrus, jam-nut, flange mount and solder cup receptacles. All feature quick release bayonet coupling. 9 shell sizes with up to 61 contacts in size #20, #16, and #12 and #8 are offered. Material and finish options include titanium and Inconel®. Append modification code to part number development when space grade screening is required.

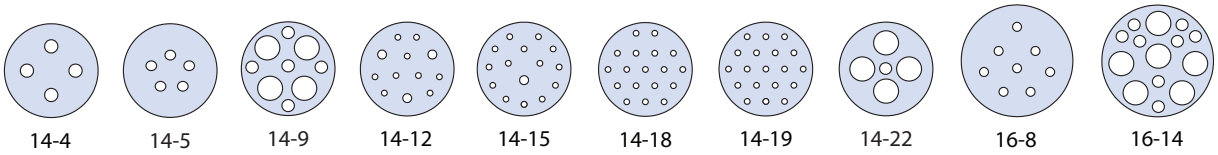
Quick Selection Guide

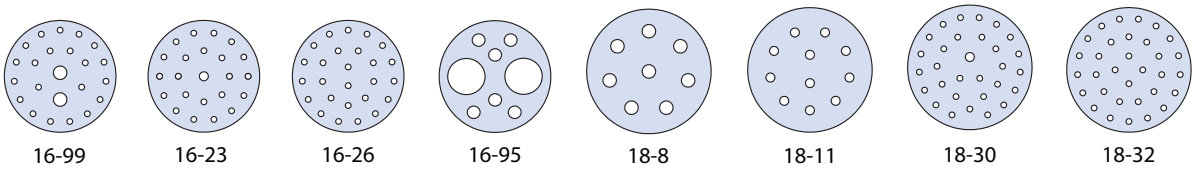
Part Number	Description	Page
	MIL-DTL-26482 Type Insert Arrangements	D-2
	MIL-DTL-26482 Type Alternate Key Positions	D-3
	Glenair Hermetic Connector Products Special Leak Rate Mod Codes	D-4
	Glenair Hermetic Connector Products Space Grade Mod Codes	D-5
230-014	Bayonet Coupling Solder Mount Receptacle MS3113 Type	D-6
230-015	Bayonet Coupling Jam Nut Receptacle MS3114 Type	D-8
947-303	Narrow Flange Mount Bulkhead Feed-Thru MS3440 Type	D-10
230-035	Bayonet Coupling Narrow Flange Mount Receptacle MS3112 Type	D-12
230-016	Bayonet Coupling Narrow Flange Mount Receptacle MS3440 Type	D-14
230-017	Bayonet Coupling Wide Flange Mount Receptacle MS3442 Type	D-16
230-018	Bayonet Coupling Solder Flange Mount Receptacle MS3443 Type	D-18
230-019	Quick Release Bayonet Receptacle, Single Hole Jam Nut MS3449 Type	D-20
230-022	Bayonet Coupling Jam Nut Mount Receptacle with Solderless Contacts MS3479 Type	D-26
237-034	Bayonet Coupling Jam Nut Receptacle MS3449 Type	D-28
230-051	Special Narrow Square Flange Mount Hermetic Receptacle MS3440 Type	D-30
230-133	Square Flange Mount Hermetic Receptacle MS3112 Type	D-32
237-240	MIL-DTL-26482 Series I Connector, Special Square Flange Mount, Bayonet Coupling	D-34
257-135	Bayonet Coupling Jam Nut Mount Pin/Pin Bulkhead Feed-Thru Receptacle	D-36
947-292	Bayonet Coupling Jam Nut Mount Bulkhead Feed-Thru Receptacle	D-38

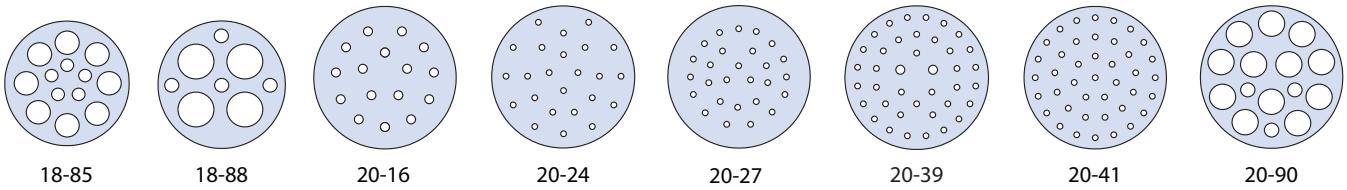
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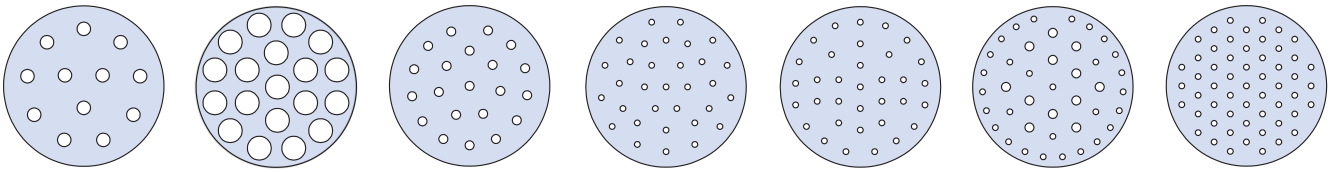
MIL-DTL-26482 Type
Insert Arrangements per MIL-DTL-1669

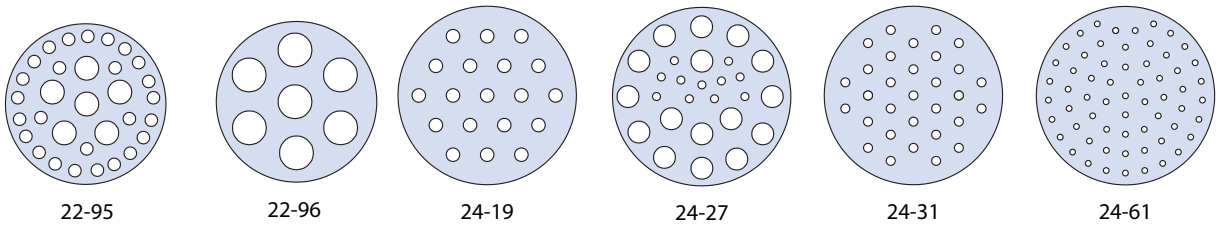












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MIL-DTL-26482 Type
Insert Arrangement Tables
and Alternate Insert Rotation

Arrangement	Cl. Isol. Rating	Dim. contact size					
		20S	20	16S	16	12S	12
8 - 2	I	2					
8 - 3	I	3					
8 - 3A	I	3					
8 - 4	I	4					
8 - 33	I	3					
10 - 2	II			2			
10 - 6	I	6					
10 - 7	I	7					
10 - 8	I	8					
10 - 98	I	6					
12 - 3	II			3			
12 - 4	I			4			
12 - 8	I	8					
12 - 10	I	10					
12 - 14	I	14					
12 - A6	I			6			
14 - 4	I					4	
14 - 5	II			5			
14 - 12	I	8		4			
14 - 12/3	II			12			
14 - 14 *	I	14					
14 - 15	I	14		1			
14 - 18	I	18					
14 - 19	I	19					
16 - 2**	I				2 x 16-2.5		
16 - 8	II			8			
16 - 23	I	22		1			
16 - 26	I	26					
16 - 99	I	21		2			
18 - 11	II			11			
18 - 32	I	32					
20 - 16	II				16		
20 - 39 *	I		37		2		
20 - 41	I		41				
22 - 21 *	II				21		
22 - 36	I		36				
22 - 41	I		27		14		
22 - 55	I		55				
22 - 95	I		26				6
24 - 61	I		61				

Arrangement	Degrees			
	W	X	Y	Z
8 - 2	58	122		
8 - 3	60	210		
8 - 3A	60			
8 - 4	45			
8 - 33	90			
10 - 2				
10 - 6	90			
10 - 7	90			
10 - 8				
10 - 98	90	180	240	270
12 - 3			180	
12 - 4	38			
12 - 8	90	112	203	292
12 - 10	60	155	270	295
12 - 14	60	155	270	295
12 - A6				
14 - 4	45			
14 - 5	40	92	184	273
14 - 12	43	90		
14 - 12/3				
14 - 14	17	110	155	234
14 - 15	17	110	155	234
14 - 18	15	90	180	270
14 - 19	30	165	315	
16 - 2**				
16 - 8	54	152	180	331
16 - 23	158	270		
16 - 26	60		275	338
16 - 99	66	156	223	340
18 - 11	62	119	241	340
18 - 32	85	138	222	265
20 - 16	238	318	333	347
20 - 39	63	144	252	333
20 - 41	45	126	225	
22 - 21	16	135	175	349
22 - 36	72	144	216	288
22 - 41	39	135	264	
22 - 55	30	142	226	314
22 - 95	26	180	266	
24 - 61	90	180	270	324

* Consult Factory ** Supplied only for classes without grommet

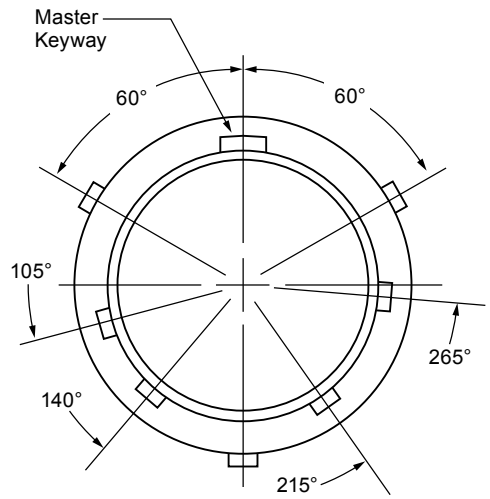
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MIL-DTL-26482 Type
Key/Keyway Positions

Insert Arrangements

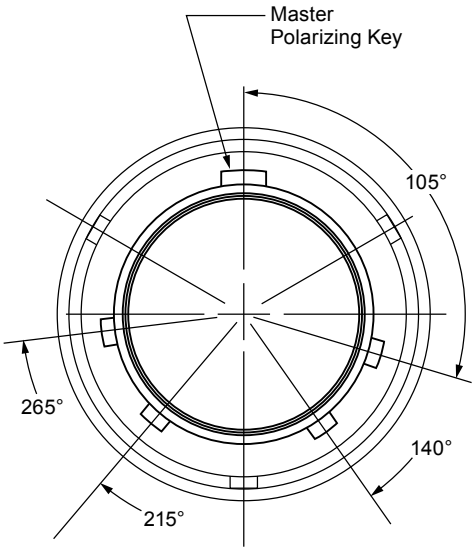
Shell Size Designator	Insert Arrangement Dash Number	Contact Size and Quantity				Service Rating
		20	16	12	8	
8	8-2	2				I
	8-3	3				I
	8-4	4				I
	8-33	3				I
	8-98	3				I
10	10-6	6				I
	10-98	6				I
12	12-3		3			II
	12-8	8				I
	12-10	10				I
14	14-4			4		I
	14-5		5			II
	14-9	5		4		I
	14-12	8	4			I
	14-15	14	1			I
	14-18	18				I
	14-19	19				I
	14-22	1		4		I
16	16-8		8			II
	16-14	8		6		I
	16-23	22	1			I
	16-26	26				I
	16-95	6			2[1]	I
	16-99	21	2			I
18	18-8			8		I
	18-11		11			II
	18-30	29	1			I
	18-32	32				I
	18-85	5		8		I
	18-88	4			4[1]	I
20	20-16		16			II
	20-24	24				I
	20-27	27				I
	20-39	37	2			I
	20-41	41				I
	20-90	3		12		I
22	22-12			12		I
	22-19			19		I
	22-21		21			II
	22-32	32				I
	22-34	34				I
	22-41	27	14			I
	22-55	55				I
	22-95	26		6		I
	22-96				7[1]	I
24	24-19			19		II
	24-27	11		16		I
	24-31		31			I
	24-61	61				I

Note 1: Shielded, not applicable to Series II or hermetic connectors.



Receptacle

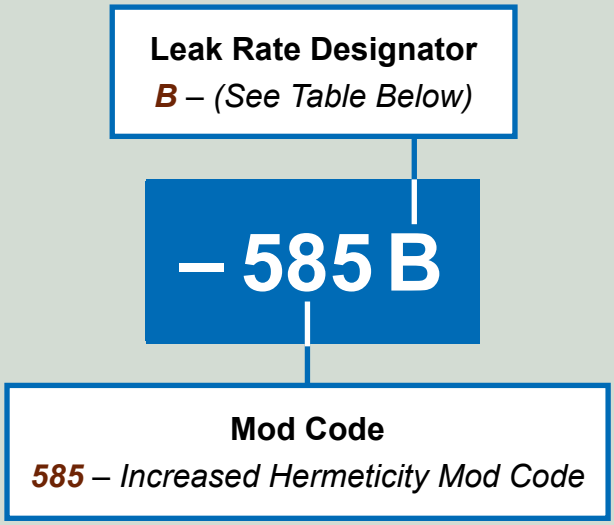
Inserts rotate from centerline of master key/keyway clockwise for pin inserts (counter-clockwise for socket inserts) as specified in MIL-STD-1669. Refer to MIL-STD-1669 or consult factory for alternate insert information.



Plug

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Glenair Hermetic Connector Products
Special Leak Rate Mod Codes



What is the –585 Mod Code?

Glenair offers an array of hermetic connectors with more stringent leak rate requirements. By adding "**–585**" and the designator letter "**A**", "**B**" or "**C**"—depending on the hermeticity desired—to the end of a standard part number, connectors will be built to exceed the standard 1 x 10^{-7} cc Helium per second leak rate specified on most Glenair hermetics.

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
A	1 x 10^{-10} cc's Helium per second
B	1 x 10^{-9} cc's Helium per second
C	1 x 10^{-8} cc's Helium per second

Catalog Notes

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:

  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

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Glenair Hermetic Connector Products Space Grade Application Guidelines

What is outgassing?

Plastic and rubber materials give off gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of diffusion. In a spacecraft the gases coming off polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate outgassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA specification EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space flight projects.

What screening level is required?

NASA defines three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

How-to-Order Space Grade Connectors

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space flight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the final inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The fluorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven bake out or thermal vacuum outgassing are sufficient to reduce outgas levels to NASA standards. Oven bake out is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modification code. Add the mod code to the connector part number. Example: 230-014Z110-6PX-***429C***

Screening Level and Available Outgassing Modification Codes

Screening Level	Screening Only	Oven Bakeout 48 Hour at 175° C	Thermal Vacuum Outgassing** 24 Hour at 125° C
NASA, Level 1 Highest Reliability	429B	429J	429C
NASA, Level 2 High Reliability	429	429K	429A
NASA, Level 3 Standard Reliability	Use Standard Part Number		429L

* Inspection is not performed/required for MIL-DTL-38999, Class G ** Thermal vacuum of 10^-6 Torr

Table II: NASA EEE-INST-02, Table 2A Screening Levels

Inspection	Level 1	Level 2	Level 3
Visual	100%	100%	100%
Mechanical	2(0)	2(0)	
Dielectric Withstanding Voltage	2(0)	2(0)	
Insulation Resistance	2(0)	2(0)	
Contact Engagement & Separation Force	2(0)		
Hermeticity (Sealed Receptacles Only)	100%	100%	
Coupling Force	2(0)		

Required inspection quantity shown. Number in parenthesis indicates acceptance of failures allowed for all quantities inspected.

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230-014
MIL-DTL-26482 Series I Type Hermetic
Bayonet Coupling Solder Mount Receptacle
MS3113 Type

Series 230 MIL-DTL-26482 Type	Connector Style	Material/Finish	Shell Size	Insert Arrangement	Contact Type	Alternate Key Position
230 -	014	Z1	10 -	6	P	X

Connector Style
014 = Hermetic Solder Mount Receptacle

Insert Arrangement
Per MIL-STD-1669

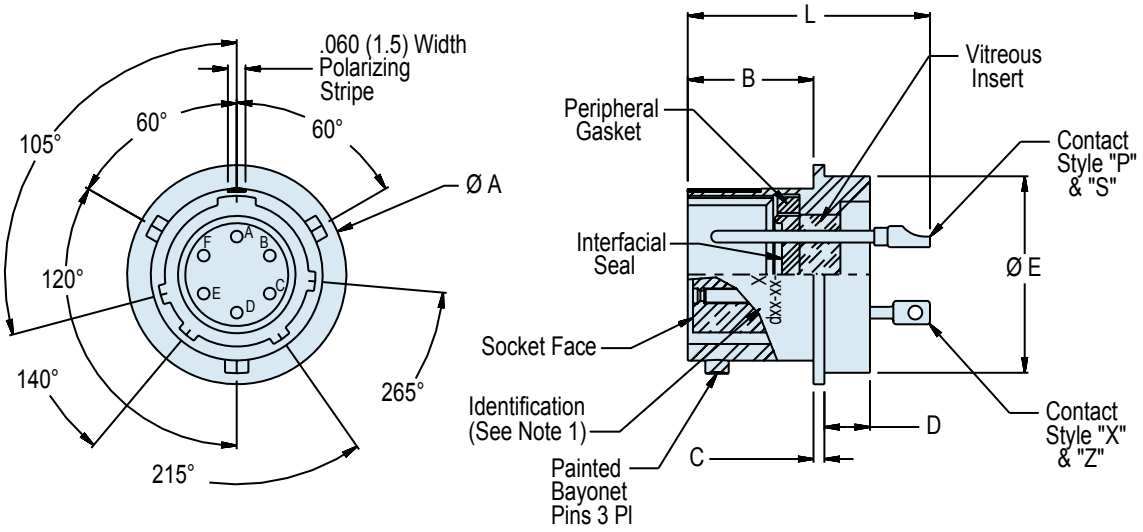
Alternate Key Position
W, X, Y or Z
(Omit for Normal)

Series 230 MIL-DTL-26482 Type

Material/Finish
Z1 = Stainless Steel/ Passivated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

Shell Size

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
S = Socket, Solder Cup
Z = Socket, Eyelet



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - 304L stainless steel/passivate.
   FT - C1215 stainless steel/tin plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Sockets - Copper alloy, gold plated.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.; Socket: Rigid Dielectric/N.A.
3. Contact current rating - #20-5 Amps, #16-10 Amps, #12-17 Amps, #8-46 Amps.
4. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
5. Glenair 230-014 will mate with any QPL MIL-DTL-26482 Series I bayonet coupling plug of same size and insert polarization.
6. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
7. Metric Dimensions (mm) are indicated in parentheses.

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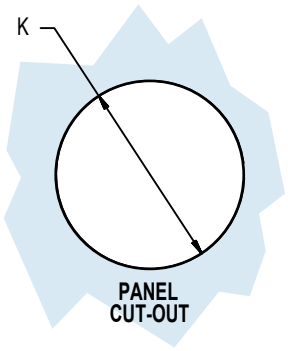


TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS								
Shell Size	A Dia ± .016 (0.4)	B Dim +.031 (0.8) -000	C Dim +.016 (0.4) -.005 (0.1)	D Max Length of Mtg Diameter E Pin	Socket	E Dia +.001 (.0) -.005 (0.1)	L Max Length Overall Pin	Socket
8	.625 (15.9)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	.562 (14.3)	.828 (21.0)	.888 (22.6)
10	.750 (19.1)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	.672 (17.1)	.828 (21.0)	.888 (22.6)
12	.844 (21.4)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	.781 (19.8)	.828 (21.0)	.888 (22.6)
14	.969 (23.7)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	.906 (23.0)	.828 (21.0)	.888 (22.6)
16	1.094 (27.8)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	1.031 (26.2)	.828 (21.0)	.888 (22.6)
18	1.218 (30.9)	.411 (10.4)	.031 (0.79)	.156 (4.0)	.215 (5.5)	1.156 (29.4)	.828 (21.0)	.960 (24.4)
20	1.312 (33.3)	.473 (12.0)	.031 (0.79)	.156 (4.0)	.275 (7.0)	1.250 (31.8)	.891 (22.6)	.995 (25.3)
22	1.438 (36.5)	.473 (12.0)	.031 (0.79)	.188 (4.8)	.275 (7.0)	1.375 (34.9)	.921 (23.4)	.995 (25.3)
24	1.563 (39.7)	.506 (12.9)	.031 (0.79)	.188 (4.8)	.275 (7.0)	1.500 (38.1)	.921 (23.4)	.995 (25.3)

HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

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230-015
MIL-DTL-26482 Series I Type Hermetic
Bayonet Coupling Jam Nut Receptacle
MS3114 Type

Connector Style
015 = Hermetic Jam-Nut Mount Receptacle

Insert Arrangement
Per MIL-STD-1669

Alternate Key Position
W, X, Y or Z
(Omit for Normal)

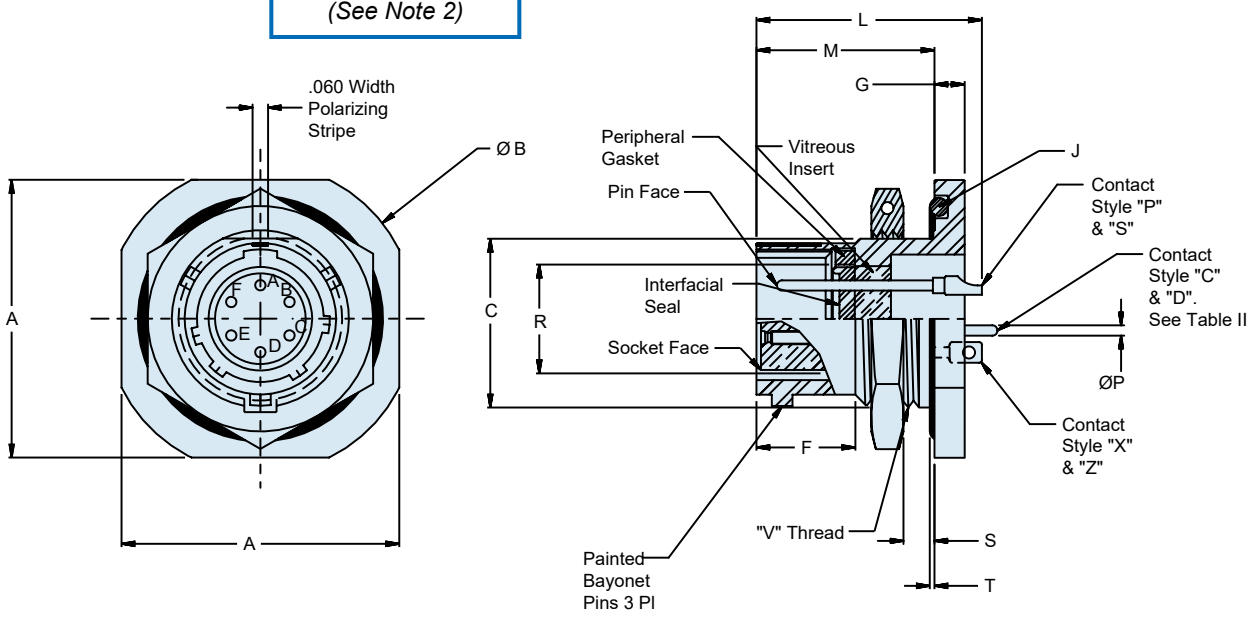
230	-	015	Z1	10	-	6	P	X

Series 230 MIL-DTL-26482 Type

Material/Finish
Z1 = Stainless Steel/ Passivated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

Shell Size

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
C = Pin, Feedthrough
S = Solder Cup, Socket Face
Z = Eyelet, Socket Face
D = Socket, Feedthrough



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   - Shell and Jam Nut: Z1 - 300 stainless steel/passivate.
   - FT - C1215 stainless steel/tin plated. Titanium and Inconel® available. Consult factory.
   - Contacts - 52 Nickel alloy/gold plate.
   - Bayonets - Stainless steel/passivate.
   - Seals - Silicone elastomer/N.A.
   - Insulation - Glass/N.A.
3. Contact current rating - #20-5 Amps, #16-10 Amps, #12-17 Amps, #8-46 Amps.
4. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
5. Glenair 230-015 will mate with any QPL MIL-DTL-26482 Series I bayonet coupling plug of same size and insert polarization.
6. Performance:
   - Hermeticity - <1 x 10^{-7} cc/sec @ 1 atmosphere differential.
   - Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   - Insulation resistance - 5000 megohms min @ 500VDC.
7. Consult factory for feedthrough contact footprints.
8. Metric Dimensions (mm) are indicated in parentheses.

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230-015
MIL-DTL-26482 Series I Type Hermetic
Bayonet Coupling Jam Nut Receptacle
MS3114 Type

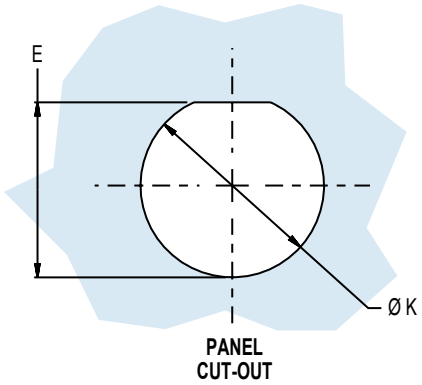
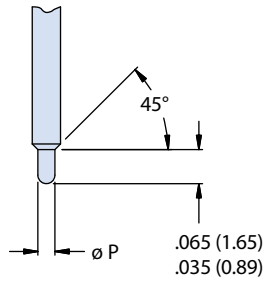


TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)

Shell Size	A Max	B Dia +.000 -032 (0.8)	C Flat +.000 -.010 (0.3)	E +.010 -.005 (.13) Panel Flat Location	F Min	G ± .020 (0.5)	J O-Ring Seal MS29513-
8	.954 (24.2)	1.078 (27.4)	.530 (13.5)	.540 (13.72)	.384 (9.8)	.117 (3.0)	17
10	1.078 (27.4)	1.203 (30.6)	.665 (16.8)	.665 (16.76)	.384 (9.8)	.117 (3.0)	19
12	1.266 (32.2)	1.319 (33.5)	.818 (20.8)	.828 (21.03)	.384 (9.8)	.117 (3.0)	22
14	1.391 (35.3)	1.516 (38.5)	.942 (23.9)	.952 (24.18)	.384 (9.8)	.117 (3.0)	24
16	1.516 (38.5)	1.641 (41.7)	1.062 (27.0)	1.076 (27.33)	.384 (9.8)	.117 (3.0)	26
18	1.641 (41.7)	1.766 (44.9)	1.191 (30.3)	1.201 (30.51)	.384 (9.8)	.117 (3.0)	28
20	1.812 (46.0)	1.953 (49.6)	1.316 (33.4)	1.326 (33.68)	.446 (11.3)	.148 (3.8)	128
22	1.954 (49.6)	2.078 (52.8)	1.441 (36.6)	1.451 (36.86)	.446 (11.3)	.148 (3.8)	130
24	2.078 (52.8)	2.203 (56.0)	1.566 (39.8)	1.576 (40.03)	.479 (12.2)	.148 (3.8)	132

TABLE II



Contact Size	Ø P
20	.024 .028
16	.0635 .0615
12	.095 .093

TABLE I (Continued): CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	K DIA +.010 -.005 (.13) Panel Mounting Hole	L Max	M +.031 (0.8) -.000	R Max	S Panel Thickness Min	S Panel Thickness Max	T O-Ring .011 (0.3)	V Thread UNEF-2A
8	.572 (14.53)	.875 (22.2)	.691 (17.6)	.329	.062 (1.6)	.125 (3.2)	.023 (0.6)	.5625-24
10	.697 (17.70)	.875 (22.2)	.691 (17.6)	.477	.062 (1.6)	.125 (3.2)	.023 (0.6)	.685-24
12	.885 (22.48)	.875 (22.2)	.691 (17.6)	.564	.062 (1.6)	.125 (3.2)	.023 (0.6)	.875-20
14	1.010 (25.65)	.875 (22.2)	.691 (17.6)	.689	.062 (1.6)	.125 (3.2)	.023 (0.6)	1.000-20
16	1.135 (28.83)	.875 (22.2)	.691 (17.6)	.814	.062 (1.6)	.125 (3.2)	.023 (0.6)	1.125-18
18	1.260 (32.00)	.875 (22.2)	.691 (17.6)	.907	.062 (1.6)	.125 (3.2)	.023 (0.6)	1.250-18
20	1.385 (35.18)	1.094 (27.8)	.879 (22.3)	1.039	.062 (1.6)	.250 (6.4)	.028 (0.7)	1.375-18
22	1.510 (38.35)	1.094 (27.8)	.879 (22.3)	1.164	.062 (1.6)	.250 (6.4)	.028 (0.7)	1.500-18
24	1.635 (41.53)	1.125 (28.6)	.912 (23.2)	1.289	.062 (1.6)	.250 (6.4)	.028 (0.7)	1.625-18

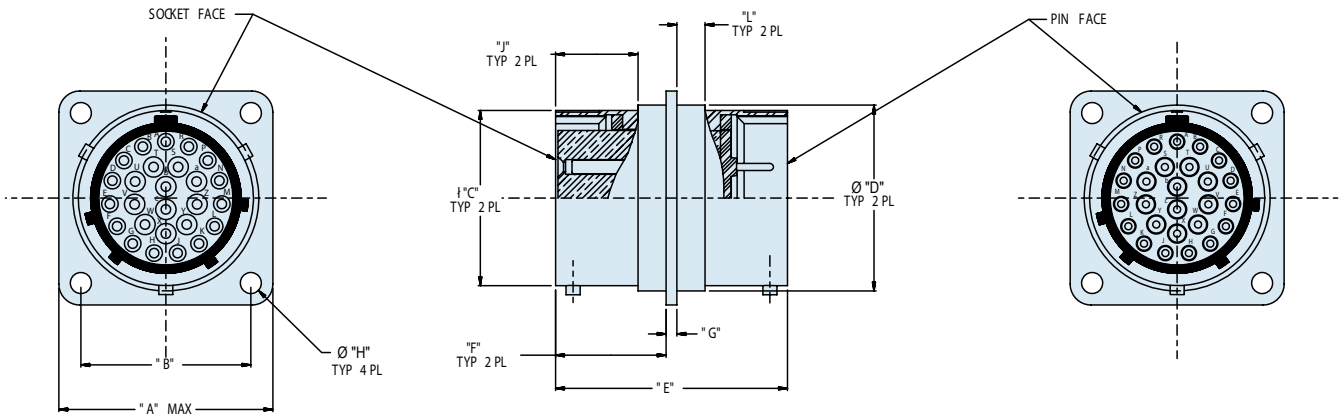
HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

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947-303
Narrow Flange Mount Bulkhead Feed-Thru
MS3440 Type

Basic Part Number		Insert Arrangement *Per MIL-STD-1669*		Alternate Key Position *W, X, Y or Z* *(Omit for Normal)*
947-303	-	16	- 26	Y
		Shell Size		

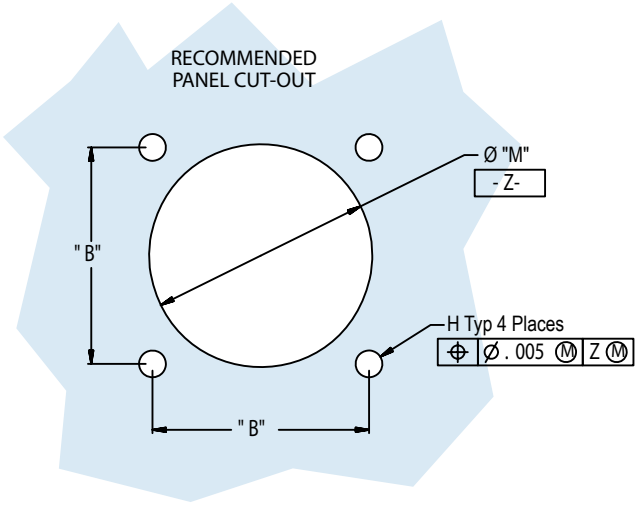


APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: 300 CRES / passivate
   Titanium and Inconel® available. Consult factory.
   Contacts, Pin - Nickel alloy / gold plate
   Contacts, Socket - Copper alloy / gold plate
   Hoods, Sockets - 300 series CRES / passivate
   Bayonets - 300 series CRES / passivate
   Insulator - full glass / N.A.
   Insulator, Socket - high grade dielectric / N.A.
   Seals - Silicone elastomer / N.A.
3. Glenair 947-303 will meet all performance requirements of MIL-DTL-26482
4. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
5. Glenair 947-303 will mate with any QPL manufacturer's MIL-DTL-26482 Series I or II plug with same shell size, arrangement and polarization, having opposite contact gender
6. Glenair 947-303 is symmetrical on both sides of flange. There is no need to specify pin or sockets on one end.
7. Metric Dimensions (mm) are indicated in parentheses.

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TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)								
Shell Size	A	B	C Dia	D Dia ± .010	E Max	F	G	H
8	.828 (21.03)	.594 (15.1)	.474 (12.0) .468 (11.9)	.533 (13.5)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
10	.954 (24.2)	.719 (18.3)	.591 (15.0) .585 (14.9)	.650 (16.5)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
12	1.047 (26.6)	.812 (20.6)	.751 (19.1) .745 (18.9)	.810 (20.6)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
14	1.141 (29.0)	.906 (23.0)	.876 (22.3) .870 (22.1)	.935 (23.7)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
16	1.234 (31.3)	.969 (24.6)	1.001 (25.4) .995 (25.3)	1.060 (26.9)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
18	1.328 (33.7)	1.062 (27.0)	1.126 (28.6) 1.120 (28.4)	1.185 (30.1)	1.362 (34.6)	.692 (17.6) .672 (17.1)	.078 (2.0) .046 (1.2)	.120 (3.0)
20	1.453 (36.9)	1.156 (29.4)	1.251 (31.8) 1.245 (31.6)	1.310 (33.3)	1.506 (38.3)	.698 (17.7) .678 (17.2)	.110 (2.8) .078 (2.0)	.120 (3.0)
22	1.578 (40.1)	1.250 (31.8)	1.376 (35.0) 1.371 (34.8)	1.435 (36.4)	1.506 (38.3)	.698 (17.7) .678 (17.2)	.110 (2.8) .078 (2.0)	.120 (3.0)
24	1.703 (43.3)	1.375 (34.9)	1.501 (38.1) 1.495 (38.0)	1.560 (39.4)	1.506 (38.3)	.698 (17.7) .678 (17.2)	.110 (2.8) .078 (2.0)	.147 (3.7)



HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I (Continued)			
Shell Size	J Minimum	L	M Dia. ± .005
8	.460 (11.7)	.212 (5.4)	.570 (14.5)
10	.460 (11.7)	.212 (5.4)	.680 (17.3)
12	.460 (11.7)	.212 (5.4)	.789 (20.0)
14	.460 (11.7)	.212 (5.4)	.914 (23.2)
16	.460 (11.7)	.212 (5.4)	1.039 (26.4)
18	.460 (11.7)	.212 (5.4)	1.164 (29.6)
20	.428 (10.9)	.250 (6.4)	1.258 (32.0)
22	.428 (10.9)	.250 (6.4)	1.383 (35.1)
24	.428 (10.9)	.250 (6.4)	1.508 (38.3)

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230-035
MIL-DTL-26482 Series I Type Hermetic
Bayonet Coupling Narrow Flange Mount Receptacle
MS3112 Type

Connector Style	Insert Arrangement	Alternate Key Position
035 = Narrow Flange Mount Receptacle	*Per MIL-STD-1669*	*W, X, Y or Z (Omit for Normal)*

230 - 035 FT 10 - 6 P X

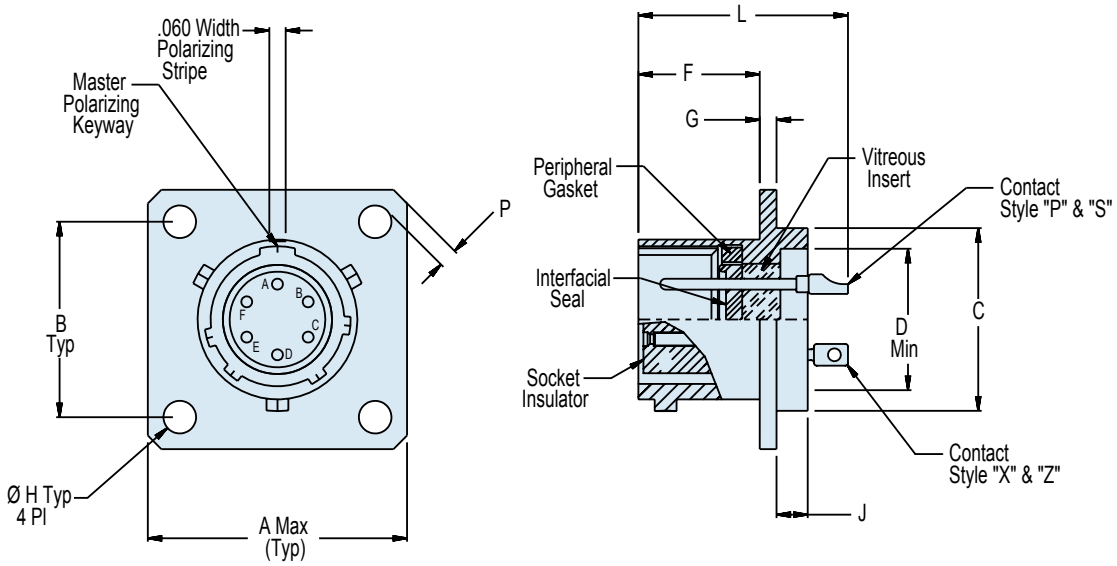
Series 230 MIL-DTL-26482 Type

Material/Finish
- *Z1 = Stainless Steel/ Passivated*
- *FT = C1215 Stainless Steel/Tin Plated*

(See Note 2)

Shell Size

Contact Type
- *P = Solder Cup, Pin Face*
- *S = Solder Cup, Socket Face*
- *X = Eyelet, Pin Face*
- *Z = Eyelet, Socket Face*



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - 304L stainless steel/passivate.
   FT - C1215 stainless steel/tin plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
   Socket insulator - Rigid dielectric/N.A.
   Socket Contacts - Copper alloy/gold plated.
3. Glenair 230-035 will mate with any QPL MIL-DTL-26482 Series I bayonet coupling plug of same size and insert polarization.
4. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
5. Consult factory or MIL-STD-1669 for arrangement and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Max Length	B Mounting Holes ℄ to ℄	C Dia Mounting Locator	D Dia Min	F Mounting Flange Location	G Flange Thickness	J Max	L Max Overall Length	P Min Edge Distance
8	.828 (21.0)	.594 (15.1)	.469/.422 (11.9/10.7)	.403 (10.2)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
10	.954 (24.2)	.719 (18.3)	.593/.546 (15.1/13.9)	.515 (13.1)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
12	1.047 (26.6)	.812 (20.6)	.719/.672 (18.3/17.1)	.630 (16.0)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
14	1.141 (29.0)	.906 (23.0)	.843/.796 (21.4/20.2)	.755 (19.2)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
16	1.234 (31.3)	.969 (24.6)	.969/.922 (24.6/23.4)	.880 (22.4)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
18	1.328 (33.7)	1.062 (27.0)	1.093/1.046 (27.8/26.6)	.980 (24.9)	.462/.431 (11.7/10.9)	.078/.046 (2.0/1.2)	.354 (9.0)	.978 (24.8)	.035 (0.89)
20	1.453 (36.9)	1.156 (29.4)	1.219/1.172 (31.0/29.8)	1.105 (28.1)	.587/.556 (14.9/14.1)	.110/.078 (2.8/2.0)	.417 (10.6)	1.196 (29.9)	.050 (1.27)
22	1.578 (40.1)	1.250 (31.8)	1.343/1.296 (34.1/32.9)	1.230 (31.2)	.587/.556 (14.9/14.1)	.110/.078 (2.8/2.0)	.417 (10.6)	1.196 (29.9)	.050 (1.27)
24	1.703 (43.3)	1.375 (34.9)	1.469/1.422 (37.3/36.1)	1.385 (35.2)	.587/.556 (14.9/14.1)	.110/.078 (2.8/2.0)	.445 (11.3)	1.196 (29.9)	.050 (1.27)

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230-016
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Narrow Flange Mount Receptacle
MS3440 Type

Connector Style
016 = Hermetic Narrow Flange Mount Receptacle

Insert Arrangement
Per MIL-STD-1669

Alternate Key Position
W, X, Y or Z
(Omit for Normal)

230	-	016	FT	10	-	6	P	X

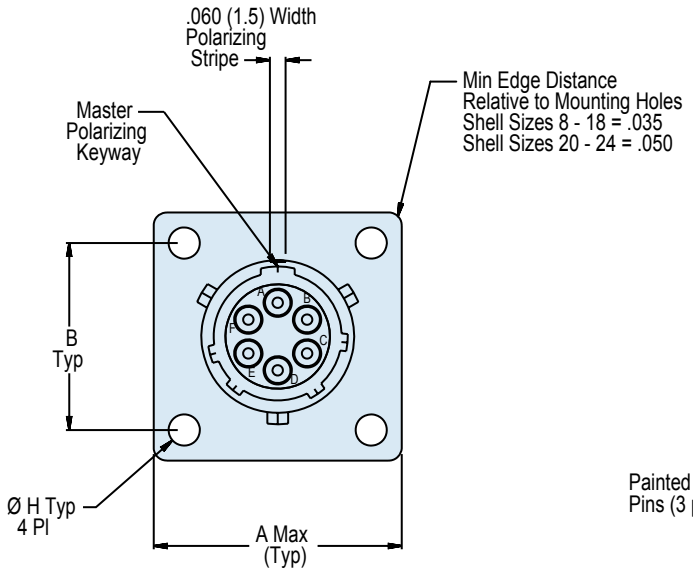
Series 230 MIL-DTL-26482 Type

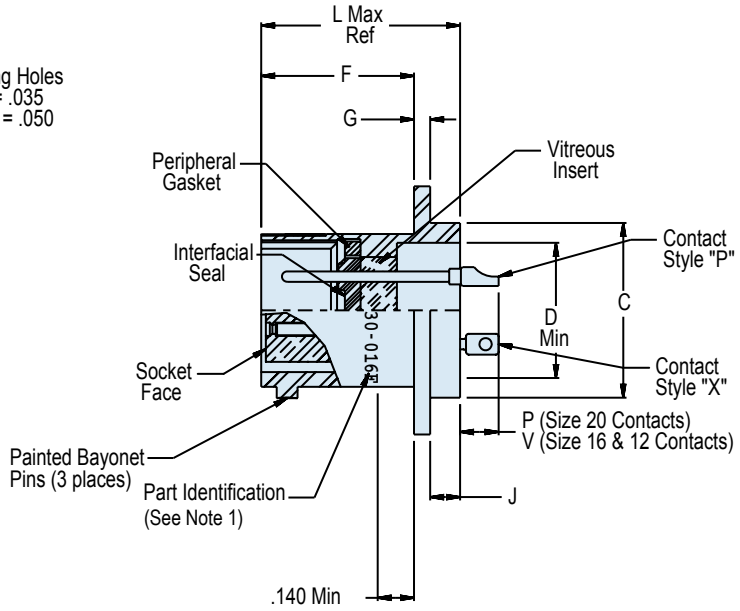
Material/Finish
Z1 = Stainless Steel/ Passivated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

Shell Size

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
S = Socket, Solder Cup
Z = Socket, Eyelet

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second





APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - 304L stainless steel/passivate.
   FT - C1215 stainless steel/tin plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Sockets - Copper alloy, gold plated.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.; Socket: Rigid dielectric/N.A.
3. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
4. Glenair 230-016 will mate with any QPL MIL-DTL-26482 Series II bayonet coupling plug of same size and insert polarization.
5. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
6. Metric Dimensions (mm) are indicated in parentheses.

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TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)							
Shell Size	A	B	C Dia Mounting Locator	D Dia Min	F	G	H
8	.828 (21.03)	.594 (15.1)	.563/.557 (14.3/14.1)	.403 (10.2)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
10	.954 (24.2)	.719 (18.3)	.673/.667 (17.1/16.9)	.515 (13.1)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
12	1.047 (26.6)	.812 (20.6)	.782/.776 (19.9/19.7)	.630 (16.0)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
14	1.141 (29.0)	.906 (23.0)	.907/.901 (23.0/22.9)	.755 (19.2)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
16	1.234 (31.3)	.969 (24.6)	1.032/1.026 (26.2/26.1)	.880 (22.4)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
18	1.328 (33.7)	1.062 (27.0)	1.157/1.151 (29.4/29.2)	.980 (24.9)	.598/.578 (15.2/14.7)	.078/.04 (2.0/1.0)	.120 (3.0)
20	1.453 (36.9)	1.156 (29.4)	1.251/1.245 (31.8/31.6)	1.105 (28.1)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.120 (3.0)
22	1.578 (40.1)	1.250 (31.8)	1.376/1.371 (35.0/34.8)	1.230 (31.2)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.120 (3.0)
24	1.703 (43.3)	1.375 (34.9)	1.501/1.495 (38.1/38.0)	1.385 (35.2)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.147 (3.7)

TABLE I (Continued): CONNECTOR AND CUT-OUT DIMENSIONS						
Shell Size	J	L	P	V	Panel Cut-Out Dia	Max. Weight (Lbs)
8	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.570 (14.5)	.038
10	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.680 (17.3)	.044
12	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.789 (20.0)	.052
14	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.914 (23.2)	.070
16	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.039 (26.4)	.085
18	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.164 (29.6)	.098
20	.125/.105 (3.2/2.7)	.863 (21.9)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.258 (32.0)	.110
22	.125/.105 (3.2/2.7)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	1.383 (35.1)	.150
24	.125/.105 (3.2/2.7)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	1.508 (38.3)	.280

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230-017
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Wide Flange Mount Receptacle
MS3442 Type

Connector Style
017 = Hermetic Wide Flange Mount Receptacle

Insert Arrangement
Per MIL-STD-1669

Alternate Key Position
W, X, Y or Z
(Omit for Normal)

230	-	017	FT	10	-	6	P	X

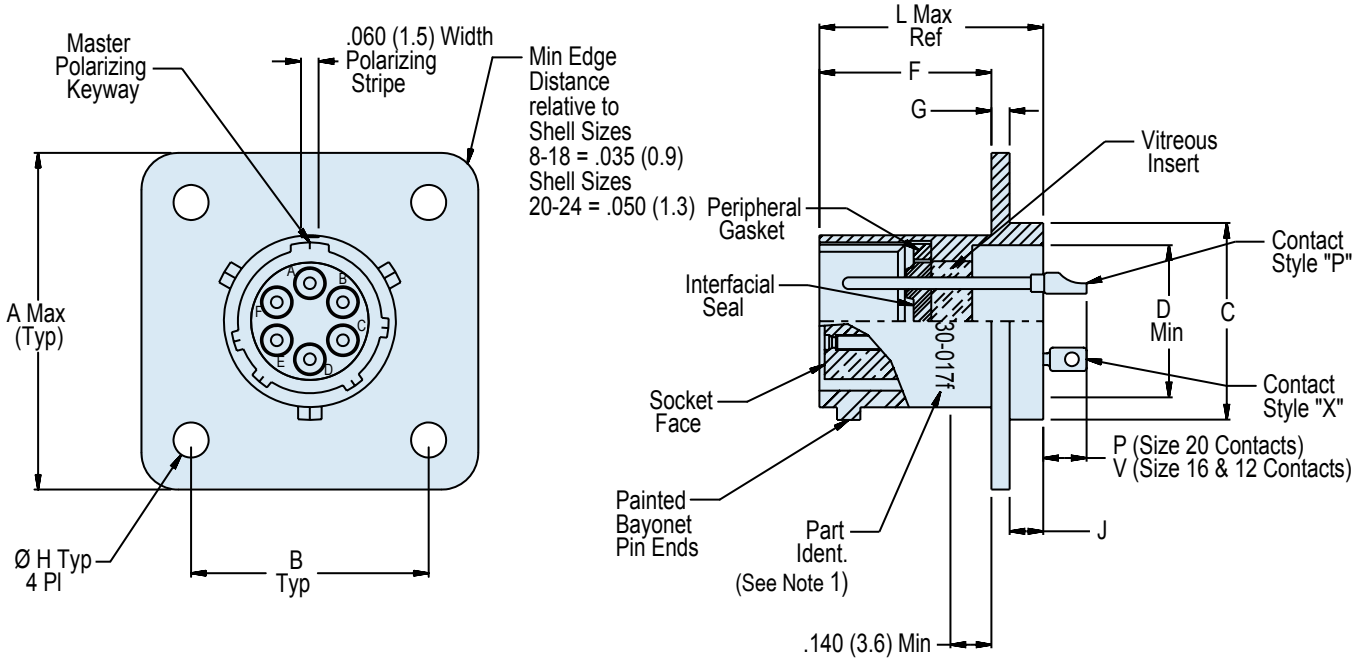
Series 230 MIL-DTL-26482 Type

Material/Finish
Z1 = Stainless Steel/ Passivated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

Shell Size

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
S = Socket, Solder Cup
Z = Socket, Eyelet

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - 304L stainless steel/passivate.
   FT - C1215 stainless steel/tin plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Sockets - Copper alloy, gold plated.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.; Socket: Rigid dielectric/N.A.
3. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
4. Glenair 230-017 will mate with any QPL MIL-DTL-26482 Series II bayonet coupling plug of same size and insert polarization.
5. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
6. Metric Dimensions (mm) are indicated in parentheses.

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TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)							
Shell Size	A	B	C Dia Mounting Locator	D Dia Min	F	G	H
8	1.065 (27.1)	.734 (18.6)	.563/.557 (14.3/14.1)	.403 (10.2)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
10	1.141 (29.0)	.812 (20.6)	.673/.667 (17.1/16.9)	.515 (13.1)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
12	1.266 (32.2)	.938 (23.8)	.782/.776 (19.9/19.7)	.630 (16.0)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
14	1.360 (34.5)	1.031 (26.2)	.907/.901 (23.0/22.9)	.755 (19.2)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
16	1.453 (36.9)	1.125 (28.6)	1.032/1.026 (26.2/26.1)	.880 (22.4)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
18	1.532 (38.9)	1.203 (30.6)	1.157/1.151 (29.4/29.2)	.980 (24.9)	.598/.578 (15.2/14.7)	.078/.046 (2.0/1.2)	.150 (3.8)
20	1.688 (42.9)	1.297 (32.9)	1.251/1.245 (31.8/31.6)	1.105 (28.1)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.150 (3.8)
22	1.766 (44.9)	1.375 (34.9)	1.376/1.371 (35.0/34.8)	1.230 (31.2)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.150 (3.8)
24	1.891 (48.0)	1.500 (38.1)	1.501/1.495 (38.1/38.0)	1.385 (35.2)	.660/.640 (16.8/16.3)	.110/.078 (2.8/2.0)	.150 (3.8)

TABLE I (Continued): CONNECTOR AND CUT-OUT DIMENSIONS					
Shell Size	J	L	P	V	Panel Cut-Out Dia
8	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.570 (14.5)
10	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.680 (17.3)
12	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.789 (20.0)
14	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.914 (23.2)
16	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.039 (26.4)
18	.125/.105 (3.2/2.7)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.164 (29.6)
20	.125/.105 (3.2/2.7)	.863 (21.9)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	1.258 (32.0)
22	.125/.105 (3.2/2.7)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	1.383 (35.1)
24	.125/.105 (3.2/2.7)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	1.508 (38.3)

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230-018
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Solder Flange Mount Receptacle
MS3443 Type

230	-	018	FT	10	-	6	P	X

Series 230 MIL-DTL-26482 Type

Connector Style
018 = Solder Flange Mount Hermetic Receptacle

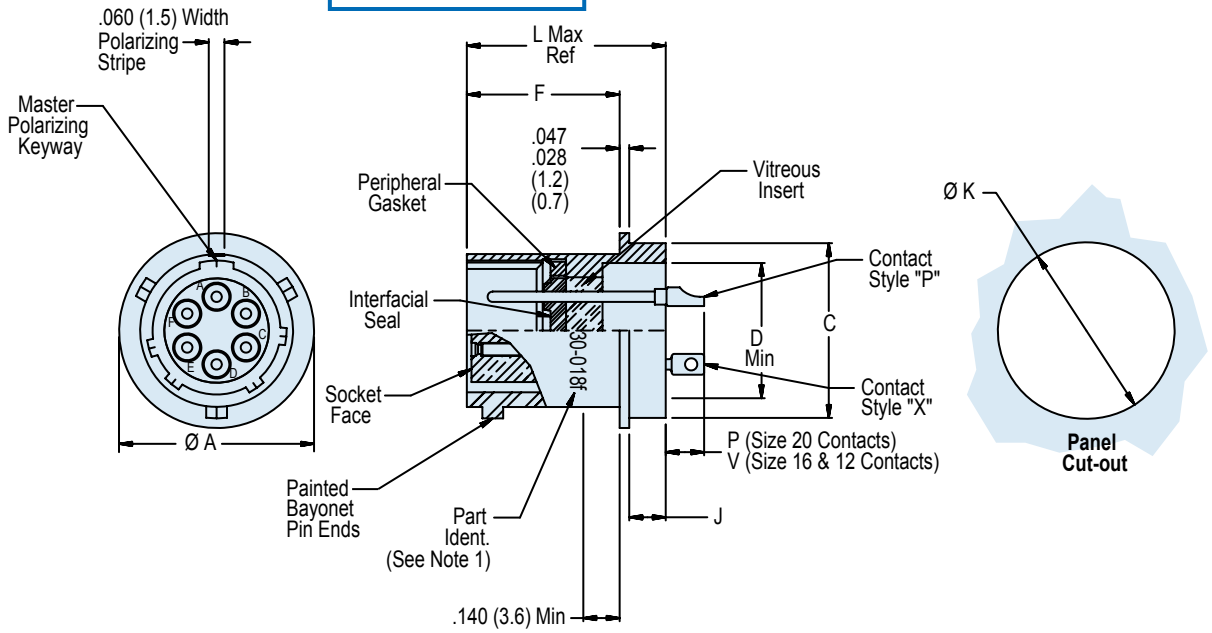
Material/Finish
Z1 = Stainless Steel/ Passivated
ZL = Stainless Steel/ Nickel Plated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

Shell Size

Insert Arrangement
Per MIL-STD-1669

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
S = Socket, Solder Cup
Z = Socket, Eyelet

Alternate Key Position
W, X, Y or Z
(Omit for Normal)



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - Stainless steel/passivate.
   ZL - Stainless steel/nickel plated.
   FT = C1215 Stainless *Steel/Tin Plated*
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Sockets - Copper alloy, gold plated.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.; Socket: Rigid Dielectric/N.A.
3. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
4. Glenair 230-018 will mate with any QPL MIL-DTL-26482 Series II bayonet coupling plug of same size and insert polarization.
5. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
6. Metric Dimensions (mm) are indicated in parentheses.

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Dia ± .010 (0.3)	C Dia Mounting Locator	D Dia Min	F	J	K	L	P	V	Max Weight (Lbs.)
8	.625 (15.9)	.563/.557 (14.3/14.1)	.403 (10.2)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	.570 (14.5)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0310
10	.750 (19.1)	.673/.667 (17.1/16.9)	.515 (13.1)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	.680 (17.3)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0340
12	.844 (21.4)	.782/.776 (19.9/19.7)	.630 (16.0)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	.789 (20.0)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0400
14	.969 (24.6)	.907/.901 (23.0/22.9)	.755 (19.2)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	.914 (23.2)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0510
16	1.094 (27.8)	1.032/1.026 (26.2/26.1)	.880 (22.4)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	1.039 (26.4)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0620
18	1.218 (30.9)	1.157/1.151 (29.4/29.2)	.980 (24.9)	.598/.578 (15.2/14.7)	.156/.116 (4.0/2.9)	1.164 (29.6)	.801 (20.3)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.0820
20	1.312 (33.3)	1.251/1.245 (31.8/31.6)	1.105 (28.1)	.660/.640 (16.8/16.3)	.156/.116 (4.0/2.9)	1.258 (32.0)	.863 (21.9)	.178/.118 (4.5/3.0)	.248/.188 (6.3/4.8)	.1000
22	1.438 (36.5)	1.376/1.371 (35.0/34.8)	1.230 (31.2)	.660/.640 (16.8/16.3)	.188/.148 (4.8/3.8)	1.383 (35.1)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	.1150
24	1.564 (39.7)	1.501/1.495 (38.1/38.0)	1.385 (35.2)	.660/.640 (16.8/16.3)	.188/.148 (4.8/3.8)	1.508 (38.3)	.895 (22.7)	.146/.086 (3.7/2.2)	.216/.156 (5.5/4.0)	.2680

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230-019
MIL-DTL-26482 Series II Type Hermetic
Quick Release Bayonet Receptacle
Single Hole Jam-Nut Mount MS3449 Type

230	-	019	FT	10	-	6	P	X

Series 230 MIL-DTL-26482 Type

REPLACES 230-034

Connector Style
019 = Hermetic Jam-Nut Single Hole Mount Receptacle

Material/Finish
Z1 = CRES/ Passivated
FT = C1215 CRES/ Tin Plated
ZL = CRES/ Nickel Plated
(See Note 2)

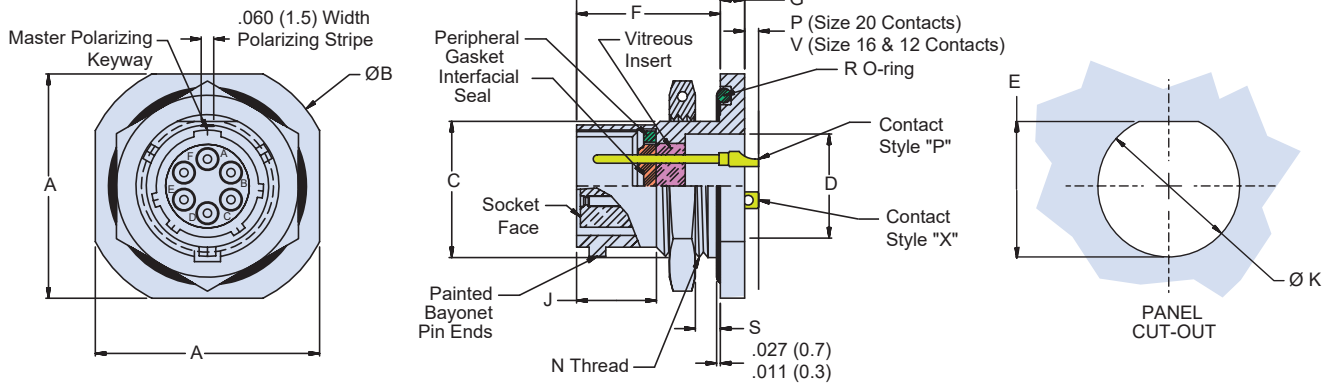
Shell Size

Insert Arrangement
Per MIL-STD-1669

Contact Type
P = Solder Cup, Pin Face
X = Eyelet, Pin Face
S = Socket, Solder Cup
Z = Socket, Eyelet

Alternate Key Position
W, X, Y or Z
(Omit for Normal)

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - CRES / passivate.
   FT - C1215 stainless steel / tin plated.
   ZL - CRES / nickel plated
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Sockets - Copper alloy, gold plated.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer
   Insulation - Glass; Socket: Rigid dielectric
3. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
4. Glenair 230-019 will mate with any QPL MIL-DTL-26482 Series II bayonet coupling plug of same size and insert polarization.
5. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
6. Metric Dimensions (mm) are indicated in parentheses.

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TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)									
Shell Size	A Length + .000 - .031 (+0 -0.8)	B Dia + .000 - .031 (+0 -0.8) Across Flange Corner	C +.000 - .010 (+0 -0.3) Mounting Flat	D Dia Min	E Panel Flat Location	F Mounting Flange Location	G Mounting Flange Thickness	J To Thread Chamfer ± .010 (0.3)	K + .010 - .005 (+0.3 -0.1) Panel Mounting Hole
8	.954 (24.2)	1.078 (27.4)	.530 (13.5)	.403 (10.2)	.536 (13.6)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.572 (14.5)
10	1.078 (27.4)	1.203 (30.6)	.655 (16.6)	.515 (13.1)	.661 (16.8)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.697 (17.7)
12	1.266 (32.2)	1.391 (35.3)	.818 (20.8)	.630 (16.0)	.824 (20.9)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.885 (22.5)
14	1.391 (35.3)	1.516 (38.5)	.942 (23.9)	.755 (19.2)	.948 (24.1)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	1.010 (25.7)
16	1.516 (38.5)	1.641 (41.7)	1.062 (27.0)	.880 (22.4)	1.072 (27.2)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5))	.368 (9.3)	1.135 (28.8)
18	1.641 (41.7)	1.766 (44.9)	1.191 (30.3)	.980 (24.9)	1.197 (30.4)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	1.260 (32.0)
20	1.828 (46.4)	1.954 (49.6)	1.316 (33.4)	1.105 (28.1)	1.322 (33.6)	.772/.754 (19.6/19.2)	.148/.128 (3.8/3.3)	.368 (9.3)	1.385 (35.2)
22	1.954 (49.6)	2.078 (52.8)	1.441 (36.6)	1.230 (31.2)	1.447 (36.8)	.772/.754 (19.6/19.2)	.148/.128 (3.8/3.3)	.368 (9.3)	1.510 (38.4)
24	2.078 (52.8)	2.203 (56.0)	1.566 (39.8)	1.385 (35.2)	1.572 (39.9)	.803/.785 (20.4/19.9)	.148/.128 (3.8/3.3)	.395 (10.0)	1.635 (41.5)

TABLE I (Continued): CONNECTOR AND CUT-OUT DIMENSIONS								
Shell Size	L Overall Length	N UNEF-2A Mounting Thread	P	R O-Ring Seal MS29513-	S Panel Thickness		V	Max. Weight (Lbs)
					Min	Max		
8	.820 (20.8)	.5625-24	.134/.074 (3.4/1.9)	16	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0430
10	.820 (20.8)	.6875-24	.134/.074 (3.4/1.9)	18	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0610
12	.820 (20.8)	.875-20	.134/.074 (3.4/1.9)	21	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0880
14	.820 (20.8)	1.000-20	.134/.074 (3.4/1.9)	23	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1100
16	.820 (20.8)	1.125-18	.134/.074 (3.4/1.9)	25	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1310
18	.820 (20.8)	1.250-18	.134/.074 (3.4/1.9)	27	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1720
20	.920 (23.4)	1.375-18	.099/.039 (2.5/1.0)	29	.062 (1.6)	.250 (6.4)	.169/.109 (4.3/2.8)	.2110
22	.920 (23.4)	1.500-18	.099/.039 (2.5/1.0)	30	.062 (1.6)	.250 (6.4)	.169/.109 (4.3/2.8)	.2420
24	.951 (24.2)	1.625-18	.069/.009 (1.75/0.23)	31	.062 (1.6)	.250 (6.4)	.139/.079 (3.5/2.0)	.2930

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230-034
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle
MS3449 Type

230	-	034	FT	10	-	6	P	X

Series 230 MIL-DTL-26482 Type

Connector Style
034 = Single Hole Jam-Nut Mount Receptacle

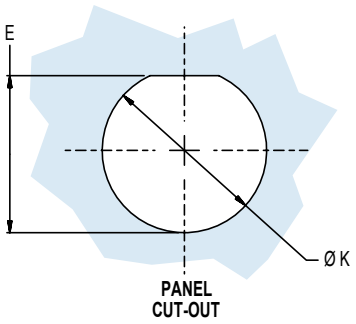
Material/Finish
Z1 = Stainless Steel/ Passivated
FT = C1215 Stainless Steel/Tin Plated
(See Note 2)

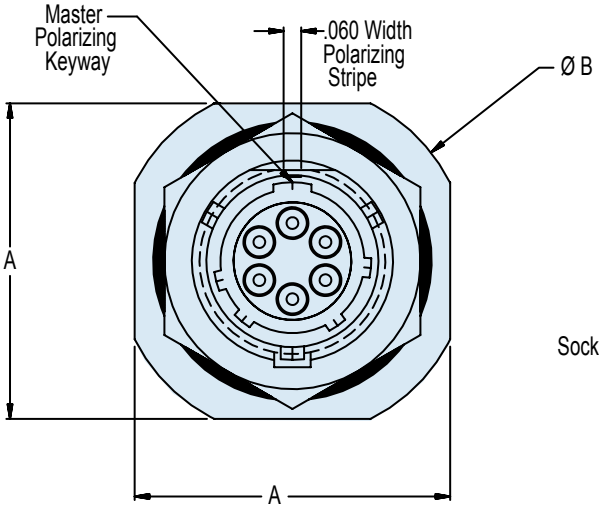
Shell Size

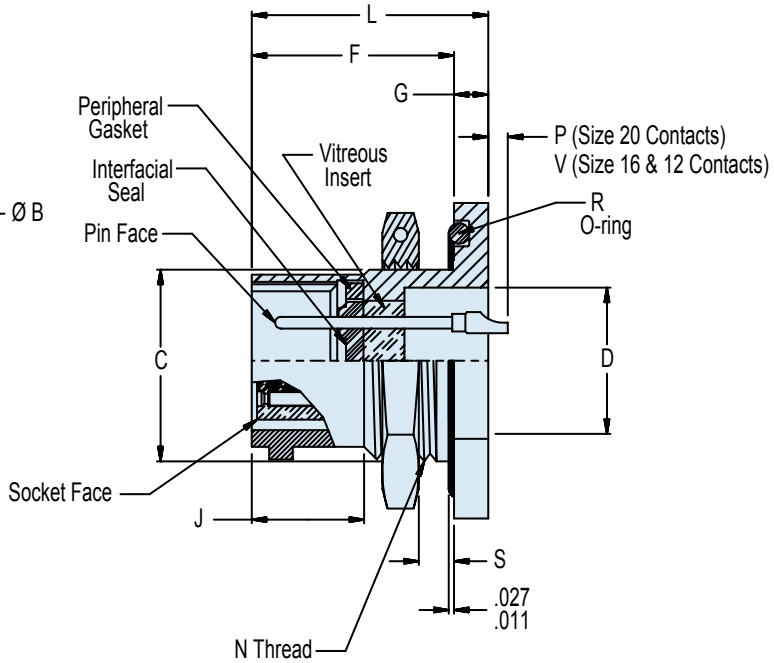
Insert Arrangement
Per MIL-STD-1669

Contact Type
P = Solder Cup, Pin Face
S = Solder Cup, Socket Face

Alternate Key Position
W, X, Y or Z
(Omit for Normal))







APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell: Z1 - 304L stainless steel/passivate.
   FT - C1215 stainless steel/tin plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - 52 Nickel alloy/gold plate.
   Bayonets - Stainless steel/passivate.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
   Socket insulator - Rigid dielectric/N.A.
3. Glenair 230-034 will mate with any QPL MIL-DTL-26482 Series II bayonet coupling plug of same size and insert polarization.
4. Performance:
   Hermeticity - <1 x 10^{-7} cc/sec @ 1 atm differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @500VDC.
5. Consult factory or MIL-STD-1669 for arrangement and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

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TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)

Shell Size	A Length + .000 - .031 (+0 -0.8)	B Dia + .000 - .031 (+0 -0.8) Across Flange Corner	C +.000 - .010 (+0 -0.3) Mounting Flat	D Dia Min	E Panel Flat Location	F Mounting Flange Location	G Mounting Flange Thickness	J To Thread Chamfer ± .010 (0.3)	K + .010 - .005 (+0.3 -0.1) Panel Mounting Hole
8	.954 (24.2)	1.078 (27.4)	.530 (13.5)	.403 (10.2)	.536 (13.6)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.572 (14.5)
10	1.078 (27.4)	1.203 (30.6)	.655 (16.6)	.515 (13.1)	.661 (16.8)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.697 (17.7)
12	1.266 (32.2)	1.391 (35.3)	.818 (20.8)	.630 (16.0)	.824 (20.9)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	.885 (22.5)
14	1.391 (35.3)	1.516 (38.5)	.942 (23.9)	.755 (19.2)	.948 (24.1)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	1.010 (25.7)
16	1.516 (38.5)	1.641 (41.7)	1.062 (27.0)	.880 (22.4)	1.072 (27.2)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5))	.368 (9.3)	1.135 (28.8)
18	1.641 (41.7)	1.766 (44.9)	1.191 (30.3)	.980 (24.9)	1.197 (30.4)	.707/.691 (18.0/17.6)	.113/.097 (2.9/2.5)	.368 (9.3)	1.260 (32.0)
20	1.828 (46.4)	1.954 (49.6)	1.316 (33.4)	1.105 (28.1)	1.322 (33.6)	.772/.754 (19.6/19.2)	.148/.128 (3.8/3.3)	.368 (9.3)	1.385 (35.2)
22	1.954 (49.6)	2.078 (52.8)	1.441 (36.6)	1.230 (31.2)	1.447 (36.8)	.772/.754 (19.6/19.2)	.148/.128 (3.8/3.3)	.368 (9.3)	1.510 (38.4)
24	2.078 (52.8)	2.203 (56.0)	1.566 (39.8)	1.385 (35.2)	1.572 (39.9)	.803/.785 (20.4/19.9)	.148/.128 (3.8/3.3)	.395 (10.0)	1.635 (41.5)

TABLE I (Continued): CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	L Overall Length	N UNEF-2A Mounting Thread	P	R O-Ring Seal MS29513-	S Panel Thickness		V	Max. Weight (Lbs)
					Min	Max		
8	.820 (20.8)	.5625-24	.134/.074 (3.4/1.9)	16	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0430
10	.820 (20.8)	.6875-24	.134/.074 (3.4/1.9)	18	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0610
12	.820 (20.8)	.875-20	.134/.074 (3.4/1.9)	21	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.0880
14	.820 (20.8)	1.000-20	.134/.074 (3.4/1.9)	23	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1100
16	.820 (20.8)	1.125-18	.134/.074 (3.4/1.9)	25	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1310
18	.820 (20.8)	1.250-18	.134/.074 (3.4/1.9)	27	.062 (1.6)	.187 (4.7)	.204/.144 (5.2/3.7)	.1720
20	.920 (23.4)	1.375-18	.099/.039 (2.5/1.0)	29	.062 (1.6)	.250 (6.4)	.169/.109 (4.3/2.8)	.2110
22	.920 (23.4)	1.500-18	.099/.039 (2.5/1.0)	30	.062 (1.6)	.250 (6.4)	.169/.109 (4.3/2.8)	.2420
24	.951 (24.2)	1.625-18	.099/.039 (2.5/0.1)	31	.062 (1.6)	.250 (6.4)	.169/.109 (4.3/2.8)	.2930

HERMETIC LEAK RATE MOD CODES

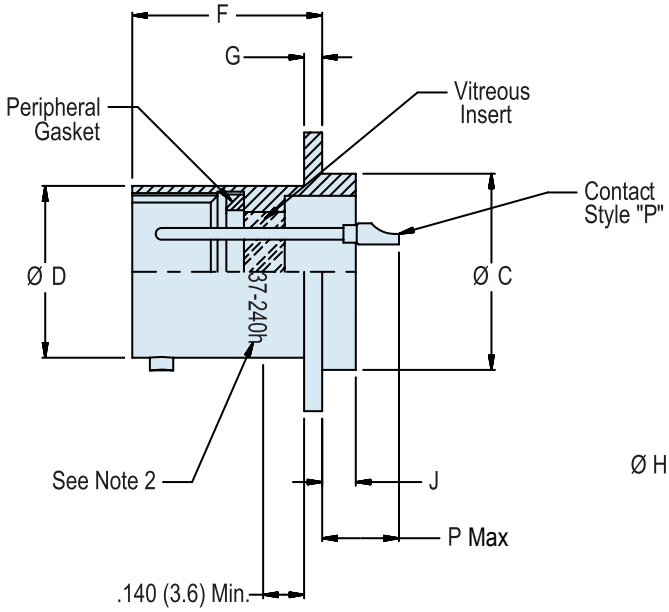
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

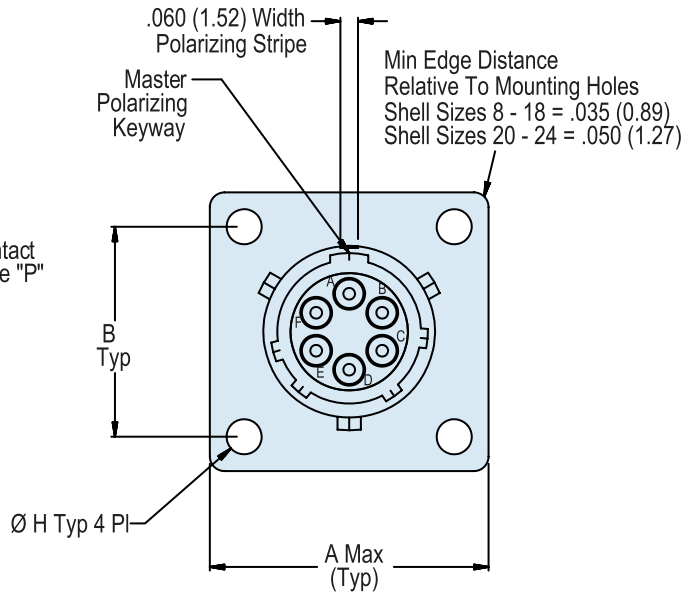
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237-240
MIL-DTL-26482 Series I Type Hermetic
Special Square Flange Mount Receptacle with Bayonet Coupling and Solder Cup Termination

Series 230 MIL-DTL-26482 Type	Shell Size		Insert Arrangement *Per MIL-STD-1669 See Note 5*		Alternate Key Position *W, X, Y or Z (Omit for Normal) See Note 5*
237-240H	12	-	8	P	X

Contact Style *P = Solder Cup*





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237-240
MIL-DTL-26482 Series I Type Hermetic
Special Square Flange Mount Receptacle with Bayonet Coupling and Solder Cup Termination

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A ±.016 (0.41)	B	C Dia	D Dia	F +.025 -.015 (+0.64 -0.38)	G +.011 -.010 (+0.28 -0.25)	H ±.005 (0.13)	J ±.015 (0.38)	P Max	Panel Cut-Out Dia	Max Weight (Lbs)
8	.812 (20.62)	.594 (15.09)	.563/.557 (14.30/14.15)	.474/.468 (12.04/11.89)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	.570 (14.48)	.038
10	.938 (23.83)	.719 (18.3)	.673/.667 (17.09/16.94)	.591/.585 (15.01/14.86)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	.680 (17.27)	.044
12	1.031 (26.19)	.812 (20.6)	.782/.776 (19.86/19.71)	.751/.745 (19.08/18.92)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	.789 (20.04)	.052
14	1.125 (28.58)	.906 (23.0)	.907/.901 (23.04/22.89)	.876/.870 (22.35/22.10)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	.914 (23.22)	.070
16	1.219 (30.96)	.969 (24.6)	1.032/1.026 (26.21/26.06)	1.001/.995 (25.43/25.27)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	1.039 (26.39)	.085
18	1.312 (33.32)	1.062 (27.0)	1.157/1.151 (29.39/29.24)	1.126/1.120 (28.60/28.45)	.494 (12.55)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	1.164 (29.57)	.098
20	1.438 (36.53)	1.156 (29.4)	1.251/1.245 (31.78/31.62)	1.251/1.245 (31.78/31.62)	.556 (14.12)	.062 (1.57)	.120 (3.05)	.047 (1.19)	.344 (8.74)	1.258 (31.95)	.110
22	1.562 (39.67)	1.250 (31.8)	1.376/1.370 (34.95/34.80)	1.376/1.370 (34.95/34.80)	.556 (14.12)	.062 (1.57)	.120 (3.05)	.079 (2.01)	.377 (9.58)	1.383 (35.13)	.150
24	1.688 (42.88)	1.375 (34.9)	1.501/1.495 (38.13/37.93)	1.501/1.495 (38.13/37.97)	.588 (14.94)	.062 (1.57)	.147 (1.19)	.079 (2.01)	.377 (9.58)	1.508 (38.30)	.280

APPLICATION NOTES

1. Material/Finish:
   Shell - C1215 CRS/pure tin plated, RoHS.
   Contacts - Nickel-iron alloy 52/pure tin plated, RoHS.
   Hermetic Insulator - Full glass/N.A.
   Bayonets - stainless steel/passivated.
   Seal - Silicone elastomer/N.A.
   Insulation - glass/N.A.
2. Assembly to be identified with manufacturer's name, part number and date code, space permitting.
3. Performance requirements:
   Hermeticity - <1 x 10^{-7} sccHe/se @ 1 Atm. Diff.
   DWV - Consult factory or MIL-STD-1669.
   Insulation resistance - 5000 megohms min @ 500VDC.
4. Glenair 237-240 will mate with any QPL MIL-DTL-26482 Series I Bayonet Coupling Plug (MS3116) of same size and inmsert polarization.
5. Consult factory and/or MIL-STD-1669 for arrangement and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

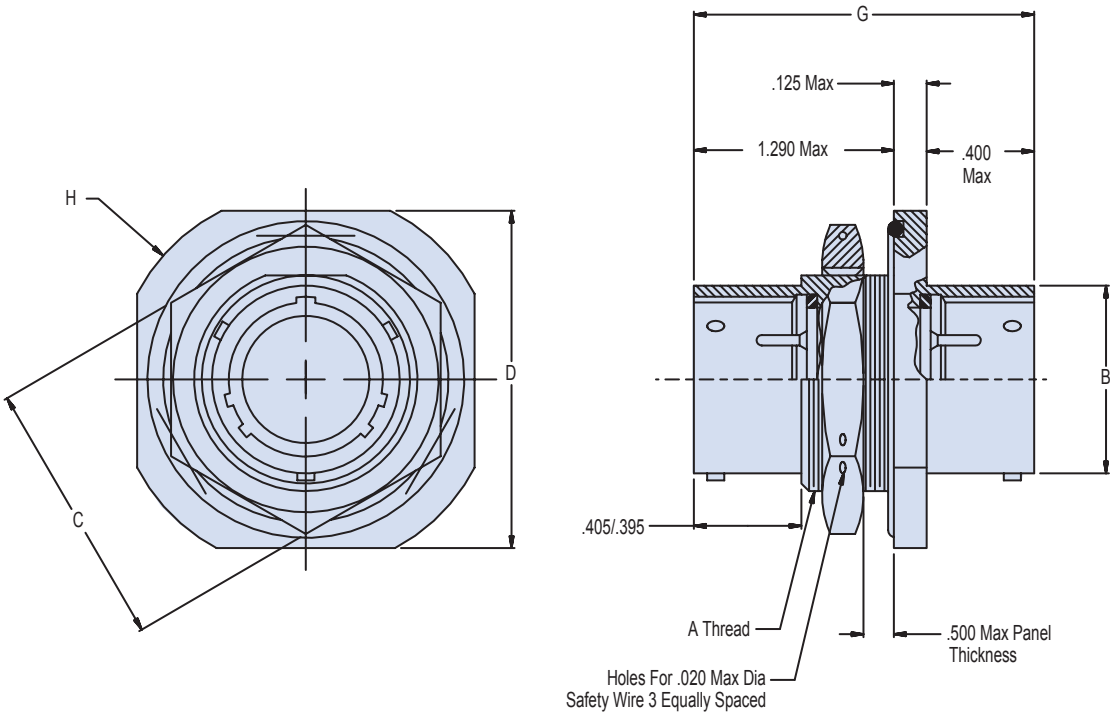
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257-135
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam Nut Mount
Pin-Pin Bulkhead Feedthrough Receptacle

Connector Style	Insert Arrangement
135 = Jam-Nut Mount Pin-Pin Feedthrough Receptacle	*Per MIL-STD-1669*

257 - 135 - 24 - 61

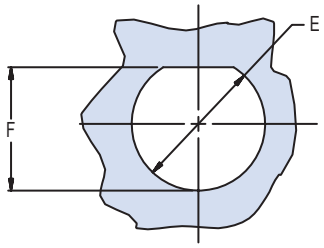
- **257** — Series 257 MIL-DTL-26482 Type
- **24** — Shell Size



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Electrical safety limits must be established by the user. Peak voltage, switching surge, transient, etc. should be used to determine the safety of the application.
3. Metric Dimensions (mm) are indicated in parentheses.
4. Material/Finish:
   Shell and jam-nut: ZL - CRES/nickel plated.
   Titanium and Inconel® available. Consult factory.
   Contacts - Alloy 52/gold plate.
   Bayonets - CRES/passivated.
   Seals - Fluorosilicone/N.A.
   Spacer - High grade rigid dielectric/N.A.
   Insulator - Glass/N.A.

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RECOMMENDED PANEL CUT-OUT

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia +.010 -.005 (+0.3 -0.1)	F Dia +.010 -.005 (+0.3 -0.1)	G Max	H Dia ± .016 (0.4)
8	9/16-24 UNEF	.474 (12.0)	.750 (19.1)	.938 (23.8)	.572 (14.5)	.540 (13.7)	2.125 (54.0)	1.062 (27.0)
10	11/16-24 UNEF	.591 (15.0)	.875 (22.2)	1.062 (27.0)	.697 (17.7)	.665 (16.9)	2.125 (54.0)	1.187 (30.1)
12	7/8-20 UNEF	.751 (19.1)	1.062 (27.0)	1.250 (31.8)	.895 (22.7)	.828 (21.0)	2.125 (54.0)	1.375 (34.9)
14	1-20 UNEF	.876 (22.3)	1.188 (30.2)	1.375 (34.9)	1.010 (25.7)	.952 (24.2)	2.125 (54.0)	1.500 (38.1)
16	1 1/8-18 UNEF	1.001 (25.4)	1.312 (33.3)	1.500 (38.1)	1.135 (28.8)	1.076 (27.3)	2.125 (54.0)	1.625 (41.3)
18	1 1/4-18 UNEF	1.126 (28.6)	1.438 (37.0)	1.625 (41.3)	1.260 (32.0)	1.201 (30.5)	2.125 (54.0)	1.750 (44.5)
20	1 3/8-18 UNEF	1.251 (31.8)	1.562 (39.7)	1.812 (46.0)	1.385 (35.2)	1.326 (33.7)	2.125 (54.0)	1.938 (49.2)
22	1 1/2-18 UNEF	1.376 (35.0)	1.688 (42.9)	1.938 (49.2)	1.510 (13.0)	1.451 (36.9)	2.125 (54.0)	2.062 (52.4)
24	1 5/8-18 UNEF	1.501 (38.1)	1.812 (46.0)	2.062 (52.4)	1.635 (41.5)	1.576 (40.0)	2.125 (54.0)	2.187 (55.5)

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947-292
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam Nut Mount
Pin-Socket Bulkhead Feedthrough Receptacle

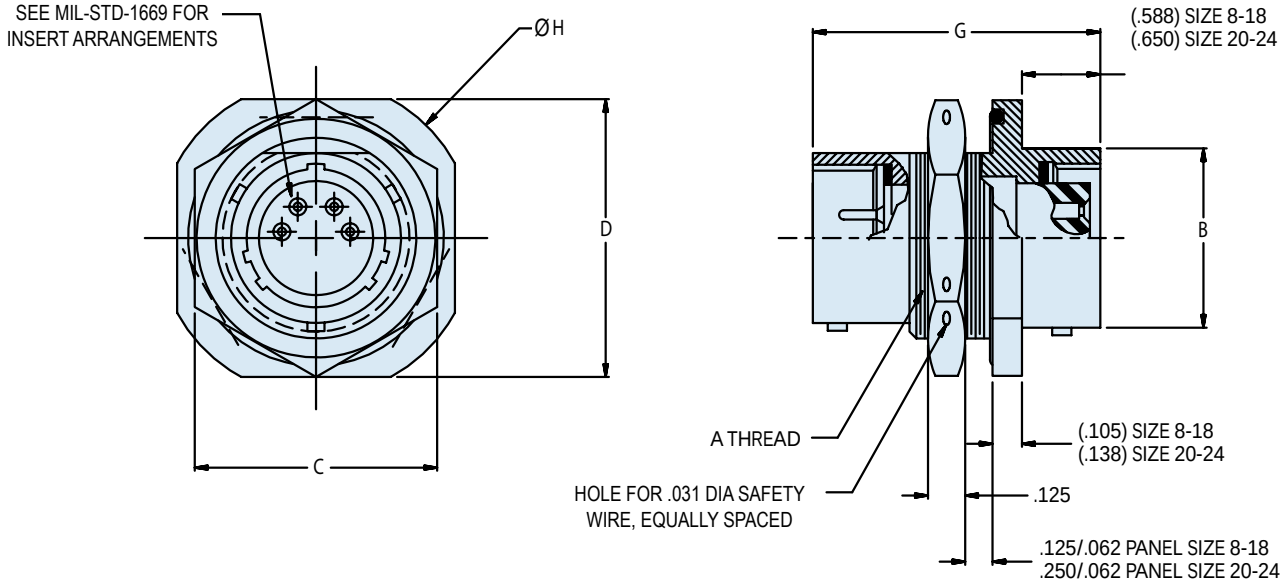
Basic Part Number	Shell Size		Insert Arrangement	Pin/Socket Designator	Alternate Key Position
947-292	ZL	22 -	55	P	X

Material/Finish
Z1 = CRES Passivate
ZL = CRES Nickel Plate

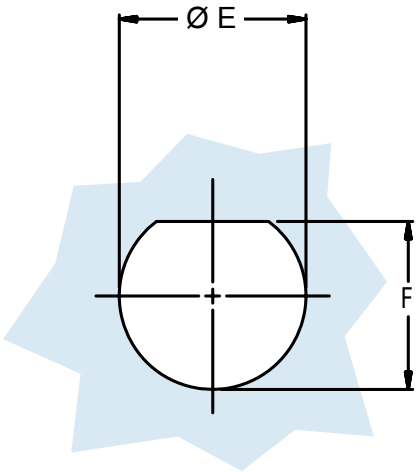
Insert Arrangement
Per MIL-STD-1669

Pin/Socket Designator
P = Pin on Jam Nut Side
S = Socket on Jam Nut Side

Alternate Key Position
W, X, Y or Z
(Omit for Normal)



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Panel Cut Out

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia +.010 -.005 (+0.3 -0.1)	F Dim +.010 -.005 (+0.3 -0.1)	G Max	H Dia ± .016 (0.4)
8	9/16-24 UNEF	.474 (12.0)	.750 (19.1)	.954 (24.2)	.572 (14.5)	.536 (13.6)	1.420 (36.1)	1.062 (27.0)
10	11/16-24 UNEF	.591 (15.0)	.875 (22.2)	1.078 (27.4)	.697 (17.7)	.661 (16.8)	1.420 (36.1)	1.187 (30.1)
12	7/8-20 UNEF	.751 (19.1)	1.062 (27.0)	1.266 (32.2)	.895 (22.7)	.824 (20.9)	1.420 (36.1)	1.375 (34.9)
14	1-20 UNEF	.876 (22.3)	1.188 (30.2)	1.391 (35.3)	1.010 (25.7)	.948 (24.1)	1.420 (36.1)	1.500 (38.1)
16	1 1/8-18 UNEF	1.001 (25.4)	1.312 (33.3)	1.516 (38.5)	1.135 (28.8)	1.072 (27.2)	1.420 (36.1)	1.625 (41.3)
18	1 1/4-18 UNEF	1.126 (28.6)	1.438 (37.0)	1.641 (41.7)	1.260 (32.0)	1.197 (30.4)	1.420 (36.1)	1.750 (44.5)
20	1 3/8-18 UNEF	1.251 (31.8)	1.562 (39.7)	1.828 (46.4)	1.385 (35.2)	1.322 (33.6)	1.580 (40.1)	1.938 (49.2)
22	1 1/2-18 UNEF	1.376 (35.0)	1.688 (42.9)	1.954 (49.6)	1.510 (13.0)	1.447 (36.8)	1.580 (40.1)	2.062 (52.4)
24	1 5/8-18 UNEF	1.501 (38.1)	1.812 (46.0)	2.087 (53.0)	1.635 (41.5)	1.572 (39.9)	1.620 (41.1)	2.187 (55.5)

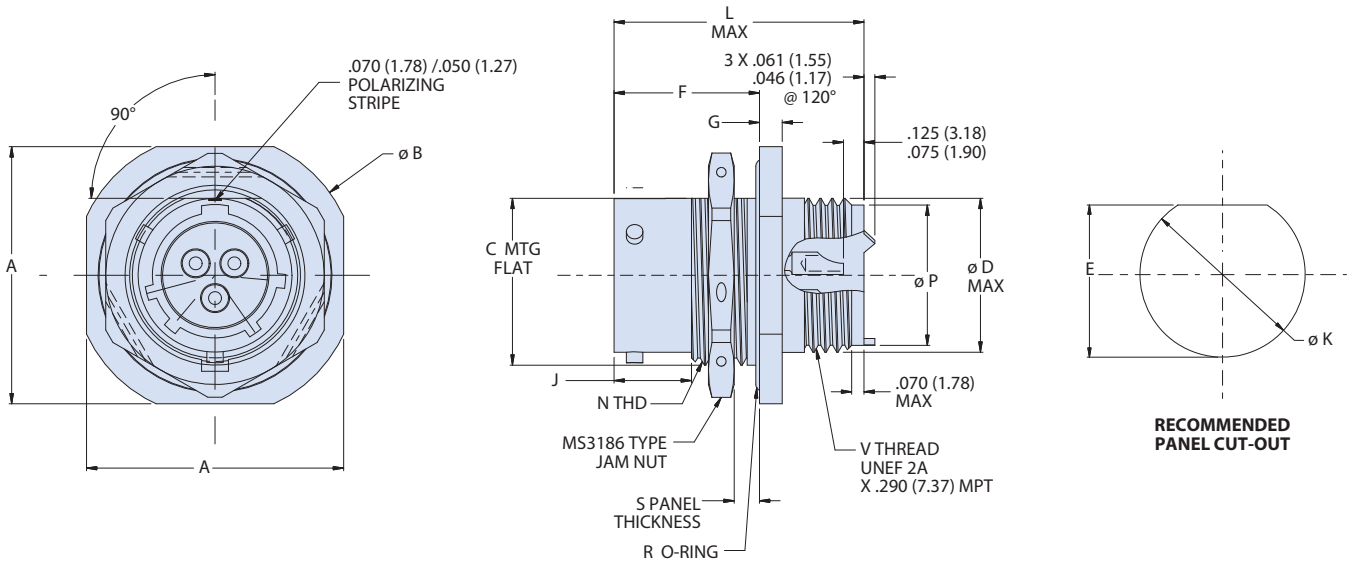
APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Hermeticity: <1x10^{-7} cc/sec @ 1 ATM differential
3. Material/Finish:
   Shell and jam-nut: Z1 - CRES/passivate.
   ZL - CRES/nickel plate.
   Titanium and Inconel® available. Consult factory.
   Contacts - Alloy 52/gold plate.
   Bayonets - CRES/passivated.
   Insulator - Vitreous glass seal
   Seals - Silicone Elastomer/N.A.
   Spacer - High grade rigid dielectric/N.A.
4. Metric Dimensions (mm) are indicated in parentheses.

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230-043
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam-Nut Receptacle with Accessory Thread
MIL-DTL-26482 Type

Connector Style		Insert Arrangement		Insert Position	
043 = Jam-Nut Mount Receptacle with Accesory Thread		Per MIL-STD-1669		Per MIL-STD-1669 Omit for Normal	
230	**043**	**Z1**	**12** - **3**	**P**	*****
Series 230 MIL-DTL-26482 Type		Material/Finish Z1 = Stainless Steel/ Passivated ZL = Stainless Steel/ Nickel Plated	Shell Size	Contact Type P = Solder Cup, Pin Face S = Solder Cup, Socket Face	



APPLICATION NOTES

1. Material/Finish:
   Shell: Per part number development
   Titanium and Inconel® available. Consult factory.
   Bayonets, socket hoods - CRES/passivate
   Contacts, hermetic - 52 Nickel alloy/gold plate
   Contacts, socket - Copper alloy/gold plated
   Insulator, hermetic - Full glass
   Insulator, socket - High-grade rigid dielectric
   Seals - Silicone rubber
   O-rings - Fluorosilicone elastomer
2. Testing criteria:
   Hermeticity - <1 x 10^-7 ccHe/sec @ delta 1 ATM pressure
   DWV - per MIL-STD-1669 service rating
   IR - 5000 megohms min @ 500 VDC
3. 230-043 will mate with any QPL MIL-DTL-26482 plug having the same size, insert, polarization, and opposite contact gender

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230-043
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam-Nut Receptacle with Accessory Thread
MIL-DTL-26482 Type

Dimensions								
Shell Size	A LENGTH +.000 -0.031	B ø +.000 -0.031 ACROSS FLANGE CORNER	C +.000 -0.010 MTG. FLAT	D ø MAX	E PANEL FLAT LOCATION ±.005	F MOUNTING FLANGE LOCATION	G FLANGE THICKNESS	J TO THREAD CHAMFER ±.010
8	0.954 (24.23)	1.078 (27.38)	0.530 (13.46)	0.499 (12.67)	0.536 (13.61)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
10	1.078 (27.38)	1.203 (30.56)	0.655 (16.64)	0.625 (15.88)	0.661 (16.79)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
12	1.266 (32.16)	1.391 (35.33)	0.818 (20.78)	0.750 (19.05)	0.824 (20.93)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
14	1.391 (35.33)	1.516 (38.51)	0.942 (23.93)	0.875 (22.23)	0.948 (24.08)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
16	1.516 (38.51)	1.641 (41.68)	1.062 (26.97)	1.000 (25.40)	1.072 (27.23)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
18	1.641 (41.68)	1.766 (44.86)	1.191 (30.25)	1.066 (27.08)	1.197 (30.40)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)	0.368 (9.35)
20	1.828 (46.43)	1.954 (49.63)	1.316 (33.43)	1.187 (30.15)	1.322 (33.58)	.772 (19.61) .754 (19.15)	.148 (3.76) .128 (3.25)	0.368 (9.35)
22	1.954 (49.63)	2.078 (52.78)	1.441 (36.60)	1.312 (33.32)	1.447 (36.75)	.772 (19.61) .754 (19.15)	.148 (3.76) .128 (3.25)	0.368 (9.35)
24	2.078 (52.78)	2.203 (55.96)	1.566 (39.78)	1.437 (36.50)	1.572 (39.93)	.803 (20.40) .785 (19.94)	.148 (3.76) .128 (3.25)	0.395 (10.03)

Dimensions								
Shell Size	K +.010 -0.005 PANEL MOUNTING HOLE	L OVERALL LENGTH	N UNEF-2A MOUNTING THREAD	P ø MAX	R O-RING SEAL M25988/3-	S PANEL THICKNESS MIN	S PANEL THICKNESS MAX	V UNEF-2A
8	0.572 (14.53)	1.215 (30.86)	.5625-24	0.437 (11.10)	016 (406.40)	0.062 (1.57)	0.187 (4.75)	.500-20
10	0.697 (17.70)		.6875-24	0.572 (14.53)	018 (457.20)			.625-24
12	0.885 (22.48)		.875-20	0.687 (17.45)	021 (533.40)			.750-20
14	1.010 (25.65)		1.000-20	0.812 (20.62)	023 (584.20)			.875-20
16	1.135 (28.83)		1.125-18	0.937 (23.80)	025 (635.00)			1.000-20
18	1.260 (32.00)		1.250-18	0.992 (25.20)	027 (685.80)			1.0625-18
20	1.385 (35.18)	1.315 (33.40)	1.375-18	1.117 (28.37)	029 (736.60)		0.250 (6.35)	1.1875-18
22	1.510 (38.35)		1.500-18	1.242 (31.55)	030 (762.00)			1.3125-18
24	1.635 (41.53)	1.346 (34.19)	1.625-18	1.367 (34.72)	031 (787.40)			1.4375-18

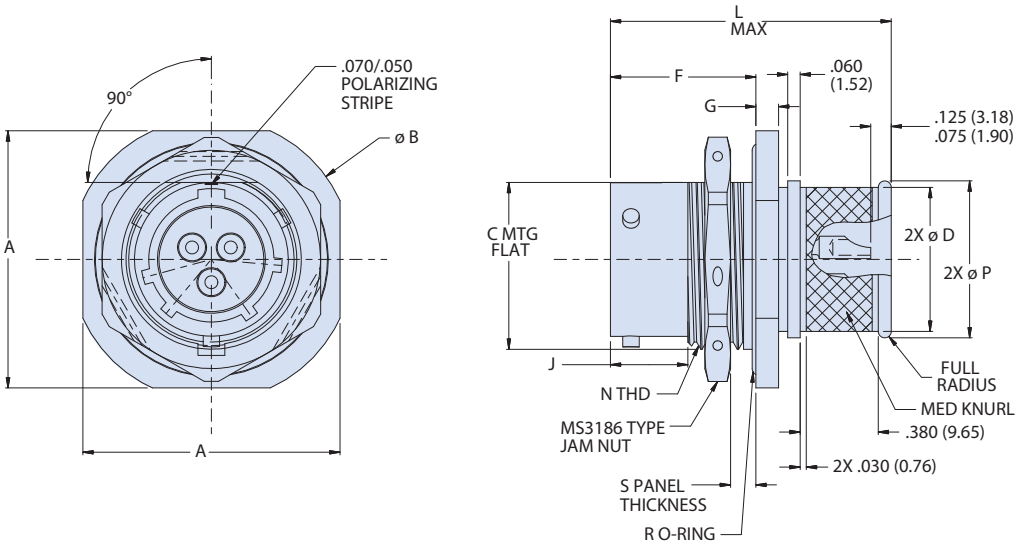
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230-044
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Banding Porch

Connector Style	Insert Arrangement	Insert Position
044 = Jam-Nut Mount Receptacle with Banding Porch	Per MIL-STD-1669	Per MIL-STD-1669 Omit for Normal

230	-	044	Z1	12	-	3	P	*

Series 230 MIL-DTL-26482 Type	Material/Finish	Shell Size	Contact Type
	Z1 = Stainless Steel/ Passivated *ZL* = Stainless Steel/ Nickel Plated		*P* = Solder Cup, Pin Face *S* = Solder Cup, Socket Face



APPLICATION NOTES

1. Material/Finish:
   Shell: Per part number development
   Bayonets, socket hoods - CRES/passivate
   Contacts, hermetic - 52 nickel alloy/gold plate
   Contacts, socket - Copper alloy/gold plated
   Insulator, hermetic - Full glass
   Insulator, socket - High-grade rigid dielectric
   Seals - Silicone elastomer
   O-rings - Fluorosilicone elastomer
2. Testing criteria:
   Hermeticity - <1 x 10^{-7} ccHe/sec @ delta 1 ATM pressure
   DWV - per MIL-STD-1669 service rating
   IR - 5000 megohms min @ 500 VDC
3. 230-044 will mate with any QPL MIL-DTL-26482 plug having the same size, insert, polarization, and opposite contact gender

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230-044
MIL-DTL-26482 Series II Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Banding Porch

Dimensions							
SHELL SIZE	A LENGTH +.000 (0.00) -0.031 (0.79)	B ø +.000 (0.00) -0.031 (7.87) ACROSS FLANGE CORNER	C +.000 (.00) -0.010 (0.25) MTG. FLAT	D ø MAX	E PANEL FLAT LOCATION ±.005	F MOUNTING FLANGE LOCATION	G FLANGE THICKNESS
8	0.954 (24.23)	1.078 (27.38)	0.530 (13.46)	0.475 (12.07)	0.536 (13.61)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
10	1.078 (27.38)	1.203 (30.56)	0.655 (16.64)	0.600 (15.24)	0.661 (16.79)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
12	1.266 (32.16)	1.391 (35.33)	0.818 (20.78)	0.700 (17.78)	0.824 (20.93)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
14	1.391 (35.33)	1.516 (38.51)	0.942 (23.93)	0.835 (21.21)	0.948 (24.08)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
16	1.516 (38.51)	1.641 (41.68)	1.066 (27.08)	0.960 (24.38)	1.072 (27.23)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
18	1.641 (41.68)	1.766 (44.86)	1.191 (30.25)	1.062 (26.97)	1.197 (30.40)	.707 (17.96) .691 (17.55)	.113 (2.87) .097 (2.46)
20	1.828 (46.43)	1.954 (49.63)	1.316 (33.43)	1.188 (30.18)	1.322 (33.58)	.772 (19.61) .754 (19.15)	.148 (3.76) .128 (3.25)
22	1.954 (49.63)	2.078 (52.78)	1.441 (36.60)	1.275 (32.39)	1.447 (36.75)	.772 (19.61) .754 (19.15)	.148 (3.76) .128 (3.25)
24	2.078 (52.78)	2.203 (55.96)	1.566 (39.78)	1.475 (37.47)	1.572 (39.93)	.803 (20.40) .785 (19.94)	.148 (3.76) .128 (3.25)

Dimensions								
SHELL SIZE	J TO THREAD CHAMFER ±.010 (0.25)	K +.010 (0.25) -0.005 (0.13) PANEL MOUNTING HOLE	L OVERALL LENGTH	N UNEF-2A MOUNTING THREAD	P ø MAX	R O-RING SEAL M25988/3-	S PANEL THICKNESS	
							MIN	MAX
8	0.368 (9.35)	0.572 (14.53)	1.335 (33.91)	.5625-24	0.538 (13.67)	016 (406.40)	0.062 (1.57)	0.187 (4.75)
10	0.368 (9.35)	0.697 (17.70)		.6875-24	0.662 (16.81)	018 (457.20)		
12	0.368 (9.35)	0.885 (22.48)		.875-20	0.762 (19.35)	021 (533.40)		
14	0.368 (9.35)	1.010 (25.65)		1.000-20	0.898 (22.81)	023 (584.20)		
16	0.368 (9.35)	1.135 (28.83)		1.125-18	1.022 (25.96)	025 (635.00)		
18	0.368 (9.35)	1.260 (32.00)		1.250-18	1.125 (28.58)	027 (685.80)		
20	0.368 (9.35)	1.385 (35.18)	1.435 (36.45)	1.375-18	1.250 (31.75)	029 (736.60)		0.250 (6.35)
22	0.368 (9.35)	1.510 (38.35)		1.500-18	1.338 (33.99)	030 (762.00)		
24	0.395 (10.03)	1.635 (41.53)	1.466 (37.24)	1.625-18	1.538 (39.07)	031 (787.40)		

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BAYONET AND THREADED

MIL-DTL-83723

Series III Type Hermetic Connectors



The MIL-DTL-83723 Series III type connector is ideally suited for use on commercial, military and aerospace interconnect systems that demand hermetic sealing and high vibration resistance in a medium density cylindrical connector. Thirty-four insert arrangements are available in both threaded and bayonet coupling styles for a wide range of applications. Because Glenair makes all its hermetic connectors in-house, including the machining of shells, molding of interfacial seals and □ring of hermetic components, we can o□er you outstanding availability on stock products and fast turnaround on special orders.

GLASS-SEALED Hermetic CONNECTORS

Glenair®

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

MIL-DTL-83723 Series III Threaded and Bayonet Coupling Hermetic Connectors

Glenair MIL-DTL-83723 Series III Hermetic connectors are offered in either passivated stainless steel or fused tin over cold rolled carbon steel, with glass insulators fused to the connector shell, and contacts meeting a leak rate of 1 X 10^{-7} cc/Helium per second.

Maximum design flexibility is built into the MIL-DTL-83723 hermetic connector– with a minimum of 2 to a maximum of 61 circuits per connector in a wide variety of contact arrangements IAW MIL-STD-1554. Fluorosilicone elastomer interfacial and peripheral seals ensure positive sealing with plug connectors.

Gold plated nickel-iron alloy 52 contacts—available in sizes 12, 16 and 20—depending on the layout chosen—offer a broad selection of insert arrangement options. Solder cup, straight pin and PCB contact styles are standard.

Quick Selection Guide

Part Number	Description	Page
	MIL-DTL-83723 Series III Type Insert Arrangements	E-2
	Glenair Hermetic Connector Products Space Grade Mod Codes	E-3
	Glenair Hermetic Connector Products Special Leak Rate Mod Codes	E-4
	MIL-DTL-83723 Series III Type Insert Arrangements and Keyway Positions	E-5
230-023	Bayonet Coupling Square Flange Receptacle with Solder Terminals MIL-DTL-83723/79 Type	E-6
230-024	Bayonet Coupling Solder Flange Receptacle with Solder Terminals MIL-DTL-83723/80 Type	E-8
230-025	Bayonet Coupling Jam Nut Receptacle with Solder Terminals MIL-DTL-83723/81 Type	E-10
230-026	Bayonet Coupling Solder Flange Receptacle with Straight Pin Contacts MIL-DTL-83723/93 Type	E-12
230-027	Bayonet Coupling Jam Nut Receptacle with Straight Pin or PCB Contacts MIL-DTL-83723/94 Type	E-14
230-028	Threaded Coupling Square Flange Receptacle with Solder Terminals MIL-DTL-83723/88 Type	E-16
230-029	Threaded Coupling Jam Nut Receptacle with Solder Terminals MIL-DTL-83723/89 Type	E-18
230-030	Threaded Coupling Solder Flange Receptacle with Solder Terminals MIL-DTL-83723/90 Type	E-20

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MIL-DTL-83723 Series III Type
Threaded and Bayonet Coupling
Insert Arrangements Per MIL-STD-1554


8-2


8-3

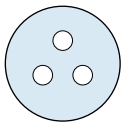

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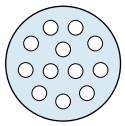

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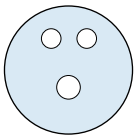

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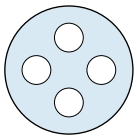

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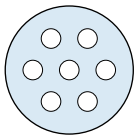

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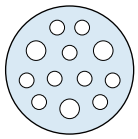

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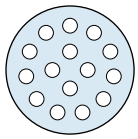

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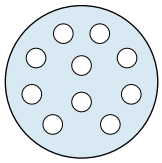

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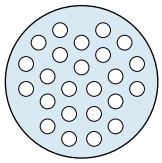

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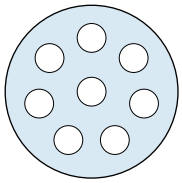

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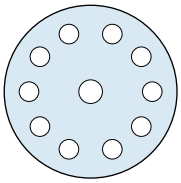

14-12

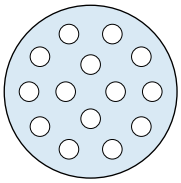

14-15

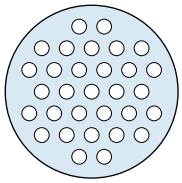

16-10

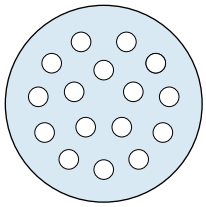

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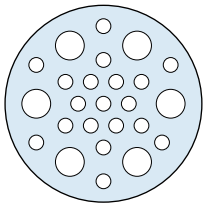

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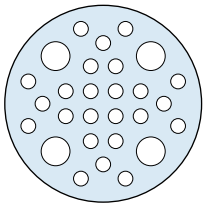

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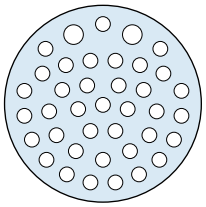

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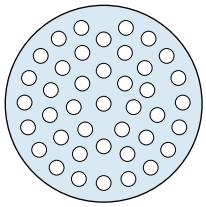

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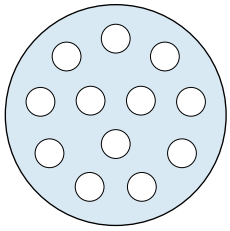

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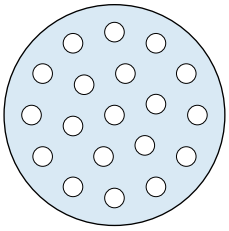

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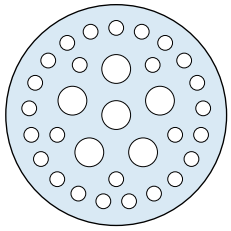

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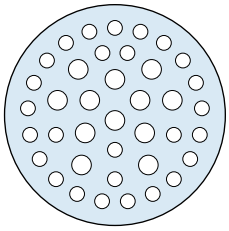

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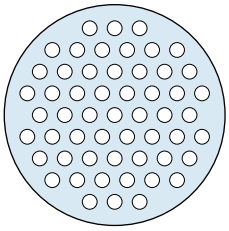

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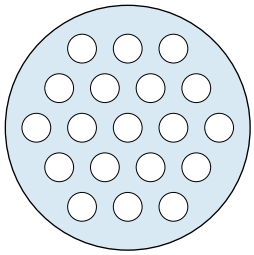

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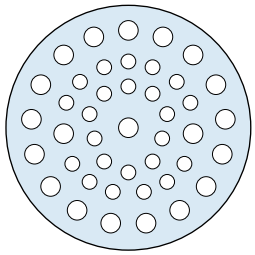

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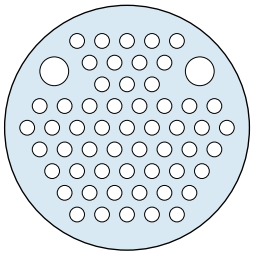

22-32

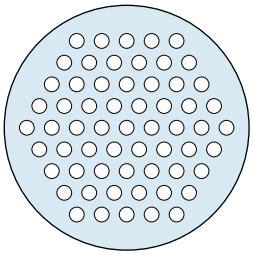

22-39


22-55


24-19


24-43


24-57


24-61

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Leak Rate Designator
B *– (See Table Below)*

– 585 B

Mod Code
585 *– Increased Hermeticity Mod Code*

What is the –585 Mod Code?

Glenair offers an array of hermetic connectors with more stringent leak rate requirements. By adding "**–585**" and the designator letter "**A**", "**B**" or "**C**"—depending on the hermeticity desired—to the end of a standard part number, connectors will be built to exceed the standard 1 x 10^{-7} cc Helium per second leak rate specified on most Glenair hermetics.

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
A	1 x 10^{-10} cc's Helium per second
B	1 x 10^{-9} cc's Helium per second
C	1 x 10^{-8} cc's Helium per second

Catalog Notes

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:

  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

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Glenair Hermetic Connector Products
Space Grade Mod Codes

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA speci cation EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space ight projects.

What screening level is required?

NASA de nes three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The uorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

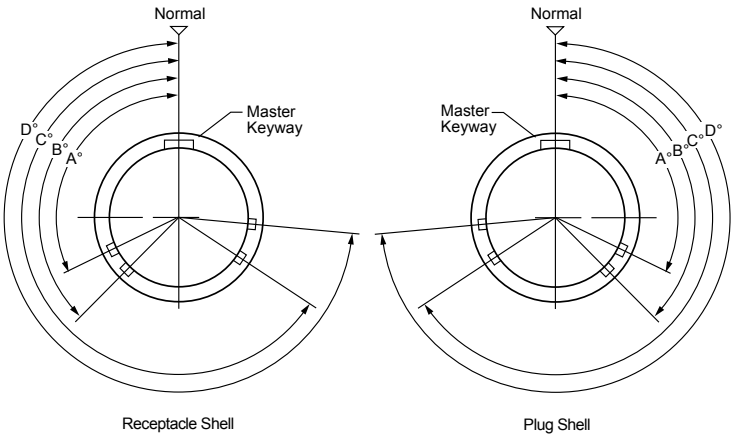
NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

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MIL-DTL-83723 Series III Type
Threaded and Bayonet Coupling
Insert Arrangements and Keyway Positions

Insert Arrangements					
Shell Size Designator	Insert Arrangement Dash Number	Service Rating	Contact Size and Quantity		
			20	16	12
08	08-02	I	2		
	08-03	I	3		
	08-98	I	3		
10	10-02	I	2		
	10-05	I	5		
	10-06	I	6		
	10-20	I		2	
12	12-03	I		3	
	12-12	I	12		
14	14-03*	I		3*	
	14-04	I			4
	14-07	I		7	
	14-12	I	9	3	
	14-15	I	15		
16	16-10	I		10	
	16-24	I	24		
18	18-08	I			8
	18-11*	I		11*	
	18-14	I		14	
	18-31	I	31		
20	20-16	I		16	
	20-25	I	19		6
	20-28	I	24		4
	20-39	I	37	2	
	20-41	I	41		
22	22-12	I			12
	22-19	I		19	
	22-32	I	26		6
	22-39	I	27	12	
	22-55	I	55		
24	24-19	I			19
	24-43	I	23	20	
	24-57	I	55		2
	24-61	I	61		

*1 shielded.



Keyway Positions (Front Face of Pin Insert)					
Shell Size	Keyway Position	A°	B°	C°	D°
08 through 10	Normal	105°	140°	215°	265°
	6	102°	132°	248°	320°
	7	80°	118°	230°	312°
	8	35°	140°	205°	275°
	9	64°	155°	234°	304°
	Y or 10	25°	115°	220°	270°
12 through 24	Normal	105°	140°	215°	265°
	6	18°	149°	192°	259°
	7	92°	152°	222°	342°
	8	84°	152°	204°	334°
	9	24°	135°	199°	240°
	Y or 10	98°	152°	268°	338°

Y Position not available for shell size 8.
Use "Y" when ordering military parts, "10" when ordering commercial parts

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230-023
MIL-DTL-83723/79 Series III Type Hermetic
Bayonet Coupling Square Flange Receptacle Connector with Solder Terminals

Connector Style
023 = Hermetic Square Flange Mount Receptacle

Insert Arrangement
Per MIL-STD-1554

Alternate Key Position
1,2,3,4,5,6,7,8,9, (Omit for Normal)

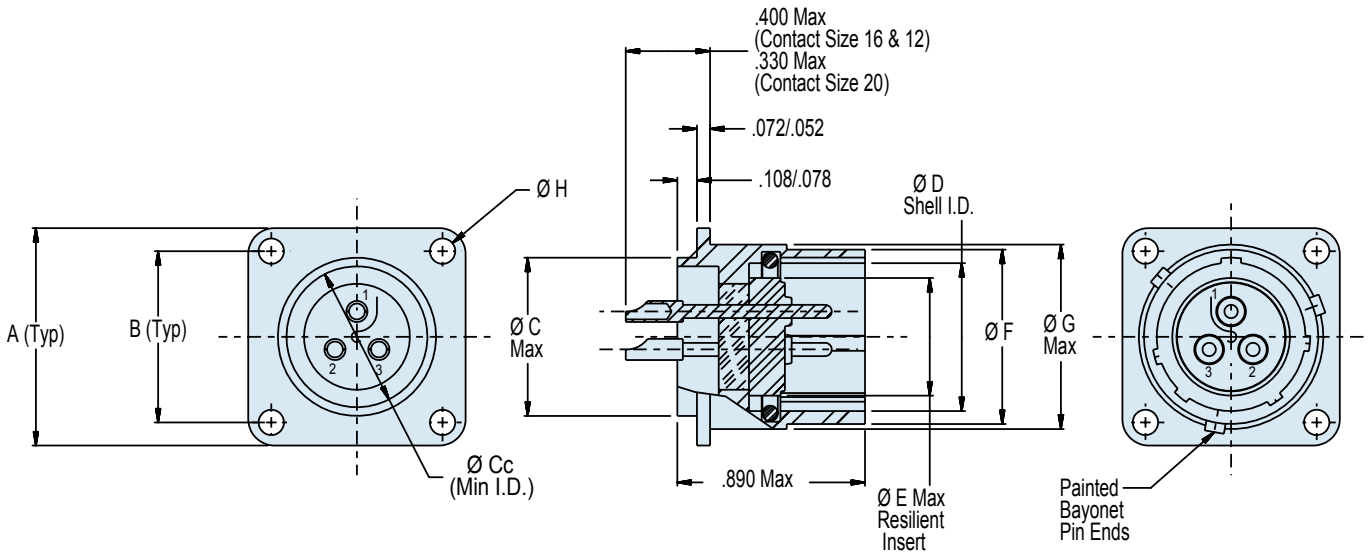
230	-	023	FT	12	-	3	P	1

Series 230 MIL-DTL-83723 Type

Material Designation
FT = Carbon Steel/ Tin Plated
Z1 = Stainless Steel/ Passivated

Shell Size

Contact Type
P = Solder Cup

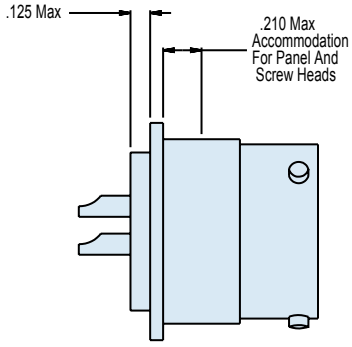


APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell*:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   Contacts - 52 Nickel alloy/gold plated.
   Bayonets - Stainless steel/passivated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-023 will mate with any QPL MIL-DTL-83723/75 & 77 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity - <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min. @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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Max Panel Thickness

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

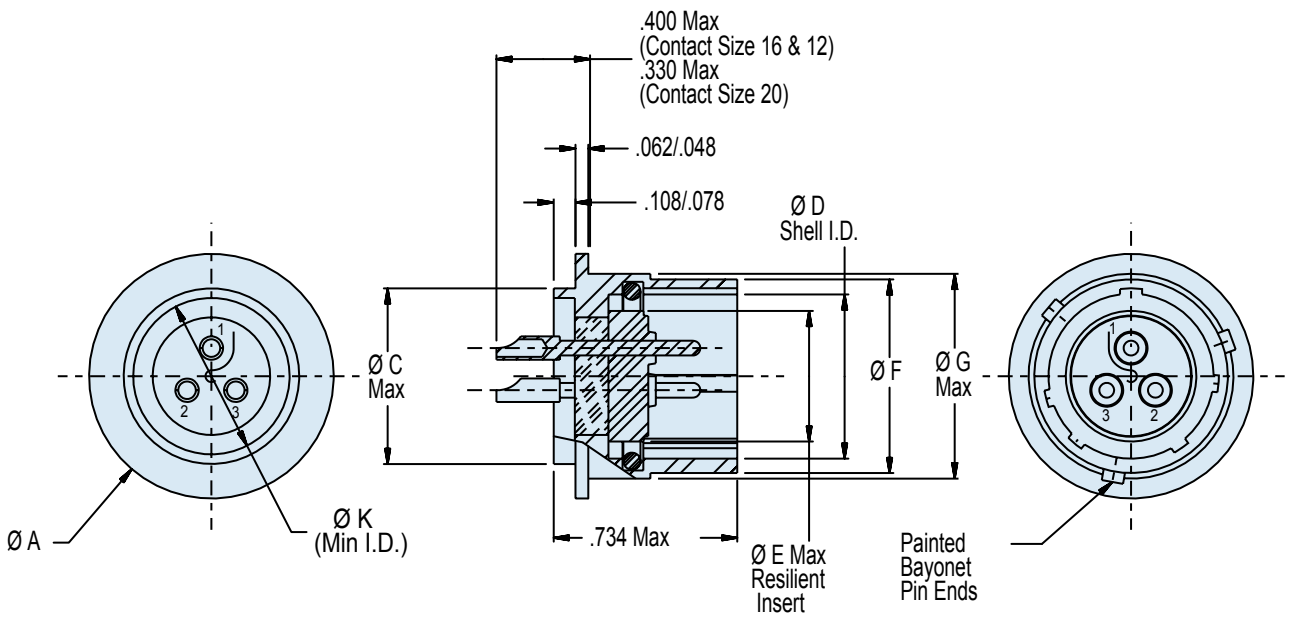
TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

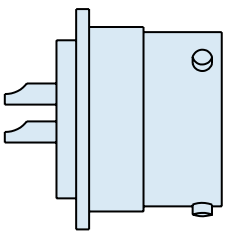
Shell Size	A	B	C Dia Max	D Dia Shell I.D.	E Dia Resilient Insert	F Dia	G Dia Max	H Dia Thru 4 Pl	CC Dia Min	Panel Cut-Out Ø C	Panel Cut-Out Ø G
8	.812 (20.6)	.594 (15.1)	.500 (12.7)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.120 (3.0)	.406 (10.3)	.630/.620 (16.0/15.7)	.515/.505 (13.1/12.8)
10	.937 (23.8)	.719 (18.3)	.562 (14.3)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.120 (3.0)	.443 (11.3)	.758/.748 (19.3/19.0)	.582/.572 (14.8/14.5)
12	1.031 (26.2)	.812 (20.6)	.750 (19.1)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.120 (3.0)	.668 (17.0)	.923/.913 (23.4/23.2)	.770/.760 (19.6/19.3)
14	1.125 (28.6)	.906 (23.0)	.812 (20.6)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	.120 (3.0)	.668 (17.0)	.990/.980 (25.1/248)	.832/.822 (21.1/20.9)
16	1.250 (31.8)	.969 (24.6)	.937 (23.8)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	.120 (3.0)	.763 (19.4)	1.117/1.107 (28.4/28.1)	.958/.948 (24.3/24.1)
18	1.343 (34.1)	1.062 (27.0)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	.120 (3.0)	.862 (21.9)	1.219/1.209 (31.0/30.7)	1.082/1.072 (27.5/27.2)
20	1.437 (36.5)	1.156 (29.4)	1.187 (30.1)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	.120 (3.0)	1.108 (28.1)	1.347/1.337 (34.2/34.0)	1.202/1.192 (30.5/30.3)
22	1.562 (39.7)	1.250 (31.8)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	.120 (3.0)	1.204 (30.6)	1.462/1.452 (37.1/36.9)	1.332/1.322 (33.8/33.6)
24	1.703 (43.3)	1.375 (34.9)	1.437 (36.5)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	.149 (3.8)	1.388 (35.3)	1.587/1.577 (40.3/40.1)	1.452/1.442 (36.9/36.6)

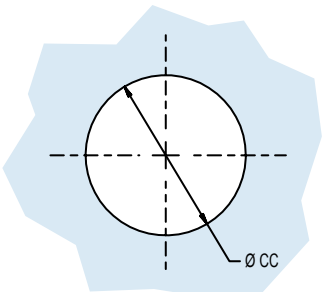
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230-024
MIL-DTL-83723/80 Series III Type Hermetic
Bayonet Coupling Solder Flange Mount Receptacle with Solder Cup Terminals

230	-	024	FT	12	-	3	P	1
Series 230 MIL-DTL-83723 Type		Connector Style: *024* = Hermetic Solder Flange Mount Receptacle	Material Designation: *FT* = Carbon Steel/ Tin Plated; *ZL* = Stainless Steel/ Nickel Plated; *Z1* = Stainless Steel/ Passivated	Shell Size		Insert Arrangement: Per MIL-STD-1554	Contact Type: *P* = Solder Cup	Alternate Key Position: *1,2,3,4,5,6,7,8,9,* (Omit for Normal)







Panel Cut Out

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A	C Dia Max	D Dia Shell I.D.	E Dia Resilient Insert	F Dia	G Dia Max	K Dia Min	Panel Cut-Out Ø CC
8	.760/.720 (19.3/18.3)	.500 (12.7)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.406 (10.3)	.515/.505 (13.1/12.8)
10	.860/.820 (21.8/20.8)	.562 (14.3)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.443 (11.3)	.577/.567 (14.7/14.4)
12	1.065/1.025 (27.1/26.0)	.750 (19.1)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.668 (17.0)	.765/.755 (19.4/19.2)
14	1.110/1.070 (28.2/27.2)	.812 (20.6)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	.668 (17.0)	.827/.812 (21.0/20.6)
16	1.230/1.190 (31.2/30.2)	.937 (23.8)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	.763 (19.4)	.962/.942 (24.4/23.9)
18	1.360/1.320 (34.5/33.5)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	.862 (21.9)	1.077/1.067 (27.4/27.1)
20	1.450/1.410 (36.8/35.8)	1.187 (30.1)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.108 (28.1)	1.202/1.192 (30.5/30.3)
22	1.610/1.570 (40.9/39.9)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.204 (30.6)	1.327/1.317 (33.7/33./5)
24	1.730/1.690 (43.9/42.9)	1.437 (36.5)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.388 (35.3)	1.452/1.442 (36.9/36.6)

APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish*:
   Shell:
   Z1 - Stainless steel/passivated
   ZL - Stainless steel/Nickel Plated
   FT - Carbon steel/tin plated
   Contacts - 52 Nickel alloy/gold plated
   Bayonets - Stainless steel/passivated
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-024 will mate with any QPL MIL-DTL-83723/75 & 77 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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230-025
MIL-DTL-83723/81 Series III Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Solder Cup Terminals

Connector Style
025 = Hermetic Single Hole Jam-Nut Mount Receptacle

Insert Arrangement
Per MIL-STD-1554

Alternate Key Position
1,2,3,4,5,6,7,8,9, (Omit for Normal)

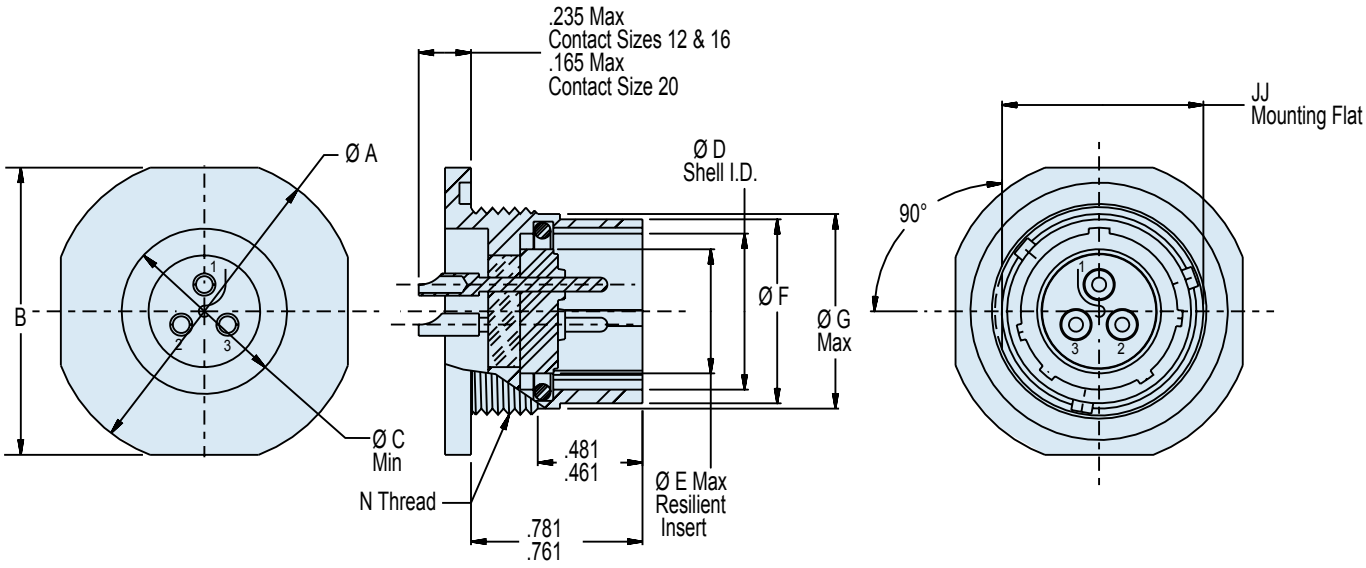
230	-	025	FT	12	-	3	P	1

Series 230 MIL-DTL-83723 Type

Material Designation
FT = Carbon Steel/ Tin Plated
Z1 = Stainless Steel/ Passivated

Shell Size

Contact Type
P = Solder Cup



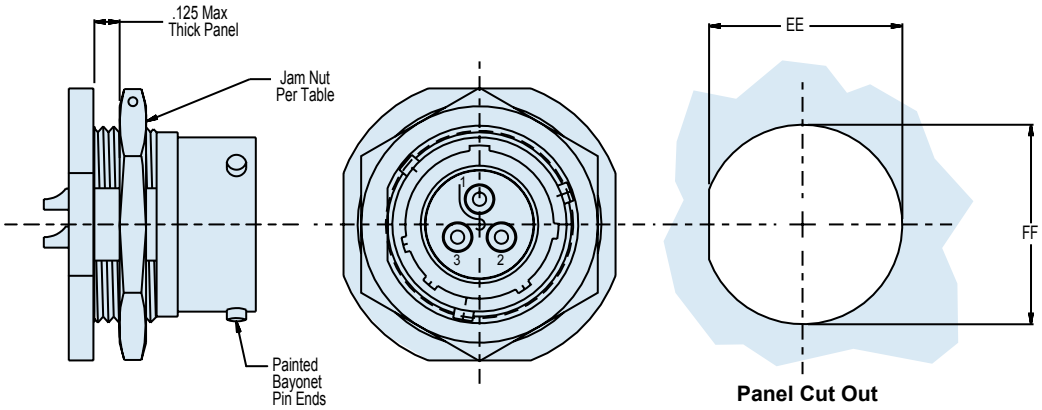
APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell* and Jam-Nut:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   Contacts - 52 Nickel alloy/gold plated.
   Bayonets - Stainless steel/passivated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-025 will mate with any QPL MIL-DTL-83723/75 & 77 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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230-025
MIL-DTL-83723/81 Series III Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Solder Cup Terminals



HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Dia Max	B	C Dia Min	D Dia Shell I.D.	E Dia Resilient Insert	F Dia	G Dia Max	N Thread	JJ Mounting Flat	Panel Cut-Out EE +.000 -.002 (.05)	Panel Cut-Out FF DIA ±.005 (0.1)	Jam Nut MS3186
8	1.068 (27.1)	.979 (24.9)	.493 (12.5)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.625-20 UN-2A	.596/.590 (15.1/15.0)	.605 (15.4)	.635 (16.1)	-105
10	1.192 (30.3)	1.104 (28.0)	.555 (14.1)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.750-20 UNEF-2A	.721/.715 (18.3/18.2)	.730 (18.5)	.760 (19.3)	-107
12	1.380 (35.1)	1.291 (32.8)	.743 (18.9)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.937-20 UNEF-2A	.908/.902 (23.1/22.9)	.917 (23.3)	.947 (24.1)	-110
14	1.505 (38.2)	1.391 (35.3)	.805 (20.4)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	1.000-20 UNEF-2A	.971/.965 (24.7/24.5)	.980 (24.9)	1.010 (25.7)	-111
16	1.630 (41.4)	1.516 (38.5)	.931 (23.6)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	1.125-20 UNEF-2A	1.096/1.090 (27.8/27.7)	1.105 (28.1)	1.135 (32.1)	-112
18	1.765 (44.8)	1.641 (41.7)	1.055 (26.8)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	1.250-18 UNEF-2A	1.220/1.214 (31.0/30.8)	1.229 (31.2)	1.260 (32.0)	-116
20	1.860 (47.2)	1.766 (44.9)	1.243 (31.6)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.375-18 UNEF-2A	1.345/1.339 (34.2/34.0)	1.354 (34.4)	1.385 (35.2)	-117
22	2.068 (52.5)	1.954 (49.6)	1.305 (33.1)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.500-18 UNEF-2A	1.470/1.464 (37.3/37.2)	1.479 (37.6)	1.510 (38.4)	-120
24	2.160 (54.9)	2.079 (52.8)	1.493 (37.9)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.625-18 UNEF-2A	1.595/1.589 (40.5/40.4)	1.604 (40.7)	1.635 (41.5)	-121

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230-026
MIL-DTL-83723/93 Series III Type Hermetic
Bayonet Coupling Solder Flange Mount Receptacle with Straight Pin Contacts

Connector Style
026 = Hermetic Solder Flange Mount Receptacle

Insert Arrangement
Per MIL-STD-1554

Alternate Key Position
1,2,3,4,5,6,7,8,9, (Omit for Normal)

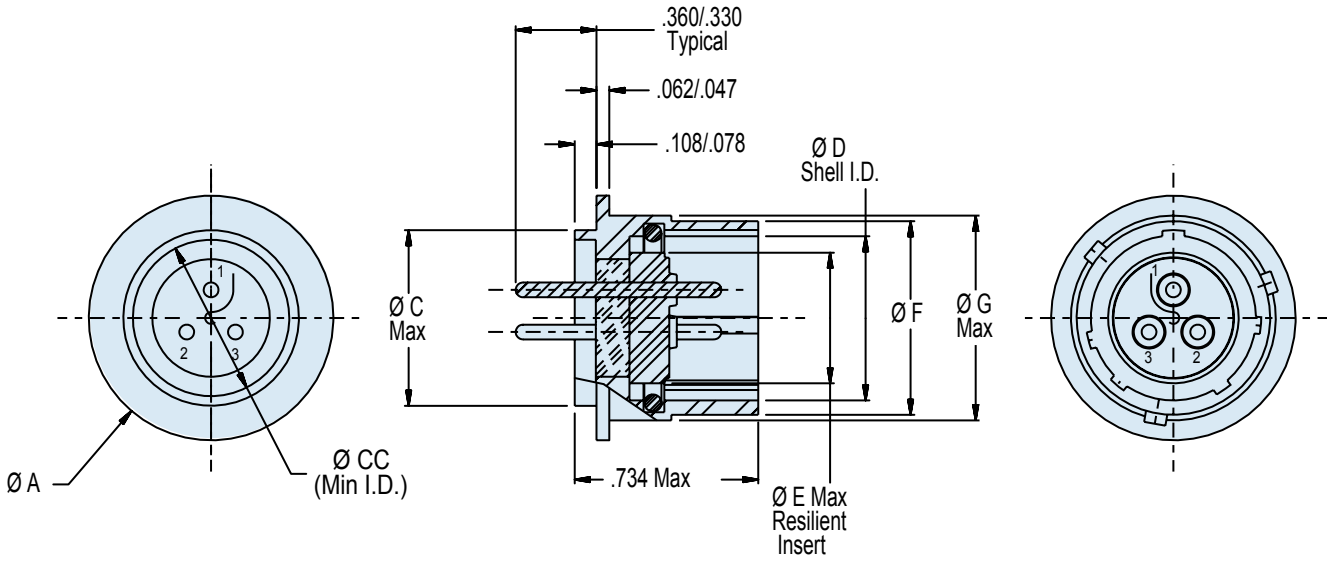
230	-	026	FT	12	-	3	C	1

Series 230 MIL-DTL-83723 Type

Material Designation
FT = Carbon Steel/ Tin Plated
Z1 = Stainless Steel/ Passivated

Shell Size

Contact Type
C = Straight Pin

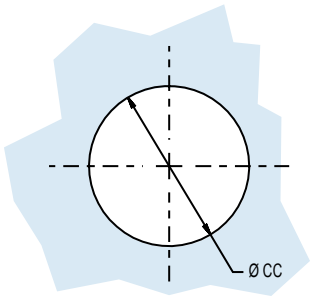


APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell*:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   Contacts - 52 Nickel alloy/gold plated.
   Bayonets - Stainless steel/passivated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-026 will mate with any QPL MIL-DTL-83723/75 & 77 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Consult factory for PC tail footprints.
7. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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Panel Cut Out

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Dia	C Dia Max	D Dia Shell I.D.	E Dia Resilient Insert	F Dia	G Dia Max	CC Dia Min	Ø CC Dia Panel Cut-Out
8	.760/.720 (19.3/18.3)	.500 (12.7)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.406 (10.3)	.515/.505 (13.1/12.8)
10	.860/.820 (21.8/20.8)	.562 (14.3)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.443 (11.3)	.577/.567 (14.7/14.4)
12	1.065/1.025 (27.1/26.0)	.750 (19.1)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.668 (17.0)	.765/.755 (19.4/19.2)
14	1.110/1.070 (28.2/27.2)	.812 (20.6)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	.668 (17.0)	.827/.812 (21.0/20.6)
16	1.230/1.190 (31.2/30.2)	.937 (23.8)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	.763 (19.4)	.962/.942 (24.4/23.9)
18	1.360/1.320 (34.5/33.5)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	.862 (21.9)	1.077/1.067 (27.4/27.1)
20	1.450/1.410 (36.8/35.8)	1.187 (30.1)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.108 (28.1)	1.202/1.192 (30.5/30.3)
22	1.610/1.570 (40.9/39.9)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.204 (30.6)	1.327/1.317 (33.7/33./5)
24	1.730/1.690 (43.9/42.9)	1.437 (36.5)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.388 (35.3)	1.452/1.442 (36.9/36.6)

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230-027
MIL-DTL-83723/94 Series III Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Straight Pin (All Sizes) or PCB (Size 20 Only) Contacts

Connector Style
027 = Hermetic Single Hole Jam-Nut Mount Receptacle

Insert Arrangement
Per MIL-STD-1554

Alternate Key Position
1,2,3,4,5,6,7,8,9,
(Omit for Normal)

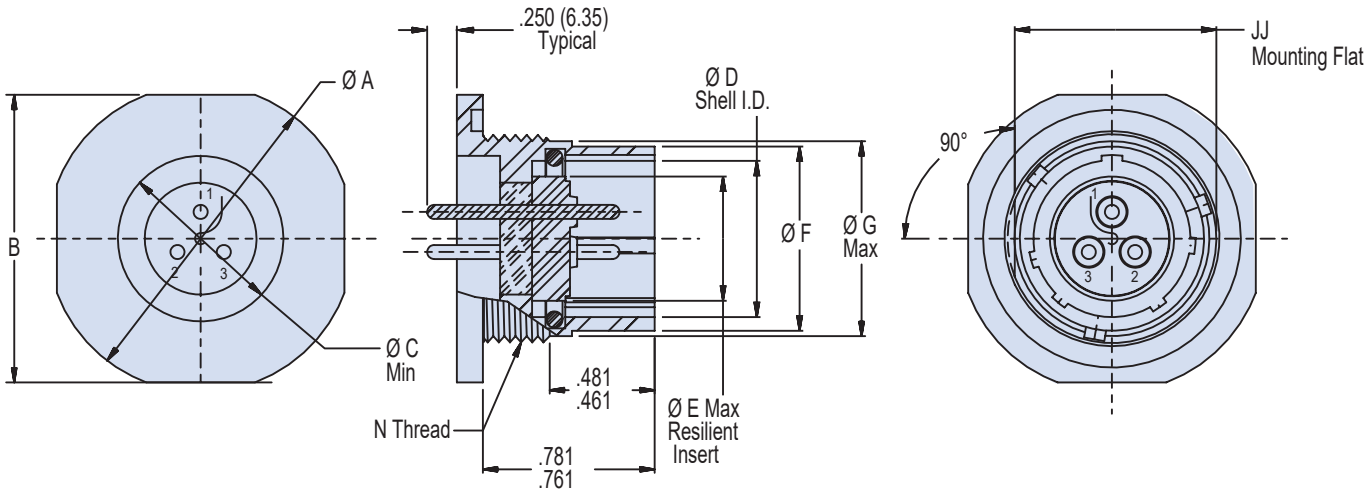
230	-	027	FT	12	-	3	C	1

Series 230 MIL-DTL-83723 Type

Material Designation
FT = Carbon Steel/ Tin Plated
Z1 = Stainless Steel/ Passivated

Shell Size

Contact Type
C = Straight Pin
PC = Flex Circuit Pin, Size 20 Only.



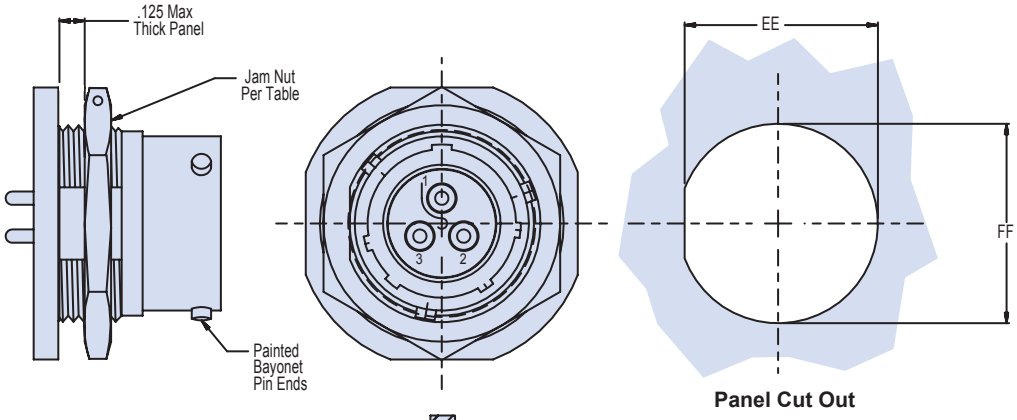
APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell* and Jam-Nut:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   Contacts - 52 Nickel alloy/gold plated.
   Bayonets - Stainless steel/passivated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-027 will mate with any QPL MIL-DTL-83723/75 & 77 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Consult factory for PC tail footprints.
7. Metric Dimensions (mm) are indicated in parentheses.

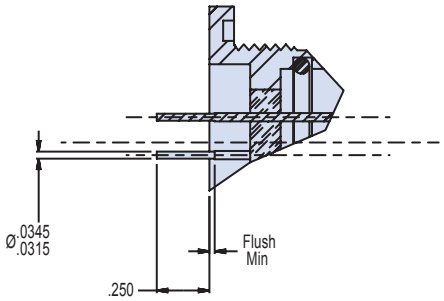
* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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230-027
MIL-DTL-83723/94 Series III Type Hermetic
Bayonet Coupling Jam-Nut Mount Receptacle with Straight Pin (All Sizes) or PCB (Size 20 Only) Contacts



Panel Cut Out



Flex Circuit Contact Detail

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

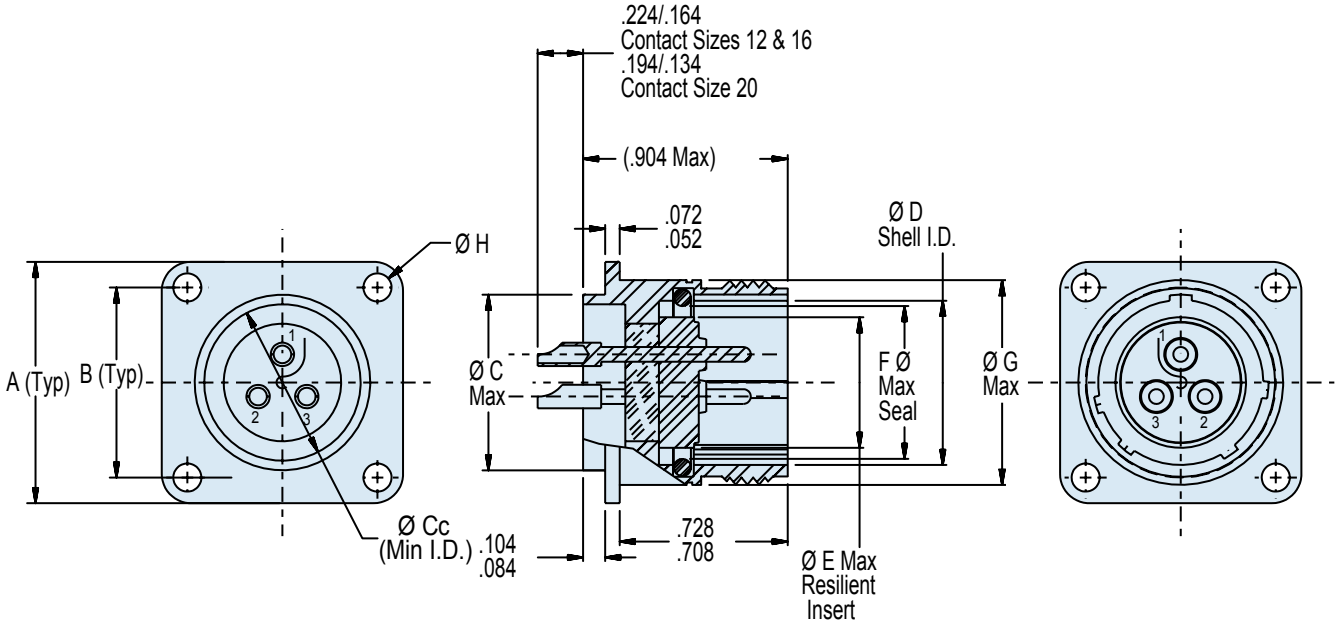
Shell Size	A Dia Max	B	C Dia Min	D Dia Shell I.D.	E Dia Resilient Insert	F Dia	G Dia Max	N Thread	JJ Mounting Flat	Panel Cut-Out EE +.000 -.002 (.05)	Panel Cut-Out FF DIA ±.005 (0.1)	Jam Nut MS3186
8	1.068 (27.1)	.979 (24.9)	.493 (12.5)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.625-20 UN-2A	.596/.590 (15.1/15.0)	.605 (15.4)	.635 (16.1)	-105
10	1.192 (30.3)	1.104 (28.0)	.555 (14.1)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.750-20 UNEF-2A	.721/.715 (18.3/18.2)	.730 (18.5)	.760 (19.3)	-107
12	1.380 (35.1)	1.291 (32.8)	.743 (18.9)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.937-20 UNEF-2A	.908/.902 (23.1/22.9)	.917 (23.3)	.947 (24.1)	-110
14	1.505 (38.2)	1.391 (35.3)	.805 (20.4)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	1.000-20 UNEF-2A	.971/.965 (24.7/24.5)	.980 (24.9)	1.010 (25.7)	-111
16	1.630 (41.4)	1.516 (38.5)	.931 (23.6)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	1.125-20 UNEF-2A	1.096/1.090 (27.8/27.7)	1.105 (28.1)	1.135 (32.1)	-112
18	1.765 (44.8)	1.641 (41.7)	1.055 (26.8)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	1.250-18 UNEF-2A)	1.220/1.214 (31.0/30.8)	1.229 (31.2)	1.260 (32.0)	-116
20	1.860 (47.2)	1.766 (44.9)	1.243 (31.6)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.375-18 UNEF-2A	1.345/1.339 (34.2/34.0)	1.354 (34.4)	1.385 (35.2)	-117
22	2.068 (52.5)	1.954 (49.6)	1.305 (33.1)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.500-18 UNEF-2A	1.470/1.464 (37.3/37.2)	1.479 (37.6)	1.510 (38.4)	-120
24	2.160 (54.9)	2.079 (52.8)	1.493 (37.9)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.625-18 UNEF-2A	1.595/1.587 (40.5/40.3)	1.604 (40.7)	1.635 (41.5)	-121

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230-028
MIL-DTL-83723/88 Series III Type Hermetic
Threaded Coupling Square Flange Mount Receptacle with Solder Cup Terminations



Series 230 MIL-DTL-83723 Type	Connector Style	Material Designation	Shell Size	Insert Arrangement	Contact Type	Alternate Key Position
230 -	028 = Hermetic Square Flange Mount Receptacle	FT = Carbon Steel/Tin Plated Z1 = Stainless Steel/Passivated ZL = Stainless Steel/Nickel Plated	12 -	3 = Per MIL-STD-1554	P = Solder Cup	1 = 1,2,3,4,5,6,7,8,9, (Omit for Normal)

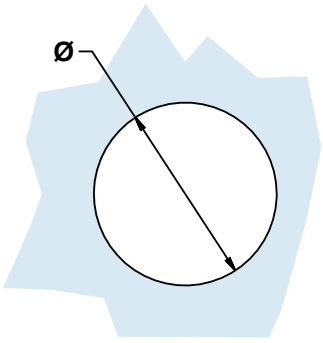


APPLICATION NOTES

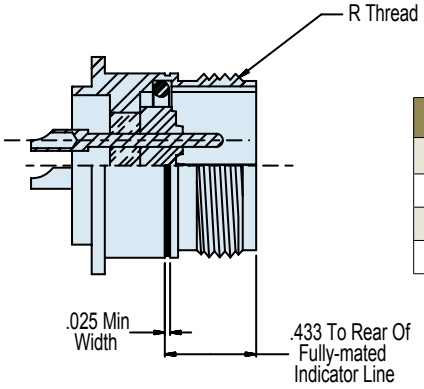
1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell* and Jam-Nut:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   ZL - Stainless steel/nickel plated.
   Contacts - 52 Nickel alloy/gold plated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-028 will mate with any QPL MIL-DTL-83723/86, /91, /95 and /97 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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Panel Cut Out



HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A	B	C Dia	D Dia Shell I.D.	E Dia Resilient Insert	F Dia Max Seal	G Dia Max	H Dia Thru 4 Pl	CC Dia Min	R Coupling Thread UNEF-2A	Panel Cut-Out
8	.812 (20.6)	.594 (15.1)	.500/.494 (12.7/12.5)	.418/.413 (10.6/10.5)	.290 (7.4)	.394 (10.0)	.562 (14.3)	.125/.116 (3.2/2.9)	.400 (10.2)	.562-24	.572 (14.5)
10	.937 (23.8)	.719 (18.3)	.562/.556 (14.3/14.1)	.535/.530 (13.6/13.5)	.388 (9.9)	.515 (13.1)	.696 (17.7)	.125/.116 (3.2/2.9)	.411 (10.4)	.688-24	.706 (17.9)
12	1.031 (26.2)	.812 (20.6)	.750/.744 (19.1/18.9)	.705/.700 (17.9/17.8)	.558 (14.2)	.685 (17.4)	.875 (22.2)	.125/.116 (3.2/2.9)	.581 (14.8)	.875-20	.885 (22.5)
14	1.125 (28.6)	.906 (23.0)	.812/.806 (20.6/20.5)	.774/.769 (19.7/19.5)	.627 (15.9)	.754 (19.2)	.936 (23.8)	.125/.116 (3.2/2.9)	.650 (16.5)	.938-20	.946 (24.0)
16	1.250 (31.8)	.969 (24.6)	.937/.931 (23.8/23.6)	.901/.896 (22.9/22.8)	.772 (19.6)	.881 (22.4)	1.062 (27.0)	.125/.116 (3.2/2.9)	.777 (19.8)	1.062-18	1.072 (27.2)
18	1.343 (34.1)	1.062 (27.0)	1.062/1.056 (27.0/26.8)	1.007/1.002 (25.6/25.5)	.860 (21.8)	.987 (25.1)	1.187 (30.1)	.125/.116 (3.2/2.9)	.864 (21.9)	1.188-18	1.197 (30.4)
20	1.437 (36.5)	1.156 (29.4)	1.187/1.181 (30.1/30.0)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.112 (28.2)	1.312 (33.3)	.125/.116 (3.2/2.9)	1.034 (26.3)	1.312-18	1.322 (33.6)
22	1.562 (39.7)	1.250 (31.8)	1.312/1.306 (33.3/33.2)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.237 (31.4)	1.437 (36.5)	.125/.116 (3.2/2.9)	1.133 (28.8)	1.438-18	1.447 (36.8)
24	1.703 (43.3)	1.375 (34.9)	1.437/1.431 (36.5/36.3)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.362 (34.6)	1.562 (39.7)	.154/.145 (3.9/3.7)	1.284 (32.6)	1.562-18	1.572 (39.9)

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230-029
MIL-DTL-83723/89 Series III Type Hermetic
Threaded Coupling Jam-Nut Mount Receptacle with Solder Cup Terminations

Connector Style
029 = Hermetic Single Hole Jam-Nut Mount Receptacle

Shell Size

Insert Arrangement
Per MIL-STD-1554

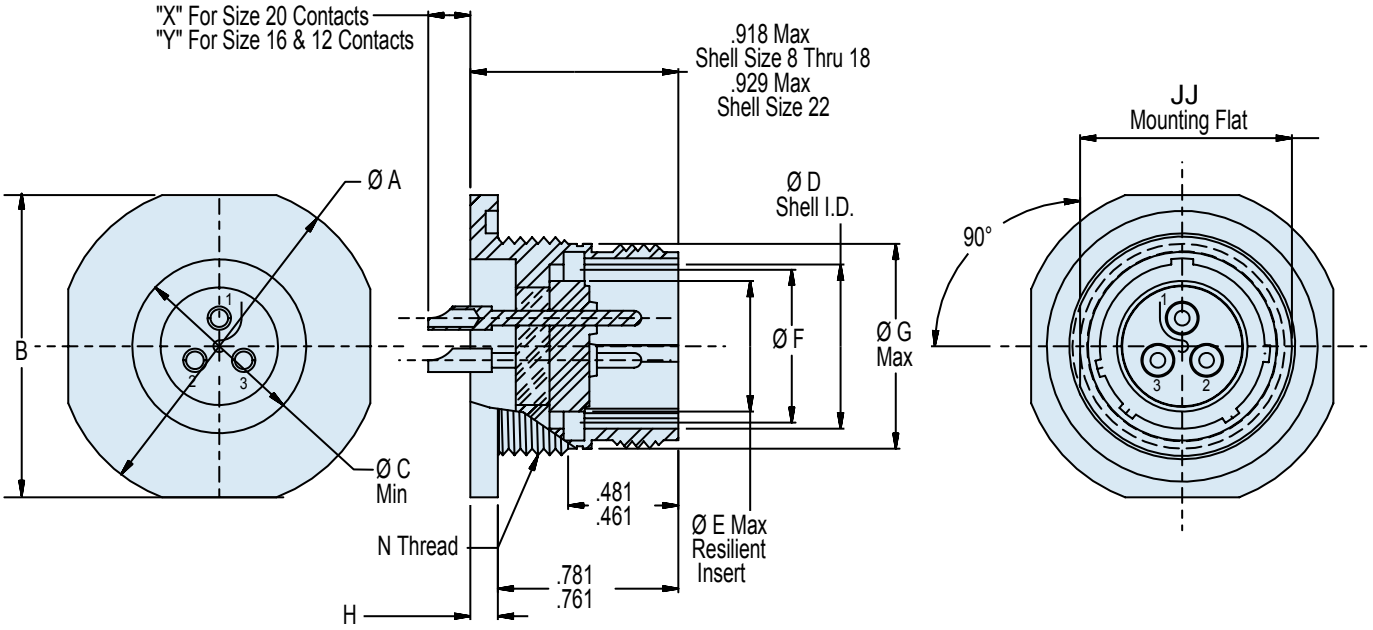
Alternate Key Position
1,2,3,4,5,6,7,8,9,
(Omit for Normal)

230	-	029	FT	12	-	3	P	1

Series 230 MIL-DTL-83723 Type

Material Designation
FT = Carbon Steel/Tin Plated
Z1 = Stainless Steel/Passivated
ZL = Stainless Steel/Nickel Plated

Contact Type
P = Solder Cup



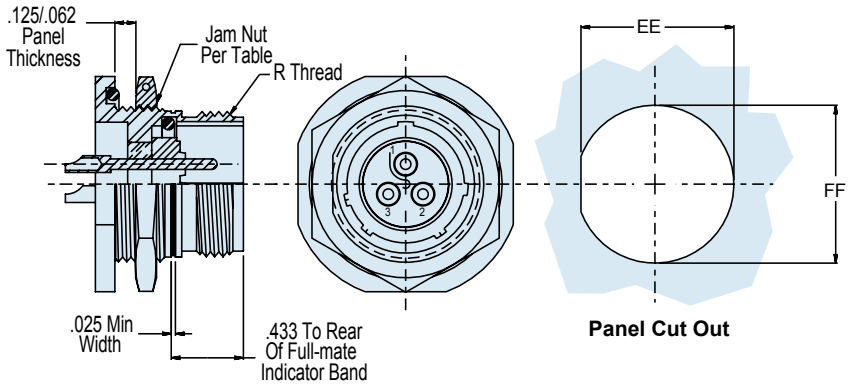
APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell* and Jam-Nut:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   ZL - Stainless steel/nickel plated.
   Contacts - 52 Nickel alloy/gold plated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-029 will mate with any QPL MIL-DTL-83723/86, /91, /95 and /97 Series III bayonet coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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230-029
MIL-DTL-83723/89 Series III Type Hermetic
Threaded Coupling Jam-Nut Mount Receptacle with Solder Cup Terminations



Panel Cut Out

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

E

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued Below)

Shell Size	A Dia Max	B	C Dia Min	D Dia Shell I.D.	E Dia Resilient Insert	F Dia Max Seal	G Dia Max	H Flange Thickness
8	1.078/1.047 (27.4/26.6)	.980/.949 (24.9/24.1)	.400 (10.2)	.418/.413 (10.6/10.5)	.290 (7.4)	.394 (10.0)	.562 (14.3)	.137/.097 (3.5/2.5)
10	1.192/1.162 (30.3/29.5)	1.104/1.073 (28.0/27.3)	.411 (10.4)	.535/.530 (13.6/13.5)	.388 (9.9)	.515 (13.1)	.696 (17.7)	.137/.097 (3.5/2.5)
12	1.380/1.349 (35.1/34.3)	1.291/1.260 (32.8/32.0)	.581 (14.8)	.705/.700 (17.9/17.8)	.558 (14.2)	.685 (17.4)	.875 (22.2)	.137/.097 (3.5/2.5)
14	1.516/1.485 (38.5/37.7)	1.391/1.360 (35.3/34.5)	.650 (16.5)	.774/.769 (19.7/19.5)	.627 (15.9)	.754 (19.2)	.936 (23.9)	.137/.097 (3.5/2.5)
16	1.641/1.610 (41.7/40.9)	1.516/1.485 (38.5/37.7)	.777 (19.7)	.901/.896 (22.9/22.8)	.772 (19.6)	.881 (22.4)	1.062 (27.0)	.137/.097 (3.5/2.5)
18	1.766/1.735 (44.9/44.1)	1.641/1.610 (41.7/40.9)	.864 (21.9)	1.007/1.002 (25.6/25.5)	.860 (21.8)	.987 (25.1)	1.187 (30.1)	.137/.097 (3.5/2.5)
22	2.078/2.047 (52.8/52.0)	1.954/1.923 (49.6/48.8)	1.133 (28.8)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.237 (31.4)	1.437 (36.5)	.148/.128 (3.8/3.3)

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS (Continued From Above)

Shell Size	N Thread	R Thread	JJ Mounting Flat	Panel Cut-Out EE +.000 -.002 (.05)	Panel Cut-Out FF DIA ±.005 (0.1)	Jam Nut MS3186	X	Y
8	.625-20 UN-2A	.562-24 UNEF-2A	.596/.590 (15.1/15.0)	.605 (15.4)	.635 (16.1)	-105	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
10	.750-20 UNEF-2A	.688-24 UNEF-2A	.721/.715 (18.3/18.2)	.730 (18.5)	.760 (19.3)	-107	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
12	.937-20 UNEF-2A	.875-20 UNEF-2A	.908/.902 (23.1/22.9)	.917 (23.3)	.947 (24.1)	-110	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
14	1.000-20 UNEF-2A	.938-20 UNEF-2A	.971/.965 (24.7/24.5)	.980 (24.9)	1.010 (25.7)	-111	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
16	1.125-20 UNEF-2A	1.062-18 UNEF-2A	1.096/1.090 (27.8/27.7)	1.105 (28.1)	1.135 (32.1)	-112	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
18	1.250-18 UNEF-2A	1.188-18 UNEF-2A	1.220/1.214 (31.0/30.8)	1.230 (31.2)	1.260 (32.0)	-116	.180/.120 (4.6/3.0)	.210/.150 (5.3/3.8)
22	1.500-18 UNEF-2A	1.438-18 UNEF-2A	1.470/1.464 (37.3/37.2)	1.480 (37.6)	1.510 (38.4)	-120	.169/.109 (4.3/2.8)	.199/.139 (5.1/3.5)

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230-030
MIL-DTL-83723/90 Series III Type Hermetic
Threaded Coupling Solder Flange Mount Receptacle with Solder Cup Terminations

230	-	030	FT	12	-	3	P	1

Series 230 MIL-DTL-83723 Type

Connector Style
030 = Hermetic Solder Flange Mount Receptacle

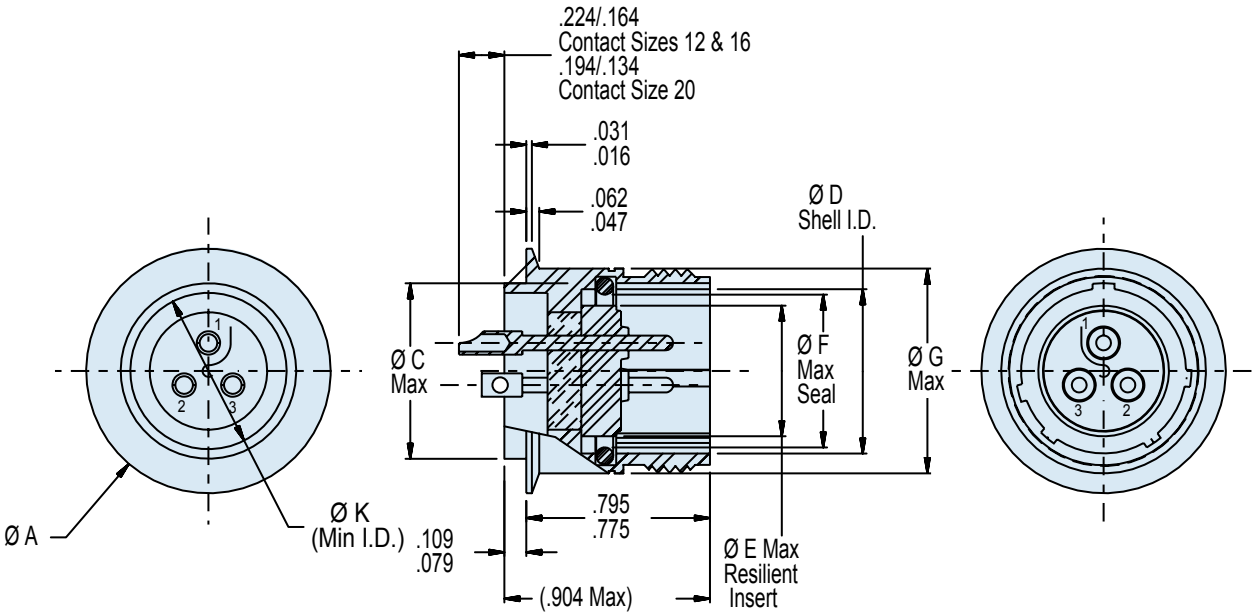
Material Designation
FT = Carbon Steel/Tin Plated
Z1 = Stainless Steel/Passivated
ZL = Stainless Steel/Nickel Plated

Shell Size

Insert Arrangement
Per MIL-STD-1554

Contact Type
P = Solder Cup
X = Eyelet

Alternate Key Position
1,2,3,4,5,6,7,8,9,
(Omit for Normal)

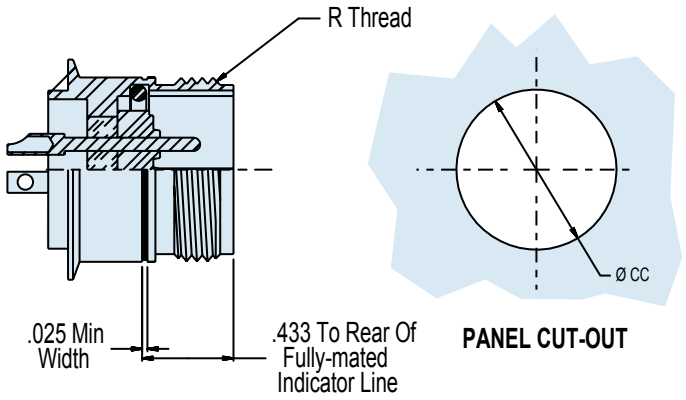


APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Material/Finish:
   Shell* and Jam-Nut:
   Z1 - Stainless steel/passivated.
   FT - Carbon steel/tin plated.
   ZL - Stainless steel/nickel plated.
   Contacts - 52 Nickel alloy/gold plated.
   Seals - Silicone elastomer/N.A.
   Insulation - Glass/N.A.
3. Glenair 230-030 will mate with any QPL MIL-DTL-83723/86, /91, /95 and /97 Series III threaded coupling plug of same size, keyway, and insert polarization.
4. Performance:
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential.
   Dielectric withstanding voltage - Consult factory or MIL-STD-1554.
   Insulation resistance - 5000 MegOhms min @ 500VDC.
5. Consult factory and/or MIL-STD-1554 for arrangement, keyway, and insert position options.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Dia	C Dia	D Dia Shell I.D.	E Dia Resilient Insert	F Dia Max Seal	G Dia Max	K Dia Min	Ø CC Panel Cut-Out	R Coupling Thread
8	.723/.703 (18.4/17.9)	.500/.494 (12.7/12.5)	.418/.413 (10.6/10.5)	.290 (7.4)	.394 (10.0)	.562 (14.3)	.400 (10.2)	.515/.505 (13.1/12.8)	.562-24 UNEF-2A
10	.850/.830 (21.6/21.1)	.562/.556 (14.3/14.1)	.535/.530 (13.6/13.5)	.388 (9.9)	.515 (13.1)	.696 (17.7)	.411 (10.4)	.577/.567 (14.7/14.4)	.688-24 UNEF-2A
12	1.055/1.035 (26.8/26.3)	.750/.744 (19.1/18.9)	.705/.700 (17.9/17.8)	.558 (14.2)	.685 (17.4)	.875 (22.2)	.581 (14.8)	.765/.755 (19.3/19.2)	.875-20 UNEF-2A
14	1.100/1.080 (27.9/27.4)	.812/.806 (20.6/20.5)	.774/.769 (19.7/19.5)	.627 (15.9)	.754 (19.2)	.936 (23.8)	.650 (16.5)	.827/.817 (21.0/20.8)	.938-20 UNEF-2A
16	1.220/1.200 (31.0/30.5)	.937/.931 (23.8/23.6)	.901/.896 (22.9/22.8)	.772 (19.6)	.881 (22.4)	1.062 (27.0)	.777 (19.7)	.952/.942 (24.2/23.9)	1.062-18 UNEF-2A
18	1.350/1.330 (34.3/33.8)	1.062/1.056 (27.0/26.8)	1.007/1.002 (25.6/25.5)	.860 (21.8)	.987 (25.1)	1.187 (30.1)	.864 (21.9)	1.077/1.067 (27.4/27.1)	1.188-18 UNEF-2A
22	1.600/1.580 (40.6/40.1)	1.312/1.306 (36.5/33.2)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.237 (31.4)	1.437 (36.5)	1.133 (28.8)	1.327/1.317 (33.7/33.5)	1.438-18 UNEF-2A

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BAYONET AND THREADED

MIL-DTL-26500

Type Glass Seal Hermetic Connectors



The MIL-DTL-26500 type connector is ideally suited for use on commercial, military and aerospace interconnect systems that demand hermetic sealing and high vibration resistance in a medium density cylindrical connector. Thirty-four insert arrangements are available in both threaded and bayonet coupling styles for a wide range of applications. Glenair makes all its hermetic connectors in-house from design to finished product, affording you outstanding availability on stock products and fast turnaround on special orders.

GLASS-SEALED Hermetic CONNECTORS

Glenair

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Selected MIL-DTL-26500 Type Glass Sealed Hermetic Receptacles—Popular Connector Designs Superseded by MIL-DTL-83723

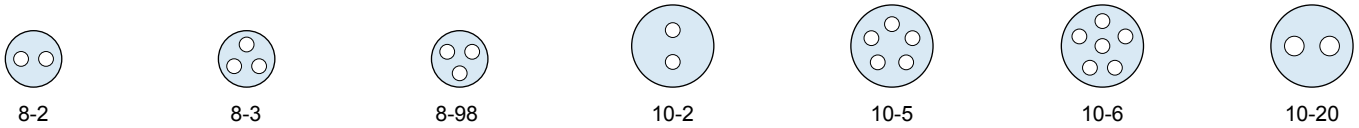
Glenair MIL-DTL-26500 Hermetic connectors are offered in either passivated stainless steel or fused tin over stainless steel, with glass insulators fused to the connector shell, and contacts meeting a leak rate of 1 X 10^{-7} cc/helium per second. Maximum design flexibility is built into the MIL-DTL-26500 hermetic connector– with a minimum of 2 to a maximum of 61 circuits per connector in a wide variety of contact arrangements IAW MIL-STD-1554.

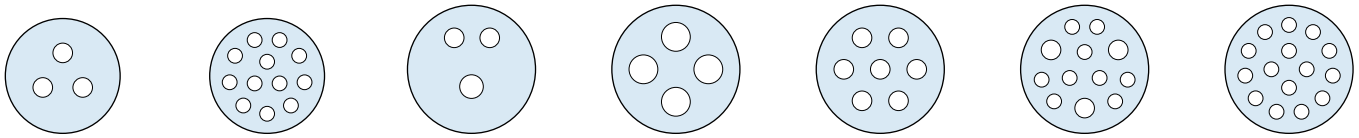
Fluorosilicone elastomer interfacial and peripheral seals ensure positive sealing with plug connectors. Nickel-iron alloy 52 contacts—available in sizes 12, 16 and 20—depending on the layout chosen—offer a broad selection of insert arrangement options. Optional solder cup or eyelet contact terminations are standard. Contacts for other applications such as thermocouple or flex prints are also available.

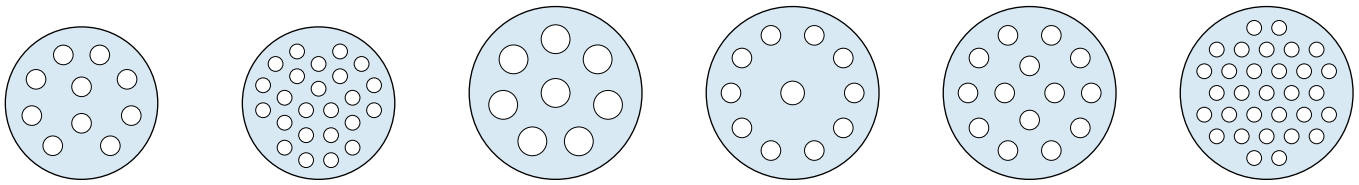
Quick Selection Guide		
Part Number	Description	Page
	MIL-DTL-26500 Type Insert Arrangements	F-2
	MIL-DTL-26500 Type Insert Arrangements and Keyway Positions	F-3
	Glenair Hermetic Connector Products Special Leak Rate Mod Codes	F-4
	Glenair Hermetic Connector Products Space Grade Mod Codes	F-5
	MIL-DTL-26500 Type Materials and Finishes	F-6
	MIL-DTL-26500 Type Bayonet and Threaded Coupling and Electrical Service Data	F-7
230-036 MS27034H*B**	MIL-DTL-26500 Type Bayonet Coupling Solder Flange Mount Receptacle	F-8
230-038 MS27034H*T**	MIL-DTL-26500 Type Threaded Coupling Solder Flange Mount Receptacle	F-10
230-039 MS24265*B**	MIL-DTL-26500 Type Bayonet Coupling Single Hole Mount Receptacle	F-12
230-040 MS24265H*T**	MIL-DTL-26500 Type Threaded Coupling Single Hole Mount Receptacle	F-14
230-041 MS24264H*B**	MIL-DTL-26500 Type Bayonet Coupling Square Flange Mount Receptacle	F-16
237-165	MIL-DTL-26500 Type Threaded Coupling Square Flange Mount Receptacle	F-18

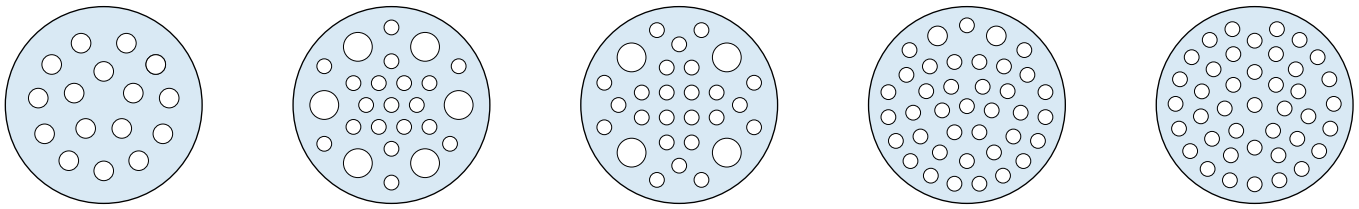
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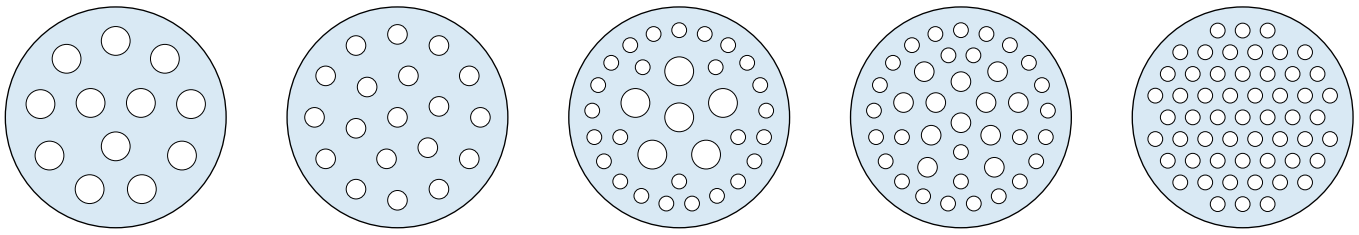
MIL-DTL-26500 Type
Hermetic Class Connectors
Threaded and Bayonet Coupling Insert Arrangements
(IAW MIL-STD-1554)

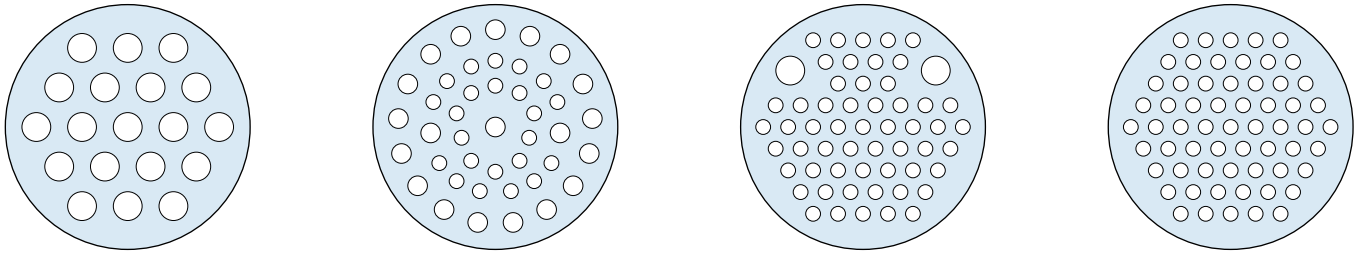

8-2 8-3 8-98 10-2 10-5 10-6 10-20


12-3 12-12 14-3 14-4 14-7 14-12 14-15


16-10 16-24 18-8 18-11 18-14 18-31


20-16 20-25 20-28 20-39 20-41


22-12 22-19 22-32 22-39 22-55


24-19 24-43 24-57 24-61

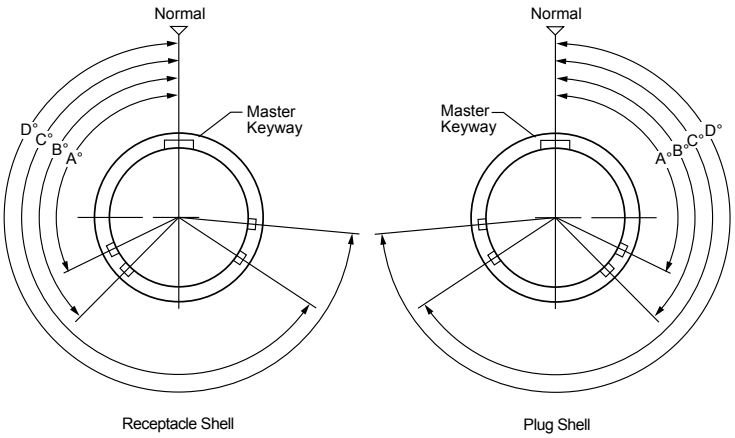
Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-26500 Type
Hermetic Class Connectors
Threaded and Bayonet Coupling Insert Arrangements and Keyway Positions (IAW MIL-STD-1554)

Insert Arrangements					
Shell Size Designator	Insert Arrangement Dash Number	Service Rating	Contact Size and Quantity		
			20	16	12
08	08-02	I	2		
	08-03	I	3		
	08-98	I	3		
10	10-02	I	2		
	10-05	I	5		
	10-06	I	6		
	10-20	I		2	
12	12-03	I		3	
	12-12	I	12		
14	14-03*	I		3*	
	14-04	I			4
	14-07	I		7	
	14-12	I	9	3	
	14-15	I	15		
16	16-10	I		10	
	16-24	I	24		
18	18-08	I			8
	18-11*	I		11*	
	18-14	I		14	
	18-31	I	31		
20	20-16	I		16	
	20-25	I	19		6
	20-28	I	24		4
	20-39	I	37	2	
	20-41	I	41		
22	22-12	I			12
	22-19	I		19	
	22-32	I	26		6
	22-39	I	27	12	
	22-55	I	55		
24	24-19	I			19
	24-43	I	23	20	
	24-57	I	55		2
	24-61	I	61		

*1 shielded.



Keyway Positions (Front Face of Pin Insert)					
Shell Size	Keyway Position	A°	B°	C°	D°
08 through 10	Normal	105°	140°	215°	265°
	6	102°	132°	248°	320°
	7	80°	118°	230°	312°
	8	35°	140°	205°	275°
	9	64°	155°	234°	304°
	Y or 10	25°	115°	220°	270°
12 through 24	Normal	105°	140°	215°	265°
	6	18°	149°	192°	259°
	7	92°	152°	222°	342°
	8	84°	152°	204°	334°
	9	24°	135°	199°	240°
	Y or 10	98°	152°	268°	338°

Y Position not available for shell size 8.
Use "Y" when ordering military parts, "10" when ordering commercial parts

Dimensions in Inches (millimeters) are subject to change without notice.

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Glenair Hermetic Connector Products
Special Leak Rate Mod Codes

Leak Rate Designator
B *– (See Table Below)*

– 585 B

Mod Code
585 *– Increased Hermeticity Mod Code*

What is the –585 Mod Code?

Glenair offers an array of hermetic connectors with more stringent leak rate requirements. By adding "**–585**" and the designator letter "**A**", "**B**" or "**C**"—depending on the hermeticity desired—to the end of a standard part number, connectors will be built to exceed the standard 1 x 10^{-7} cc Helium per second leak rate specified on most Glenair hermetics.

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
A	1 x 10^{-10} cc's Helium per second
B	1 x 10^{-9} cc's Helium per second
C	1 x 10^{-8} cc's Helium per second

Catalog Notes

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Glenair 600 series backshell assembly tools are recommended for assembly and installation.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:

  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

Dimensions in Inches (millimeters) are subject to change without notice.

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Glenair Hermetic Connector Products Space Grade Mod Codes

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA speci cation EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space ight projects.

What screening level is required?

NASA de nes three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The uorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

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MIL-DTL-26500 Type
Hermetic Class Connectors
Standard Materials and Finishes

TABLE I: HERMETIC CLASS MATERIALS	
Shell, Barrel Coupling Nut and Jam Nut (Hermetic)	Cold rolled steel per ASTM 108
Interfacial Seals and O-Rings	Fluorosilicone rubber
Contacts	Nickel-iron alloy per MIL-I-23011, Class 2
Bayonet Pins	Corrosion resistant steel per QQ-S-764, Type 303
Inserts	Glass

TABLE II: HERMETIC CLASS FINISHES			
Plating Code	**Material**	**Finish**	**Specification**
Glenair Commercial Equivalent Plating Codes			
Z1	Stainless Steel	Passivate	AMS-QQ-P-35
FT	Carbon Steel	Fused Tin Plate	ASTM-B545 or ASTM-B339
SM	Carbon Steel	Electroless Nickel	
ZL	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2
MIL-DTL-26500 Plating Codes			
D	Cold Rolled Steel	Fused Tin over Copper over Nickel	MIL-T-10727, MIL-C-14550, QQ-N-290
E	Stainless Steel	Passivate	QQ-S-764, Type 303
N	Stainless Steel	Electrodeposited Nickel	SAE-AMS-QQ-N-290, Class 2

*Additional materials are available, including titanium and Inconel®. Consult factory for ordering information.

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BAYONET COUPLING		
Description	**Military Designation**	**Glenair Designation**
Jam Nut Mount	MS24265H*B*CN MS24265H*B*EN	230-039 230-039
Solder Mount	MS247034H*B*CN MS27034H*B*EN	230-036 230-036
Square Flange	MS24264H*B*CN MS24264H*B*EN	230-041 230-041
Mating Plug	MS24266R*B*SN	

THREAD COUPLING		
Description	**Military Designation**	**Glenair Designation**
Jam Nut Mount	MS24265H*T*CN MS24265H*T*EN	230-040 230-040
Solder Mount	MS27034H*T*CN MS27034H*T*EN	230-038 230-038
Square Flange	MS24264H*T*CN MS24264H*T*EN	237-165 237-165
Mating Plug	MS24266R*T*SN	

F

Based on contact size, the maximum current carried by the connector is the same permitted by the wire bundle. Maximum current ratings and voltage drops demonstrated in tests of fully assembled connectors are shown in the following table:

ELECTRICAL SERVICE DATA		
Contact Size	**Test Current (Amps)**	**Potential Drop (Millivolts)**
20	5	100
16	10	95
12	17	95

Method 3001 of MIL-STF-1344 specifying high potential test voltage mandates that tested unmated connectors will not exceed 2 milliamperes in leakage and present no sign of electrical breakdown or flashover per the following table:

HIGH POTENTIAL TEST VOLTAGE	
Service Rating	**Test Voltage (RMS 60 CPS)**
1	1500

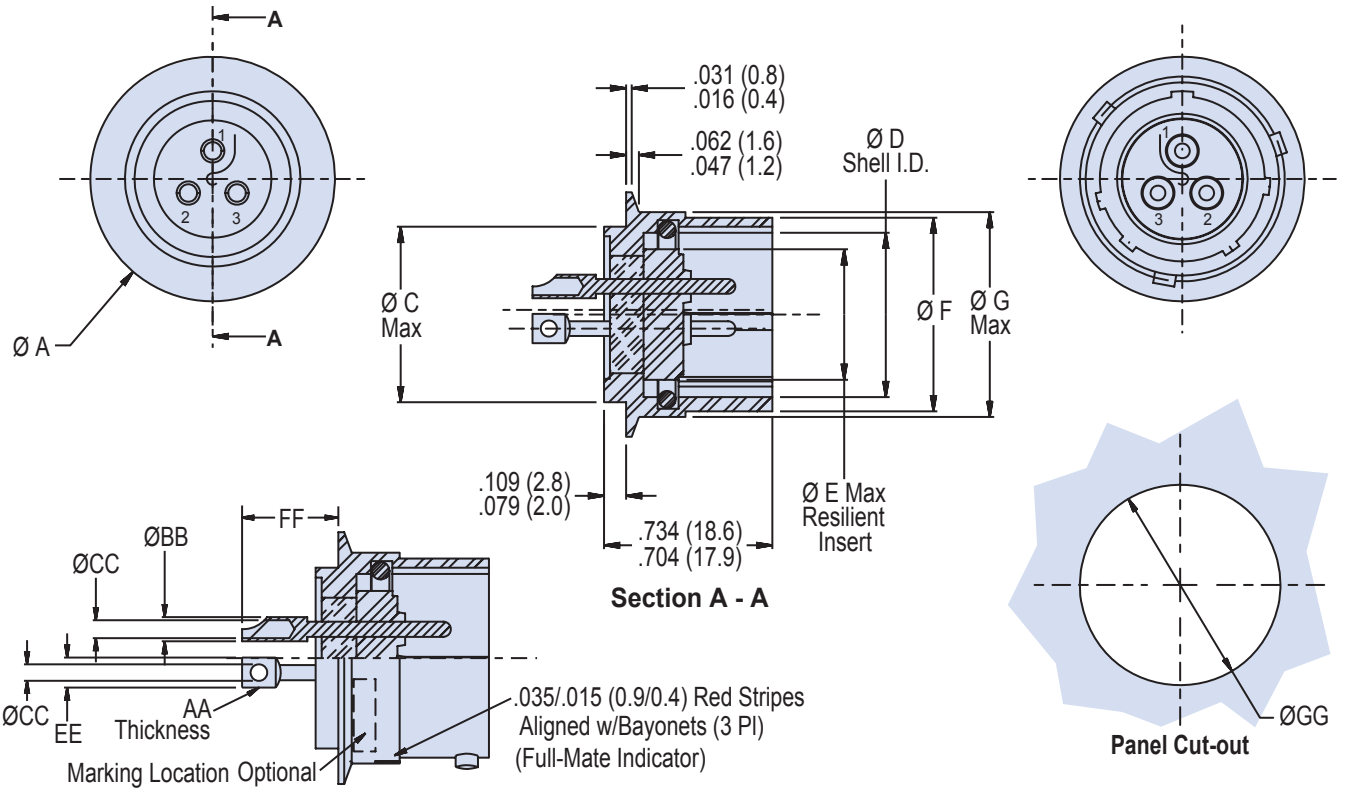
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230-036
MIL-DTL-26500 Type Hermetic Class Receptacle
MS27034H*B*** Type Solder Flange Mount, Bayonet Coupling

How To Order: *Commercial*

Connector Material / Finish		Insert Arrangement		Alternate Key Position
FT - Cold Rolled Steel - Fused Tin Finish *Z1 - Stainless Steel - Passivate Finish* *ZL - Stainless Steel - Nickel Finish*		MIL-STD-1554 *See Pages F-2 – F-3*		*6, 7, 8, 9, 10* *(Omit for Normal)*
230-036	**Z1**	**12** - **3**		**P**	**6**
Basic Series		**Shell Size** *(See Table I)*		**Contact Termination** *P - Pin, Solder Cup* *X - Pin, Eyelet*	



Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out							
Shell Size	Ø A	Ø C Max	Ø D Shell I.D.	Ø E Resilient Insert	Ø F	Ø G Max	Panel Cut-Out Ø GG
8	.725/.685 (18.4/17.4)	.437 (11.1)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.452/.442 (11.5/11.2)
10	.860/.820 (21.8/20.8)	.562 (14.3)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.577/.567 (14.7/14.4)
12	1.065/1.025 (27.1/26.0)	.750 (19.1)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.765/.755 (19.4/19.2)
14	1.110/1.070 (28.2/27.2)	.812 (20.6)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	.827/.817 (21.0/20.8)
16	1.230/1.190 (31.2/30.2)	.937 (23.8)	.901/.896 (22.9/22.8)	.754 (19.2)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	.952/.942 (24.2/23.9)
18	1.360/1.320 (34.5/33.5)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	1.077/1.067 (27.4/27.1)
20	1.495/1.455 (38.0/37.0)	1.182 (30.0)	1.132/1.127 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.197/1.187 (30.4/30.1)
22	1.610/1.570 (40.9/39.9)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.327/1.317 (33.7/33.5)
24	1.745/1.705 (44.3/43.3)	1.432 (36.4)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.447/1.437 (36.8/36.5)

TABLE II: Contacts						
Con-tact Size	Contact Type	AA	ØØ BB	ØØ CC Min	DD	FF Max
12	Cup	--	.150 (3.8)	.112 (2.8)	.200 (5.1)	.400 (10.2)
12	Eyelet	.035 (0.9)	--	.112 (2.8)	--	.400 (10.2)
16	Cup	--	.103 (2.6)	.069 (1.8)	.125 (3.2)	.400 (10.2)
16	Eyelet	.025 (0.6)	--	.069 (1.8)	--	.400 (10.2)
20	Cup	--	.077 (2.0)	.042 (1.1)	.080 (2.0)	.330 (8.4)
20	Eyelet	.015 (0.4)	--	.042 (1.1)	--	.330 (8.4)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 230-036 will mate with any QPL MIL-DTL-26500, MS24266 and MS27615 series bayonet coupling plug of same size, keyway and insert polarization.
3. Performance:
   Hermeticity - <x10^{-7} ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
4. Material/ Finish:
   Bayonets—Cres/Passivated
   Contacts—52 Nickel alloy/Gold plated
   Insulators—Glass/NA
   Seals—fluorosilicone elastomer N.A.
5. Metric Dimensions (mm) are indicated in parentheses.

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230-038
MIL-DTL-26500 Type Hermetic Class Receptacle
MS27034H*T** Type Solder Flange Mount, Threaded Coupling

How To Order: *Commercial*

Basic Series	Shell Size (See Table I)	Contact Termination	Insert Arrangement	Connector Material / Finish	Alternate Key Position
230-038	12 - 3	P	Z1		6

Connector Material / Finish
- *FT - Cold Rolled Steel - Fused Tin Finish*
- *Z1 - Stainless Steel - Passivate Finish*
- *ZL - Stainless Steel - Nickel Finish*

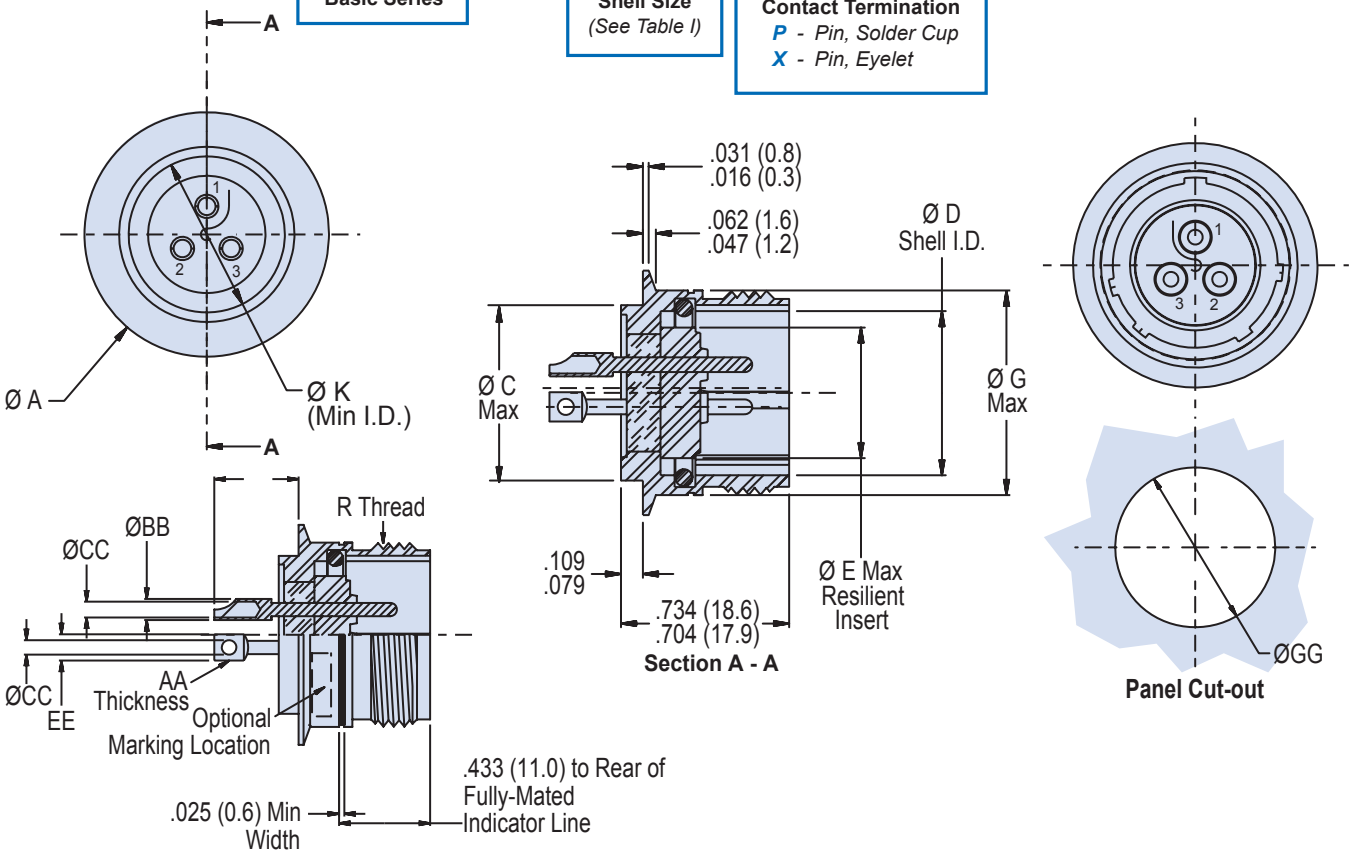
Insert Arrangement
MIL-STD-1554
See Pages F-2 – F-3

Alternate Key Position
6, 7, 8, 9, 10
(Omit for Normal)

Basic Series

Shell Size
(See Table I)

Contact Termination
- *P - Pin, Solder Cup*
- *X - Pin, Eyelet*



APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 230-038 will mate with any QPL MIL-DTL-26500, MS24266 and MS27615 series threaded coupling plug of same size, keyway and insert polarization.
3. Performance:
   Hermeticity - <x10^{-7} ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
4. Material/ Finish:
   Contacts—52 Nickel alloy/Gold plated
   Insulators—Glass/NA
   Seals—fluorosilicone elastomer N.A.
5. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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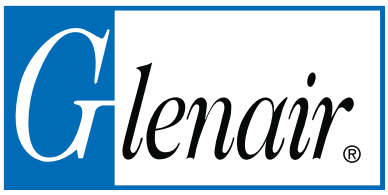


TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out							
Shell Size	Ø A	Ø C Max	Ø D Shell I.D.	Ø E Resilient Insert	Ø G Max	Panel Cut-Out Ø GG	R Coupling Thread UNEF-2A
8	.725/.705 (18.4/17.9)	.437 (11.1)	.433/.428 (11.0/10.9)	.312 (7.9)	.561 (14.2)	.452/.442 (11.5/11.2)	.562-24
10	.860/.840 (21.8/21.3)	.562 (14.3)	.535/.530 (13.6/13.5)	.388 (9.9)	.696 (17.7)	.577/.567 (14.7/14.4)	.687-24
12	1.065/1.045 (27.1/26.5)	.750 (19.1)	.705/.700 (17.9/17.8)	.558 (14.2)	.875 (22.2)	.765/.755 (19.4/19.2)	.875-20
14	1.110/1.090 (28.2/27.7)	.812 (20.6)	.774/.769 (19.7/19.5)	.627 (15.9)	.935 (23.7)	.827/.817 (21.0/20.8)	.937-20
16	1.230/1.210 (31.2/30.7)	.937 (23.8)	.901/.896 (22.9/22.8)	.754 (19.2)	1.062 (27.0)	.957/.942 (24.3/23.9)	1.062-18
18	1.360/1.340 (34.5/34.0)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.187 (30.1)	1.077/1.067 (27.4/27.1)	1.187-18
20	1.495/1.475 (38.0/37.5)	1.182 (30.0)	1.132/1.127 (28.8/28.6)	.965 (24.5)	1.312 (33.3)	1.197/1.187 (30.4/30.1)	1.312-18
22	1.610/1.590 (40.9/40.4)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.437 (36.5)	1.327/1.317 (33.7/33.5)	1.437-18
24	1.745/1.725 (44.3/43.8)	1.432 (36.4)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.262 (32.1)	1.447/1.437 (36.8/36.5)	1.562-18

TABLE II: Contacts						
Contact Size	Contact Type	AA	ØØ BB	ØØ CC Min	DD	FF Max
12	Cup	--	.150 (3.8)	.112 (2.8)	.200 (5.1)	.400 (10.2)
12	Eyelet	.035 (0.9)	--	.112 (2.8)	--	.400 (10.2)
16	Cup	--	.103 (2.6)	.069 (1.8)	.125 (3.2)	.400 (10.2)
16	Eyelet	.025 (0.6)	--	.069 (1.8)	--	.400 (10.2)
20	Cup	--	.077 (2.0)	.042 (1.1)	.080 (2.0)	.330 (8.4)
20	Eyelet	.015 (0.4)	--	.042 (1.1)	--	.330 (8.4)

Dimensions in Inches (millimeters) are subject to change without notice.

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230-039
MIL-DTL-26500 Type Hermetic Class Receptacle
Single Hole Mount, Bayonet Coupling, MS24265H*B* Type

How To Order: *Commercial*

Basic Series	Shell Size	Contact Termination	Alternate Key Position
230-039	12 - 3	P	6

Connector Material / Finish
FT - Cold Rolled Steel - Fused Tin Finish
Z1 - Stainless Steel - Passivate Finish
ZL - Stainless Steel - Nickel Plated

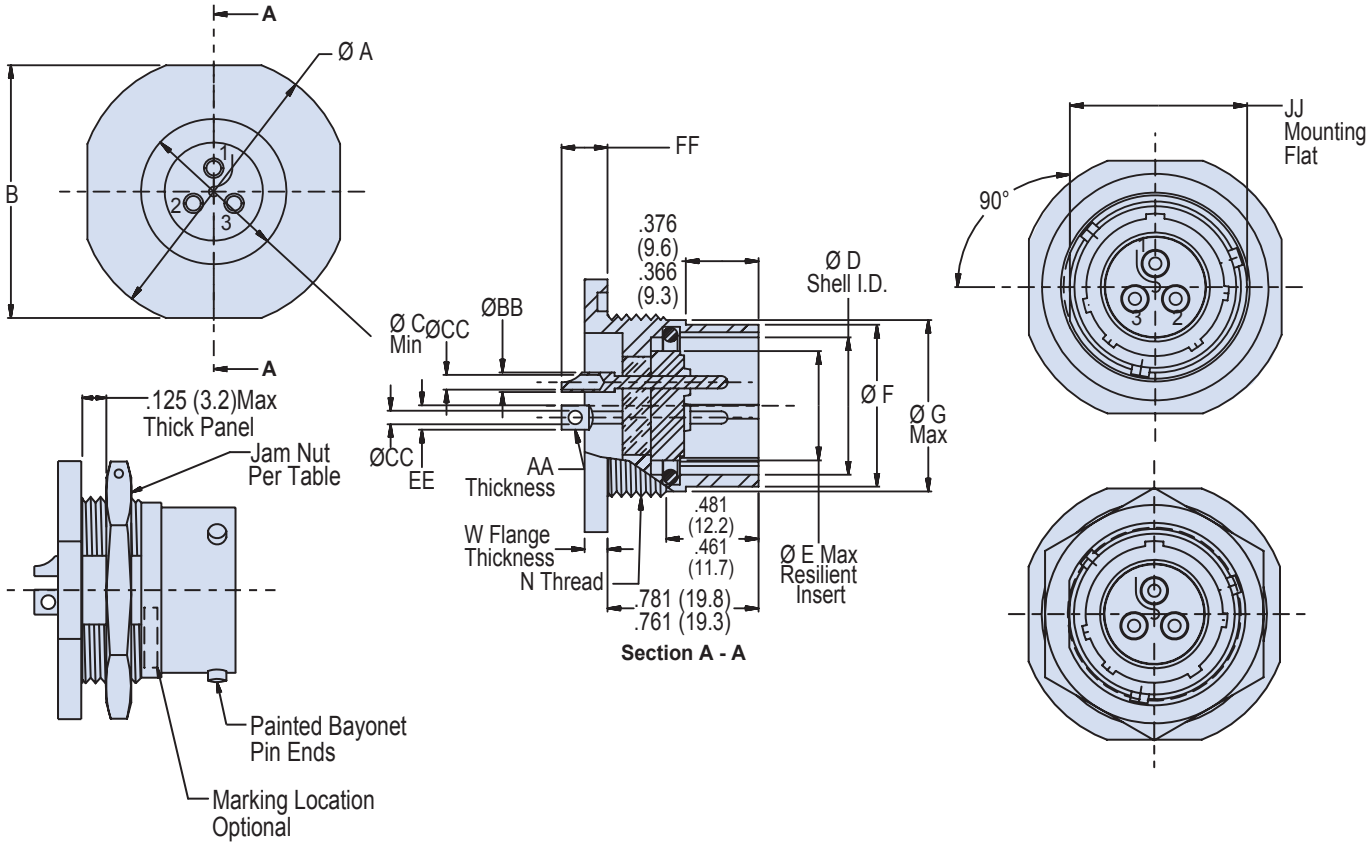
Insert Arrangement
Per MIL-STD-1554
See Pages F-2 – F-3

Alternate Key Position
6, 7, 8, 9, 10
(Omit for Normal)

Basic Series

Shell Size
See Table I

Contact Termination
P - Pin, Solder Cup
X - Pin, Eyelet



Dimensions in Inches (millimeters) are subject to change without notice.

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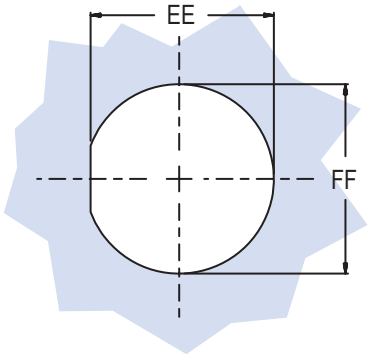
230-039
MIL-DTL-26500 Type Hermetic Class Receptacle
Single Hole Mount, Bayonet Coupling, MS24265H*B* Type

TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out

Shell Size	Ø A Max	B	Ø C Min	Ø D Shell I.D.	Ø E Resilient Insert	Ø F	Ø G Max	N Thread	JJ Mounting Flat	Flange Thickness W ± .020 (0.5)	Panel Cut-Out EE	Panel Cut-Out FF	Jam Nut MS3186
8	1.068 (27.1)	.979 (24.9)	.493 (12.5)	.433/.428 (11.0/10.9)	.312 (7.9)	.536/.531 (13.6/13.5)	.561 (14.2)	.625-20 UN-2A	.596/.590 (15.1/15.0)	.117 (3.0)	.605 (15.4)	.635 (16.1)	-105
10	1.192 (30.3)	1.104 (28.0)	.555 (14.1)	.535/.530 (13.6/13.5)	.388 (9.9)	.659/.654 (16.7/16.6)	.696 (17.7)	.750-20 UNEF 2A	.721/.715 (18.3/18.2)	.117 (3.0)	.730 (18.5)	.760 (19.3)	-107
12	1.380 (35.1)	1.291 (32.8)	.743 (18.9)	.705/.700 (17.9/17.8)	.558 (14.2)	.829/.824 (21.1/20.9)	.875 (22.2)	.937-20 UNEF-2A	.908/.902 (23.1/22.9)	.117 (3.0)	.917 (23.3)	.947 (24.1)	-110
14	1.505 (28.2)	1.391 (35.3)	.805 (20.4)	.774/.769 (19.7/19.5)	.627 (15.9)	.898/.893 (22.8/22.7)	.935 (23.7)	1.000-20 UNEF-2A	.971/.965 (24.7/24.5)	.117 (3.0)	.980 (24.9)	1.010 (25.7)	-111
16	1.630 (41.4)	1.516 (38.5)	.931 (23.6)	.901/.896 (22.9/22.8)	.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	1.125-20 UNEF-2A	1.096/1.090 (27.8/27.7)	.117 (3.0)	1.105 (28.1)	1.135 (28.8)	-112
18	1.765 (44.8)	1.641 (41.7)	1.055 (26.8)	1.007/1.002 (25.6/25.5)	.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	1.250-18 UNEF-2A	1.220/1.214 (31.0/30.8)	.117 (3.0)	1.229 (31.2)	1.260 (32.0)	-116
20	1.860 (47.2)	1.766 (44.9)	1.243 (31.6)	1.132/1.125 (28.8/28.6)	.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	1.375-18 UNEF-2A	1.345/1.339 (34.2/34.0)	.117 (3.0)	1.354 (34.4)	1.385 (35.2)	-117
22	2.068 (52.5)	1.954 (49.6)	1.305 (33.1)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	1.500-18 UNEF-2A	1.470/1.464 (37.3/37.2)	.148 (3.8)	1.497 (38.0)	1.510 (38.4)	-120
24	2.160 (54.9)	2.079 (52.8)	1.493 (37.9)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	1.625-18 UNEF-2A	1.595/1.589 (40.5/40.4)	.148 (3.8)	1.604 (40.7)	1.635 (41.5)	-121

TABLE II: Contacts

Con-tact Size	Contact Type	AA	ØØ BB	ØØ CC Min	DD	FF Max
12	Cup	--	.150 (3.8)	.112 (2.8)	--	.235 (6.0)
12	Eyelet	.035 (0.9)	--	--	.200 (5.1)	.235 (6.0)
16	Cup	--	.103 (2.6)	.069 (1.8)	--	.235 (6.0)
16	Eyelet	.025 (0.6)	--	--	.125 (3.2)	.235 (6.0)
20	Cup	--	.077 (2.0)	.042 (1.1)	--	.165 (4.2)
20	Eyelet	.015 (0.4)	--	--	.080 (2.0)	.165 (4.2)



APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 230-039 will mate with any QPL MIL-DTL-MS24266 type bayonet coupling plug of same size, keyway and insert polarization.
3. Performance:
   Hermeticity - <x10^{-7} ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
4. Material/ Finish:
   Shell and Jam Nut—specified by class
   Pin contacts—nickel-iron alloy 52/gold
   Bayonets—Cres/Passivated
   Contacts—52 Nickel alloy/Gold plated
   Insulators—Glass/NA
   Seals—fluorosilicone elastomer N.A.
5. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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230-040
MIL-DTL-26500 Type Hermetic Class Receptacle
Single Hole Mount, Threaded Coupling, MS24265*T*** Type

How To Order: *Commercial*

Basic Series	Shell Size		Contact Termination	Connector Material / Finish	Insert Arrangement	Alternate Key Position
230-040	12	3	P	Z1		6

Basic Series

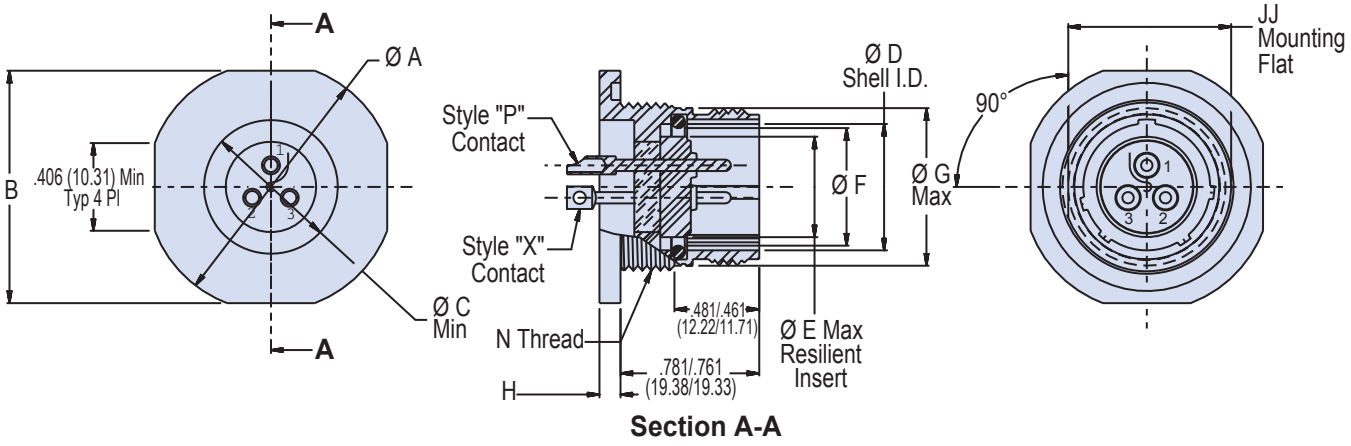
Shell Size
See Table I

Contact Termination
P *- Pin, Solder Cup*
X *- Pin, Eyelet*

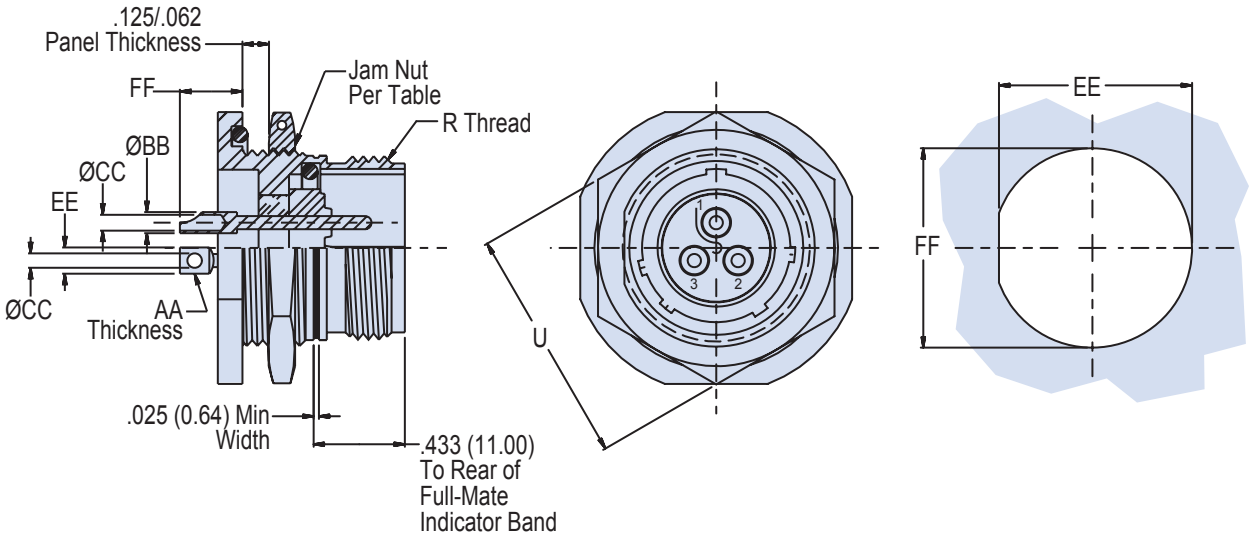
Connector Material / Finish
FT *- Carbon Steel - Fused Tin Finish*
Z1 *- Stainless Steel - Passivate Finish*
ZL *- Stainless Steel - Nickel Plated*

Insert Arrangement
Per MIL-STD-1554
See Pages F-2 – F-3

Alternate Key Position
6, 7, 8, 9, 10
(Omit for Normal)



Section A-A



Dimensions in Inches (millimeters) are subject to change without notice.

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230-040
MIL-DTL-26500 Type Hermetic Class Receptacle
Single Hole Mount, Threaded Coupling, MS24265*T*** Type

TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out

Shell Size	Ø A Max	B	Ø D Shell I.D.	Ø E Resilient Insert	Ø G Max	H Flange Thickness	N Thread	R Thread	JJ Mounting Flat	Panel Cut-Out EE	Panel Cut-Out FF	U Hex Max
8	1.068 (27.1)	.984/.974 (24.99/24.74)	.433/.428 (11.0/10.9)	.318 (8.08)	.561 (14.2)	.137/.097 (3.48/2.46)	.625-20 UN-2A	.562-24 UNEF-2A	.596/.590 (15.1/15.0)	.605 (15.37)	.635 (16.1)	.828 (21.03)
10	1.192 (30.3)	1.109/1.099 (28.17/27.91)	.535/.530 (13.6/13.5)	.394 (10.01)	.696 (17.7)	.137/.097 (3.48/2.46)	.750-20 UNEF 2A	.687-24 UNEF 2A	.721/.715 (18.3/18.2)	.730 (18.54)	.760 (19.3)	.953 (24.21)
12	1.380 (35.1)	1.296/1.286 (32.92/32.66)	.705/.700 (17.9/17.8)	.564 (14.33)	.875 (22.2)	.137/.097 (3.48/2.46)	.937-20 UNEF-2A	.875-20 UNEF-2A	.908/.902 (23.1/22.9)	.917 (23.29)	.947 (24.1)	1.140 (28.96)
14	1.505 (38.2)	1.399/1.386 (35.53/35.20)	.774/.769 (19.7/19.5)	.633 (16.08)	.935 (23.7)	.137/.097 (3.48/2.46)	1.000-20 UNEF-2A	.937-20 UNEF-2A	.971/.965 (24.7/24.5)	.980 (24.89)	1.010 (25.7)	1.250 (31.75)
16	1.630 (41.4)	1.521/1.511 (38.63/38.38)	.901/.896 (22.9/22.8)	.780 (19.81)	1.062 (27.0)	.137/.097 (3.48/2.46)	1.125-20 UNEF-2A	1.062-18 UNEF-2A	1.096/1.090 (27.8/27.7)	1.105 (28.07)	1.135 (28.8)	1.329 (33.76)
18	1.740 (44.2)	1.646/1.636 (41.81/41.55)	1.007/1.002 (25.6/25.5)	.866 (22.00)	1.187 (30.1)	.137/.097 (3.48/2.46)	1.250-20 UNEF-2A	1.187-18 UNEF-2A	1.220/1.214 (31.0/30.8)	1.225 (31.12)	1.260 (32.0)	1.455 (36.96)
20	1.860 (47.2)	1.771/1.761 (44.98/44.73)	1.132/1.127 (28.8/28.6)	.991 (25.17)	1.312 (33.3)	.137/.097 (3.48/2.46)	1.375-18 UNEF-2A	1.312-18 UNEF-2A	1.345/1.339 (34.2/34.0)	1.350 (34.29)	1.385 (35.2)	1.642 (41.71)
22	2.040 (51.8)	1.959/1.949 (49.76/49.50)	1.257/1.252 (31.9/31.8)	1.116 (28.35)	1.437 (36.5)	.168/.128 (4.27/3.25)	1.500-18 UNEF-2A	1.437-18 UNEF-2A	1.470/1.464 (37.3/37.2)	1.475 (37.47)	1.510 (38.4)	1.705 (43.31)
24	2.160 (54.9)	2.084/2.074 (52.93/52.68)	1.382/1.377 (35.1/35.0)	1.241 (31.52)	1.562 (39.7)	.168/.128 (4.27/3.25)	1.625-18 UNEF-2A	1.562-18 UNEF-2A	1.595/1.589 (40.5/40.4)	1.600 (40.64)	1.635 (41.5)	1.892 (48.06)

TABLE II: Contacts

Con-tact Size	Contact Type	AA	ØØ BB	ØØ CC Min	DD	FF Max
12	Cup	--	.150 (3.8)	.112 (2.8)	--	.235 (6.0)
12	Eyelet	.035 (0.9)	--	--	.200 (5.1)	.235 (6.0)
16	Cup	--	.103 (2.6)	.069 (1.8)	--	.235 (6.0)
16	Eyelet	.025 (0.6)	--	--	.125 (3.2)	.235 (6.0)
20	Cup	--	.077 (2.0)	.042 (1.1)	--	.165 (4.2)
20	Eyelet	.015 (0.4)	--	--	.080 (2.0)	.165 (4.2)

APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 230-040 will mate with any QPL MIL-DTL-MS26500/MS24266 type threaded coupling plug of same size, keyway and insert polarization.
3. Performance:
   Hermeticity - <x10^{-7} ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
4. Material/ Finish:
   Shell and Jam Nut—specified by class
   Contacts—52 Nickel alloy/Gold plated
   Insulators—Glass/N.A.
   Seals—fluorosilicone elastomer/N.A.
5. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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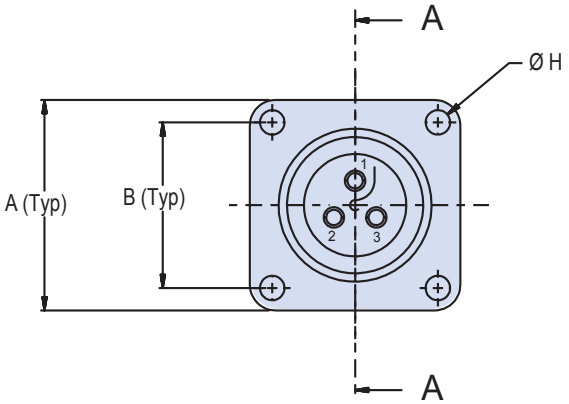
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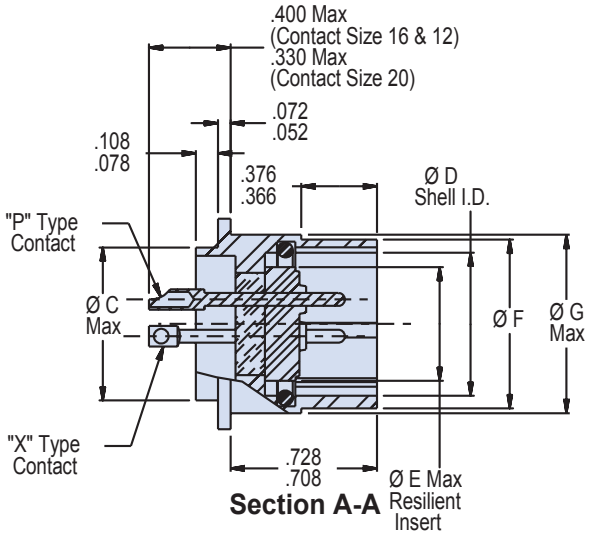
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230-041
MIL-DTL-26500 Type Hermetic Class Receptacle
Square Flange Mount, Bayonet Coupling, MS24264**B*** Type

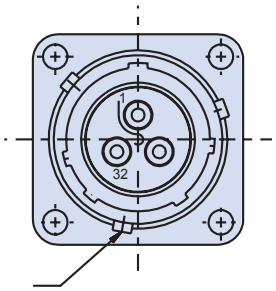
How To Order: *Commercial*

Basic Series	Connector Material / Finish	Shell Size	Insert Arrangement	Contact Termination	Alternate Key Position
230-041	FT	12 -	3	P	6
	FT - Carbon Steel, Tin Plate *Z1 - Stainless Steel - Passivate Finish* *ZL - Stainless Steel - Nickel Plated*	*See Table I*	Per MIL-STD-1554 *See Pages F-2 – F-3*	*P - Pin, Solder Cup* *X - Pin, Eyelet*	*6, 7, 8, 9, 10* *(Omit for Normal)*

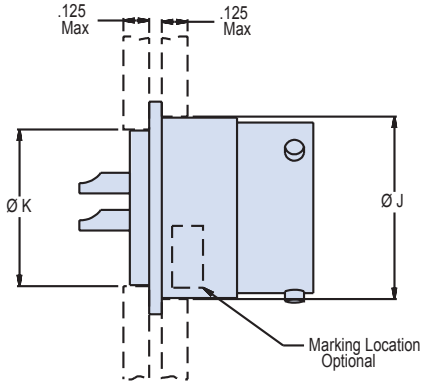




Section A-A



Painted
Bayonet
Pin Ends



Panel Cutout

Dimensions in Inches (millimeters) are subject to change without notice.

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230-041
MIL-DTL-26500 Type Hermetic Class Receptacle
Square Flange Mount, Bayonet Coupling, MS24264**B*** Type

TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out

Shell Size	A	B	CØ Max	DØ Shell I.D.	EØ Resilient Insert	FØ	GØ Max	HØ Thru 4 Pl.	Panel Cutout Rear Mount JØ	Panel Cutout Front Mount K Ø
8	0.812 (20.6)	0.594 (15.1)	0.437 (11.1)	.433/.428 (11.0/10.9)	0.312 (7.9)	.536/.531 (13.6/13.5)	0.561 (14.2)	0.120 (3.0)	.630/.620 (16.0/15.7)	.457/.447 (11.6/11.4)
10	0.937 (23.8)	0.719 (18.3)	0.562 (14.3)	.535/.530 (13.6/13.5)	0.388 (9.9)	.659/.654 (16.7/16.6)	0.696 (17.7)	0.120 (3.0)	.758/.748 (19.3/19.0)	.582/.572 (14.8/14.5)
12	1.031 (26.2)	0.812 (20.6)	0.750 (19.1)	.705/.700 (17.9/17.8)	0.558 (14.2)	.829/.824 (21.1/20.9)	0.875 (22.2)	0.120 (3.0)	.923/.913 (23.4/23.2)	.770/.760 (19.6/19.3)
14	1.125 (28.6)	0.906 (23.0)	0.812 (20.6)	.774/.769 (19.7/19.5)	0.627 (15.9)	.898/.893 (22.8/22.7)	0.935 (23.7)	0.120 (3.0)	.990/.980 (25.1/24.9)	.832/.822 (21.1/20.9)
16	1.250 (31.8)	0.969 (24.6)	0.937 (23.8)	.901/.896 (22.9/22.8)	0.772 (19.6)	1.025/1.020 (26.0/25.9)	1.062 (27.0)	0.120 (3.0)	1.117/1.107 (28.4/28.1)	.958/.948 (24.3/24.1)
18	1.343 (34.1)	1.062 (27.0)	1.062 (27.0)	1.007/1.002 (25.6/25.5)	0.860 (21.8)	1.131/1.126 (28.7/28.6)	1.187 (30.1)	0.120 (3.0)	1.219/1.209 (31.0/30.7)	1.082/1.072 (27.5/27.2)
20	1.437 (36.5)	1.156 (29.4)	1.187 (30.1)	1.132/1.125 (28.8/28.6)	0.985 (25.0)	1.256/1.251 (31.9/31.8)	1.312 (33.3)	0.120 (3.0)	1.347/1.337 (34.2/34.0)	1.202/1.192 (30.5/30.3)
22	1.562 (39.7)	1.250 (31.8)	1.312 (33.3)	1.257/1.252 (31.9/31.8)	1.110 (28.2)	1.381/1.376 (35.1/35.0)	1.437 (36.5)	0.120 (3.0)	1.462/1.452 (37.1/36.9)	1.332/1.322 (33.8/33.6)
24	1.703 (43.3)	1.375 (34.9)	1.437 (36.5)	1.382/1.377 (35.1/35.0)	1.235 (31.4)	1.506/1.501 (38.3/38.1)	1.562 (39.7)	0.149 (3.8)	1.587/1.577 (40.3/40.1)	1.452/1.442 (36.9/36.6)

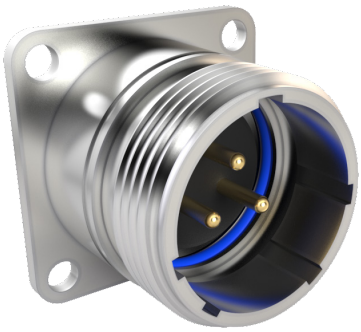
APPLICATION NOTES

1. Assembly identified with manufacturer's name and part number, space permitting.
2. Glenair 230-041 will mate with any QPL MIL-DTL-MS24266 type bayonet coupling plug of same size, keyway and insert polarization.
3. Performance:
   Hermeticity - $<x10^{-7}$ ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
4. Material/ Finish:
   Shell—specified by class
   Bayonets—Stainless Steel/Passivated
   Contacts—52 Nickel alloy/Gold plated
   Insulators—Glass/NA
   Seals—fluorosilicone elastomer N.A.
5. Metric Dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

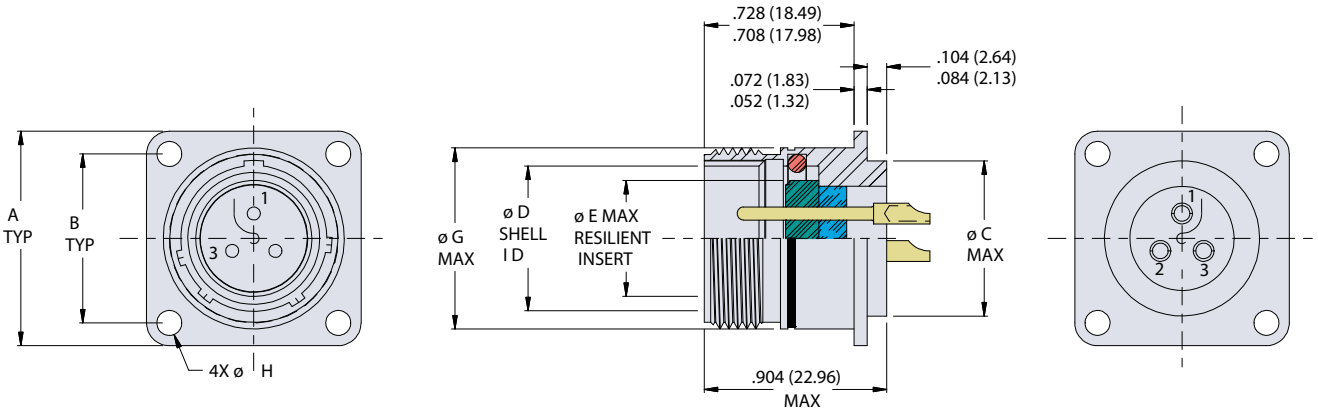
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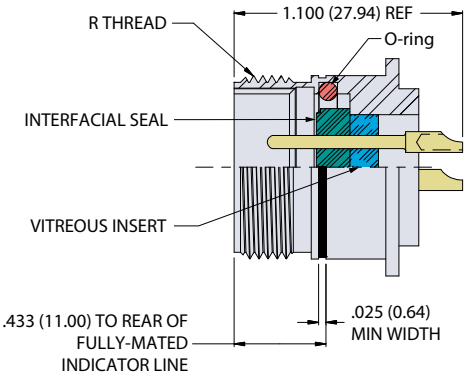
230-045
MIL-DTL-26500 Type Hermetic Class Receptacle
Square Flange Mount, Threaded Coupling, MS24264 Type



How To Order: *Commercial*

Connector Material / Finish		Insert Arrangement		Alternate Key Position
FT - Carbon Steel, Tin Plate *Z1 - Stainless Steel - Passivate Finish* *ZL - Stainless Steel - Nickel Plated*		Per MIL-STD-1554 *See Pages F-2 – F-3*		*6, 7, 8, 9, and Y* *(Omit for Normal)*
230-045	**Z1**	**12** - **3**		**P**	**6**
Basic Series Supersedes 237-165		**Shell Size** *See Table I*		**Contact Termination** *P - Pin, Solder Cup* *X - Pin, Eyelet*	





Dimensions in Inches (millimeters) are subject to change without notice.

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230-045
MIL-DTL-26500 Type Hermetic Class Receptacle
Square Flange Mount, Threaded Coupling, MS24264 Type

TABLE I: Shell Size, Connector Dimensions and Panel Cut-Out

Shell Size	A	B	CØ Max	DØ Shell I.D.	EØ Resilient Insert	GØ Max	HØ Thru 4 Pl.	R Coupling Thread UNEF-2A	Panel Cutout Front Mount Min Ø	Panel Cutout Rear Mount Min Ø
8	0.812 (20.6)	0.594 (15.1)	.437 (11.10) .428 (10.87)	.433 (11.00) .428 (10.87)	.318 (8.08)	0.561 (14.2)	.125 (3.18) .116 (2.95)	.5625-24	.447 (11.35)	.570 (14.48)
10	0.937 (23.8)	0.719 (18.3)	.562 (14.27) .554 (14.07)	.535 (13.59) .530 (13.46)	.394 (10.01)	0.696 (17.7)	.125 (3.18) .116 (2.95)	.6875-24	.572 (14.53)	.695 (17.65)
12	1.031 (26.2)	0.812 (20.6)	.750 (19.05) .728 (18.49)	.705 (17.91) .700 (17.78)	.564 (14.33)	0.875 (22.2)	.125 (3.18) .116 (2.95)	.8750-20	.760 (19.30)	.882 (22.40)
14	1.125 (28.6)	0.906 (23.0)	.812 (20.62) .796 (20.22)	.774 (19.66) .769 (19.53)	.633 (16.08)	0.935 (23.7)	.125 (3.18) .116 (2.95)	.9375-20	.822 (20.88)	.945 (24.00)
16	1.250 (31.8)	0.969 (24.6)	.938 (23.83) .923 (23.44)	.901 (22.89) .896 (22.76)	.760 (19.30)	1.062 (27.0)	.125 (3.18) .116 (2.95)	1.0625-18	.948 (24.08)	1.070 (27.18)
18	1.343 (34.1)	1.062 (27.0)	1.062 (26.97) 1.029 (26.14)	1.007 (25.58) 1.002 (25.45)	.866 (22.00)	1.187 (30.1)	.125 (3.18) .116 (2.95)	1.1875-18	1.072 (27.23)	1.195 (30.35)
20	1.437 (36.5)	1.156 (29.4)	1.182 (30.02) 1.156 (29.36)	1.132 (28.75) 1.125 (28.58)	.991 (25.17)	1.312 (33.3)	.125 (3.18) .116 (2.95)	1.3125-18	1.192 (30.28)	1.320 (33.53)
22	1.562 (39.7)	1.250 (31.8)	1.312 (33.32) 1.279 (32.49)	1.257 (31.93) 1.252 (31.80)	1.116 (28.35)	1.437 (36.5)	.125 (3.18) .116 (2.95)	1.4375-18	1.322 (33.58)	1.440 (36.58)
24	1.703 (43.3)	1.375 (34.9)	1.432 (36.37) 1.406 (35.71)	1.382 (35.10) 1.377 (34.98)	1.241 (31.52)	1.562 (39.7)	.154 (3.91) .145 (3.68)	1.5625-18	1.442 (36.63)	1.570 (39.88)

APPLICATION NOTES

1. Glenair 230-045 will mate with any QPL MIL-DTL-26500 threaded coupling plug of same size, keyway, and insert polarization
2. Performance:
   Hermeticity - $<x10^{-7}$ ccHe/sec @ 1 atmosphere differential
   Dielectric withstanding voltage - consult factory or MIL-STD-1554
   Insulation resistance - 5000 megohms min @ 500VDC
3. Material/ Finish:
   Shell: 300 series CRES / per P/N development
   Contacts—52 Nickel alloy/Gold plated
   Insulator—Glass
   Seals—fluorosilicone elastomer

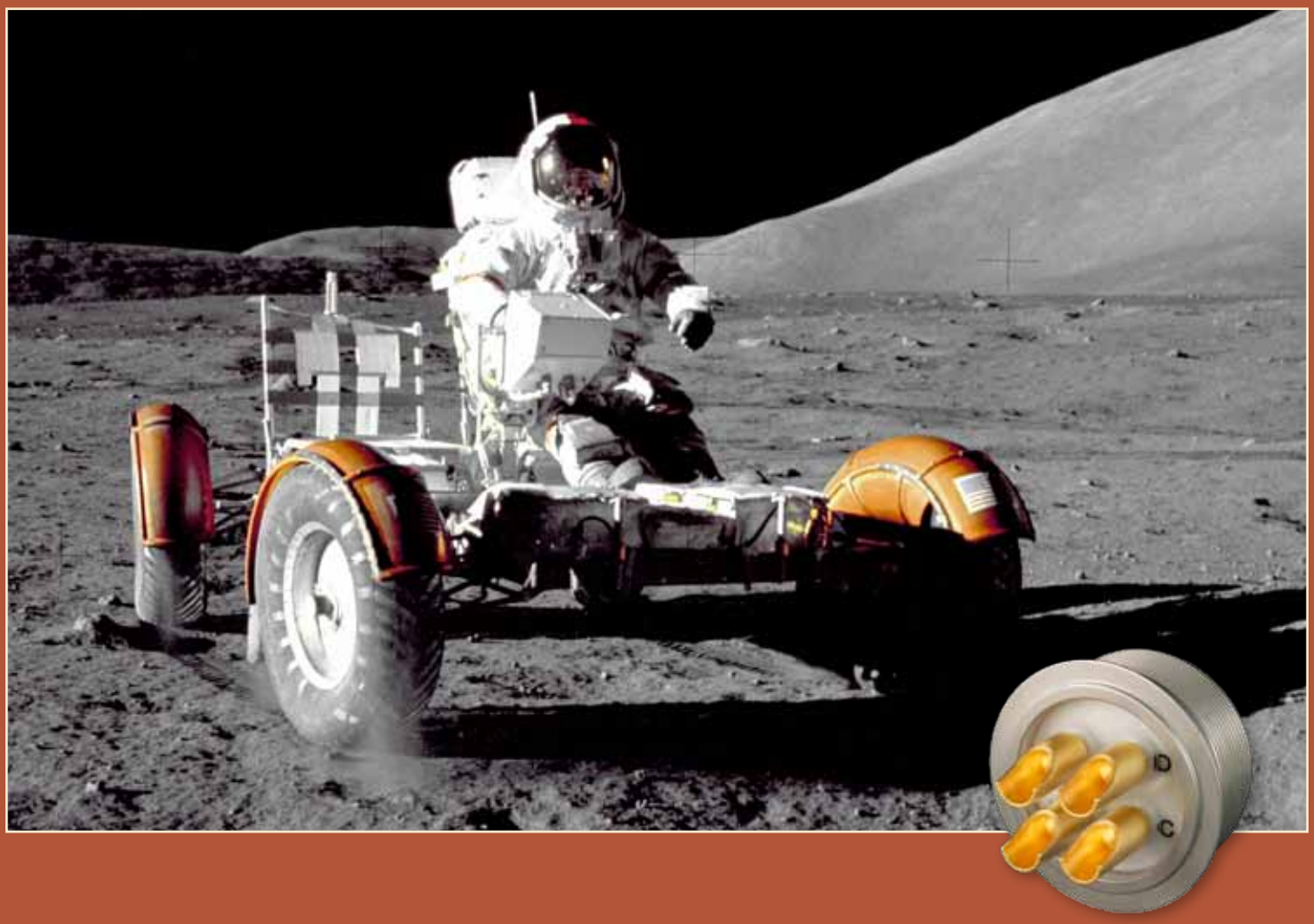
Dimensions in Inches (millimeters) are subject to change without notice.

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POWER AND SIGNAL

MIL-DTL-5015

Type Glass Seal Hermetic Connectors



Glenair MIL-DTL-5015 type commercial hermetic connectors are general purpose, low-density circular connectors ideally suited for applications that require power and signal contacts in a glass sealed hermetic package. This series is available in a wide range of shell sizes and contact layouts that are compatible with all standard environmental MIL-DTL-5015 plug connectors. Because Glenair makes all its hermetic connectors in-house, including the machining of shells, molding of interfacial seals and □ring of hermetic components, we can o□er you outstanding availability on stock products and fast turnaround on special orders. Glenair also makes and stocks all the standard connector accessory backshells typically speci□ed with 5015 type connectors.

GLASS-SEALED
Hermetic
CONNECTORS

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Corrosion Resistant Stainless Steel Harsh Environment Glass Seal Hermetic Connectors for Power and Signal Applications

Glenair MIL-DTL-5015 type hermetic connectors are made from passivated stainless steel or ferrous steel shells, with glass insulators fused to the connector shell, and contacts meeting a leak rate of 1 X 10-7 cc/helium per second. The Glenair MIL-DTL-5015 type hermetic connector is equipped with fluorosilicone elastomer interfacial and peripheral seals which provide positive sealing with plug connectors. Gold plated nickel-iron alloy 52 contacts are available in sizes 0, 4, 8, 10, 12 and 16, depending on the layout chosen. Solder cup and eyelet contact styles are standard.

Quick Selection Guide

Part Number	Description	Page
	MIL-DTL-5015 Type Insert Arrangements	G-2
	MIL-DTL-5015 Type Alternate Key Positions	G-5
250-013	Threaded Coupling Square Flange Receptacle MS3142 Type	G-6
250-014	Threaded Coupling Solder Mount Receptacle MS3143 Type	G-8
250-016	Threaded Coupling Solder Mount Receptacle Connector MS3143 Type Sockets	G-12
250-025	Threaded Coupling Flangeless Mount Receptacle Connector MS3143 Type	G-14
257-384	Threaded Coupling Jam Nut Mount Receptacle Connector MS3404 Type	G-16
947-042	Threaded Coupling Jam Nut Mount Bulkhead Feed-Thru Connector with Pin/Socket Contacts	G-18
947-056	Threaded Coupling Jam Nut Mount Bulkhead Feed-Thru Connector with Pin/Pin Contacts	G-20
947-259	Threaded Coupling Panel Mount Bulkhead Feed-Thru Connector	G-22
947-371	Threaded Coupling Hermetic Jam Nut Mount Bulkhead Feed-Thru Connector	G-24
HE ITS	Bayonet Coupling Hermetic Front Wall Mount, Inline, Rear Wall Mount, Jam Nut, and Weld Mount Connectors	G-26

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MIL-DTL-5015 Type Hermetic Power and Signal Connectors

Insert Arrangements per MIL-STD-1651

Insert Arrangements						
Insert Arr.	Contact Size and Quantity					Service Rating
	16	12	8	4	0	
8S-1	1					A
10S-2	1					A
10SL-3	3					INST
10SL-4	2					A
12S-3	2					A
12S-4	1					D
12-5		1				D
14S-1	3					A
14S-2	4					INST
14-3			1			A
14S-4	1					D
14S-5	5					INST
14S-6	6					INST
14S-7	3					A
14S-9	2					A
16S-1	7					A
16-2		1				E
16S-3	1					B
16S-4	2					D
16S-5	3					A
16S-6	3					A
16-7	2		1			A
16S-8	5					A
16-9	2	2				A
16-10		3				A
16-11		2				A
16-12				1		A
16-13		2				A
18-1	10					A/INST
18-3		2				D
18-4	4					D
18-5	1	2				D
18-6				1		D
18-7			1			B
18-8	7	1				A
18-9	5	2				INST
18-10		4				A
18-11		5				A
18-12	6					A
18-13		3	1			A
18-14	1			1		A
18-15		4				A

Insert Arrangements						
Insert Arr.	Contact Size and Quantity					Service Rating
	16	12	8	4	0	
18-16		1				C
18-20	5					A
18-22	3					D
18-29	5					A
20-2					1	D
20-3		3				D
20-4		4				D
20-5	2					E
20-6	3					D
20-7	8					D/A
20-8	4		2			INST
20-9	7	1				D/A
20-11	13					INST
20-12	1			1		A
20-13	4					A
20-14		3	2			A
20-15		7				A
20-16	7	2				A
20-17	1	5				A
20-18	6	3				A
20-19			3			A
20-20		3		1		A
20-21	8	1				
20-22	3		3			A
20-23			2			A
20-24	2		2			A
20-27	14					A
20-29	17					A
20-31	11					A
20-33	11					A
22-1			2			D
22-2			3			D
22-3	1			1		D
22-4		2	2			A
22-5	4	2				D
22-6	1		2			D
22-7					1	E
22-8		2				E
22-9		3				E
22-10	4					E
22-11	2					B
22-12	3		2			D

Insert Arrangements						
Insert Arr.	Contact Size and Quantity					Service Rating
	16	12	8	4	0	
22-13	1	4				D
22-14	19					A
22-15	1	5				E/A
22-17	8	1				D/A
22-18	8					A/D
22-19	14					A
22-20	9					A
22-21	2				1	A
22-22			4			A
22-23		8				D/A
22-24	4	2				D/A
22-25	2				1	A
24-1		1			1	D
24-2		7				D
24-3	5	2				D
24-4	3				1	D
24-5	16					A
24-6		8				D/A
24-7	14	2				A
24-9				2		A
24-10			7			A
24-11		6	3			A
24-12		3		2		A
24-14		2			1	A
24-16	3	3	1			D/A
24-17	3	2				D
24-20	9	2				D
24-21	9		1			D
24-22			4			D
24-23	2		3			D
24-27	7					E
24-28	24					INST
24-80	23					INST
28-1		6	3			D/A
28-2	12	2				D
28-3			3			E
28-4	7	2				E/D
28-5	2	1		2		D
28-6				3		D
28-8	10	2				E/D/A
28-9	6	6				D
28-10		3	2	2		D/A

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MIL-DTL-5015 Type Hermetic Power and Signal Connectors

Insert Arrangements per MIL-STD-1651

Insert Arrangements

Insert Arr.	Contact Size and Quantity					Service Rating
	16	12	8	4	0	
28-11	18	4				A
28-12	26					A
28-14	11					D
28-15	35					A
28-16	20					A
28-17	15					B/D/A
28-18	12					D/C/A/N
28-19	6	4				D/B/A/INST
28-20	4	10				A
28-21	37					A
28-22	3			3		D
32-1		3			2	E/D
32-2	2			3		E
32-3	4	2		2	1	D
32-4	12	2				D/A
32-5					2	D
32-6	16	2	3	2		A
32-7	28	7				INST/A
32-8	24	6				A
32-9	12			2		D
32-10	3		2	2		E/D/B/A
32-12	10	5				D/A
32-13	18	5				D
32-14		5		2		D
32-15		6			2	D
32-17				4		D
32-22	54					A
32-63				5		D
32-73	46					A
36-1	18	4				D
36-3		3			3	D
36-4					3	D/A
36-5					4	A
36-6				4	2	A
36-7	40	7				A
36-8	46	1				A
36-9	14	14	2	1		A
36-10	48					A
36-13	15	2				E/A
36-14	6	5	5			D
36-15	35					D/A
36-19	10	5		1	1	D

Insert Arrangements

Insert Arr.	Contact Size and Quantity					Service Rating
	16	12	8	4	0	
36-52	52					A
36-66	52	4				A
40-1	24	6				D
40-2	23					D/B
40-3	18	4		1		D
40-4	16	2	3	2		D
40-5		6	4	2	3	A
40-6	24	1			1	D
40-7	18	2			2	D/A
40-9	24	22	1			A
40-10	16		9	4		A
40-11	18	4	1	1	1	D
40-56	85					A
40-62	60					A
44-1	36	6				D
44-2	14	14	2	1		D
44-3	24	3	2	2		D
44-4	31	8			2	D
44-52	104					A
48-1		6	4	2	3	E/D
48-2	46	1				E/D
48-3	18	1	3		3	D
48-4	47	16	3		2	D/A
48-62	85					D

Service Rating

Class	Operating voltage Vdc	Operating voltage Vac RMS	Test voltage Vac RMS
INST	250V	200V	1000V
A	700V	500V	2000V
D	1250V	900V	2800V
E	1750V	1250V	3500V
B	2450V	1750V	4500V
C	4200V	3000V	7000V

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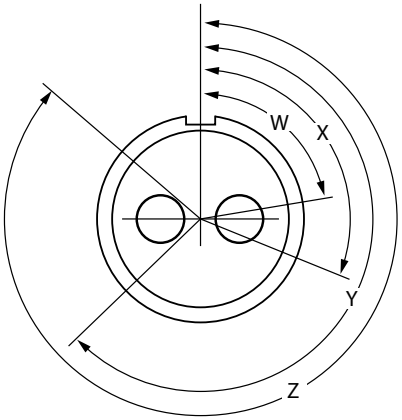
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MIL-DTL-5015 Type Hermetic Power and Signal Connectors
Alternate Key Positions

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
8S-1	–	–	–	–
10S-2	–	–	–	–
10SL-3	–	–	–	–
10SL-4	–	–	–	–
12S-3	70	145	215	290
12S-4	–	–	–	–
12-5	–	–	–	–
14S-1	–	–	–	–
14S-2	–	120	240	–
14-3	–	–	–	–
14S-4	–	–	–	–
14S-5	–	110	–	–
14S-6	–	–	–	–
14S-7	90	180	270	–
14S-9	70	145	215	290
16S-1	80	–	–	280
16-2	–	–	–	–
16S-3	–	–	–	–
16S-4	35	110	250	325
16S-5	70	145	215	290
16S-6	90	180	270	–
16-7	80	110	250	280
16S-8	–	170	265	–
16-9	35	110	250	325
16-10	90	180	270	–
16-11	35	110	250	325
16-12	–	–	–	–
16-13	35	110	250	325
18-1	70	145	215	290
18-3	35	110	250	325
18-4	35	110	250	325
18-5	80	110	250	280
18-6	–	–	–	–
18-7	–	–	–	–
18-8	70	–	–	290
18-9	80	110	250	280
18-10	–	120	240	–
18-11	–	170	265	–
18-12	80	–	–	280
18-13	80	110	250	280

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
18-14	80	110	250	280
18-15	–	120	240	–
18-16	–	–	–	–
18-19	–	120	240	–
18-20	90	180	270	–
18-22	70	145	215	290
18-29	90	180	270	–
20-2	–	–	–	–
20-3	70	145	215	290
20-4	45	110	250	–
20-5	35	110	250	325
20-6	70	145	215	290
20-7	80	110	250	280
20-8	80	110	250	280
20-9	80	110	250	280
20-10	–	–	–	–
20-11	–	–	–	–
20-12	80	110	250	280
20-13	–	–	–	–
20-14	80	110	250	280
20-15	80	–	–	280
20-16	80	110	250	280
20-17	90	180	270	–
20-18	35	110	250	325
20-19	90	180	270	–
20-20	80	110	250	280
20-21	35	110	250	325
20-22	80	110	250	280
20-23	35	110	250	325
20-24	35	110	250	325
20-25	–	–	–	–
20-26	–	–	–	–
20-27	35	110	250	325
20-29	80	–	–	280
20-31	–	–	–	–
20-33	–	–	–	–
22-1	35	110	250	325
22-2	70	145	215	290
22-3	80	110	250	280
22-4	35	110	250	325



Pin Insert Face View,
Socket Face Opposite
Normal Insert Keying Shown

Consult factory regarding any arrangments not listed here.

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
22-5	35	110	250	325
22-6	80	110	250	280
22-7	–	–	–	–
22-8	35	110	250	325
22-9	70	145	215	290
22-10	35	110	250	325
22-11	35	110	250	325
22-12	80	110	250	280
22-13	353	110	250	325
22-14	80	–	–	280
22-15	80	110	250	280
22-16	80	110	250	280
22-17	80	110	250	280
22-18	80	110	250	280
22-19	80	110	250	280
22-20	35	110	250	325
22-21	80	110	250	180
22-22	–	110	250	–
22-23	35	–	250	–
22-24	80	110	250	280
22-25	80	110	250	280
22-35	–	–	–	–
24-2	80	–	–	280

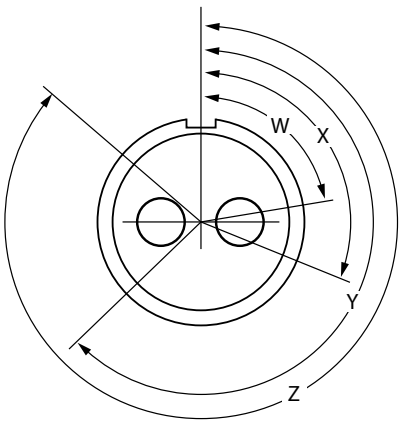
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MIL-DTL-5015 Type Hermetic Power and Signal Connectors
Alternate Key Positions

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
24-4	80	110	250	280
24-5	80	110	250	280
24-6	80	110	250	280
24-7	80	110	250	280
24-9	35	110	250	325
24-10	80	–	–	280
24-11	35	110	250	325
24-18	–	–	–	–
24-19	–	–	–	–
24-20	80	110	250	280
24-21	80	110	250	280
24-22	45	110	25	–
24-23	80	110	250	280
24-27	80	–	–	280
24-28	80	110	250	280
24-80	35	145	240	300
28-1	80	110	250	280
28-2	35	110	250	325
28-3	70	145	215	290
28-4	80	110	250	280
28-5	35	110	250	325
28-6	70	145	215	290
28-7	35	110	250	325
28-8	80	110	250	280
28-9	80	110	250	280
28-10	80	110	250	280
28-11	80	110	250	280
28-12	90	180	280	–
28-14	80	110	250	280
28-15	80	110	250	280
28-16	80	110	250	280
28-17	80	110	250	280
28-18	70	145	215	290
28-19	80	110	250	280
28-20	80	110	250	280
28-21	80	110	250	280
28-22	70	145	215	290
28-23	–	–	–	–
28-24	–	–	–	–
32-1	80	110	250	280

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
32-2	70	145	215	290
32-3	80	110	250	280
32-4	80	110	250	280
32-5	35	110	250	325
32-6	80	110	250	280
32-7	80	125	235	280
32-8	80	125	235	280
32-9	80	110	250	280
32-10	80	110	250	280
32-12	80	110	250	280
32-13	80	110	250	280
32-14	35	110	250	325
32-15	35	110	250	280
32-17	45	110	250	–
32-22	110	80	250	280
32-63	–	–	–	–
32-73	36	–	–	–
32-101	65	125	225	310
32-102	65	125	225	310
36-1	80	110	250	280
36-2	–	–	–	–
36-3	70	145	215	290
36-4	70	145	215	290
36-5	–	120	240	–
36-7	80	110	250	280
36-8	80	110	250	280
36-9	80	125	235	280
36-10	80	125	235	280
36-13	80	125	235	280
36-14	90	180	270	–
36-15	60	125	245	305
36-19	80	110	250	280
36-20	–	–	–	–
36-52	72	144	216	288
36-66	110	250	260	280
40-1	65	130	235	300
40-2	80	110	250	280
40-3	80	110	250	280
40-4	80	110	250	280
40-5	80	110	250	280



Pin Insert Face View,
Socket Face Opposite
Normal Insert Keying Shown

Consult factory regarding any arrangments not listed here.

Alternate Key Positions				
Insert Arr.	W°	X°	Y°	Z°
40-6	80	110	250	280
40-7	80	110	250	280
40-9	65	125	225	310
40-10	65	125	225	310
40-11	80	110	250	280
40-12	–	–	–	–
40-14	–	–	–	–
40-15	–	–	–	–
40-56	72	144	216	288
40-62	30	130	220	290
44-1	65	125	225	310
44-2	65	125	225	310
44-3	65	125	225	31
44-4	65	125	225	310
44-5	–	–	–	–
44-52	72	135	225	288
48-1	65	125	225	310
48-2	65	125	225	310
48-3	65	125	225	310
48-4	65	125	225	310
48-5	–	–	–	–
48-62	72	144	210	280

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250-013
MIL-DTL-5015 Type Hermetic
Threaded Coupling Box Mount Receptacle Connector
MS3142 Type

Connector Style
Box Mount Hermetic Receptacle

Insert Arrangement
Per MIL-STD-1651 (See Page G-2)

Alternate Key Position
W, X, Y, or Z
(Omit for Normal)
(See Page G-4)

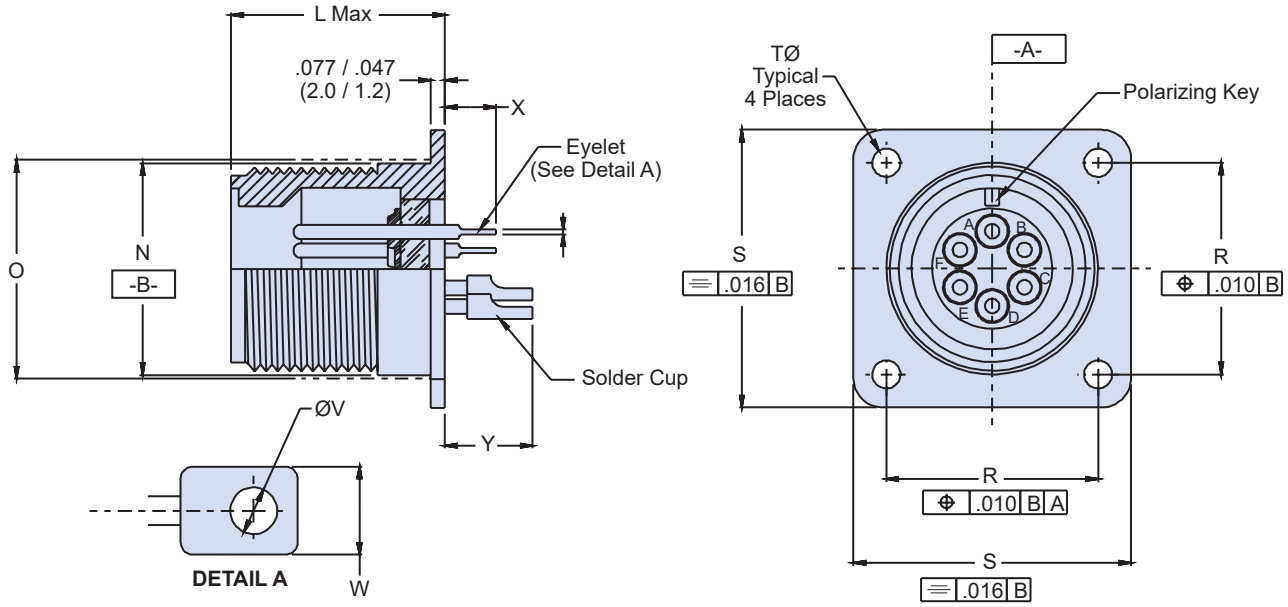
250	-	013	Z1	14	-	6	P	X

Series 250 MIL-DTL-5015 Type Hermetic

Material Designation
FT = *Fused Tin over Ferrous Steel*
Z1 = *Passivated Stainless Steel*
ZL = *Nickel Plated Stainless Steel*

Shell Size

Termination Type
P = *Solder Cup, Pin*
S = *Solder Cup, Socket*
X = *Eyelet, Pin*
Z = *Eyelet, Socket*



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Front panel mount square flange receptacle with through mounting holes.
3. Glenair 250-013 will mate with any MIL-DTL-5015 Series threaded coupling plug of same size and insert polarization.
4. Performance:
   Hermeticity - <1 x 10^{-6} cc/Sec @ 1 Atm. differential.
   Dielectric Withstanding Voltage - See Table II.
   Insulation Resistance - 5000 Megohms min @ 500VDC.
5. Metric Dimensions (mm) are indicated in parentheses.
6. Material/Finish:
   Shell* - Fused tin over ferrous steel/Z1 passivated stainless steel.
   Contacts - 52 Nickel alloy/gold plate
   Seals - Silicone elastomer/N.A.
   Insulation - Glass beads, NOIBN/N.A.
   Socket Insulator: Rigid dielectric/N.A.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

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250-013
MIL-DTL-5015 Type Hermetic
Threaded Coupling Box Mount Receptacle Connector
MS3142 Type

Glenair®

TABLE I: CONTACT DIMENSIONS

Contact Size	X Max	Y Max	Z Min	V Min	W Max
16	.219 (5.6)	.375 (9.5)	.020 (0.5)	.065 (1.7)	.115 (2.9)
12	.281 (7.1)	.516 (13.1)	.020 (0.5)	.096 (2.4)	.190 (4.8)
8	.700 (17.8)	.719 (18.3)	.040 (1.0)	.135 (3.4)	.330 (8.4)
4	.900 (22.9)	.980 (24.9)	.050 (1.3)	.220 (5.6)	.440 (11.2)
0	.900 (22.9)	.980 (24.9)	.090 (2.3)	.335 (8.5)	.605 (15.4)

Note: Contact sizes 4 and 0 are not available for "S" size shells (8S, 10S, 10SL, 12S, 14S, and 16S) and size 12 and 14

TABLE II: SERVICE RATING

Service Rating	Working Voltage (Volts RMS)
INST	200
A	500
D	900
E	1250
B	1750
C	3000

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

G

TABLE III: CONNECTOR DIMENSIONS

Size	L Maximum Contact Size		ØN +.000 -.062 (+ 0 -1.6)	ØO (Ref) Mounting Hole	R T.P ℄ —— ℄	S ±.031 (0.8)	ØT ±.005 (0.1)
	16, 12, 8	4, 0					
8S	.730 (18.5)	-	.532 (13.5)	.562 (14.3)	.594 (15.1)	.875 (22.2)	.120 (3.0)
10S	.730 (18.5)	-	.656 (16.7)	.688 (17.5)	.719 (18.3)	1.000 (25.4)	.120 (3.0)
10SL	.730 (18.5)	-	.656 (16.7)	.688 (17.5)	.719 (18.3)	1.000 (25.4)	.120 (3.0)
12S	.730 (18.5)	-	.782 (19.9)	.812 (20.6)	.812 (20.6)	1.094 (27.8)	.120 (3.0)
12	.915 (23.2)	-	.782 (19.9)	.812 (20.6)	.812 (20.6)	1.094 (27.8)	.120 (3.0)
14S	.730 (18.5)	-	.906 (23.0)	.938 (23.8)	.906 (23.0)	1.188 (30.2)	.120 (3.0)
14	.915 (23.2)	-	.906 (23.0)	.938 (23.8)	.906 (23.0)	1.188 (30.2)	.120 (3.0)
16S	.730 (18.5)	1.040 (26.4)	1.032 (26.2)	1.062 (27.0)	.969 (24.6)	1.281 (32.5)	.120 (3.0)
16	.915 (23.2)	1.040 (26.4)	1.032 (26.2)	1.062 (27.0)	.969 (24.6)	1.281 (32.5)	.120 (3.0)
18	.915 (23.2)	1.040 (26.4)	1.156 (29.4)	1.188 (30.2)	1.062 (27.0)	1.375 (34.9)	.120 (3.0)
20	.915 (23.2)	1.040 (26.4)	1.282 (32.6)	1.312 (33.3)	1.156 (29.4)	1.500 (38.1)	.120 (3.0)
22	.915 (23.2)	1.040 (26.4)	1.406 (35.7)	1.438 (36.5)	1.250 (31.8)	1.625 (41.3)	.120 (3.0)
24	.915 (23.2)	1.040 (26.4)	1.532 (38.9)	1.562 (39.7)	1.375 (34.9)	1.750 (44.5)	.147 (3.7)
28	.915 (23.2)	1.040 (26.4)	1.782 (45.3)	1.812 (46.0)	1.562 (39.7)	2.000 (50.8)	.147 (3.7)
32	.915 (23.2)	1.040 (26.4)	2.032 (51.6)	2.062 (52.4)	1.750 (44.5)	2.250 (57.2)	.173 (4.4)
36	.915 (23.2)	1.040 (26.4)	2.282 (58.0)	2.312 (58.7)	1.938 (49.2)	2.500 (63.5)	.173 (4.4)
40	.915 (23.2)	1.040 (26.4)	2.532 (64.3)	2.562 (65.1)	2.188 (55.6)	2.750 (69.9)	.173 (4.4)
44	.915 (23.2)	1.040 (26.4)	2.782 (70.7)	2.812 (71.4)	2.375 (60.3)	3.000 (76.2)	.173 (4.4)
48	.915 (23.2)	1.040 (26.4)	3.032 (77.0)	3.062 (77.8)	2.625 (66.7)	3.250 (82.6)	.173 (4.4)

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250-014
MIL-DTL-5015 Type Hermetic
Threaded Coupling Solder Mount Receptacle Connector
MS3143 Type

250	-	014	Z1	14	-	6	P	X

Series 250 MIL-DTL-5015 Type Hermetic

Material Designation
FT = Fused Tin over Carbon Steel
Z1 = Passivated Stainless Steel

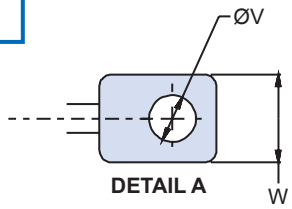
Shell Size

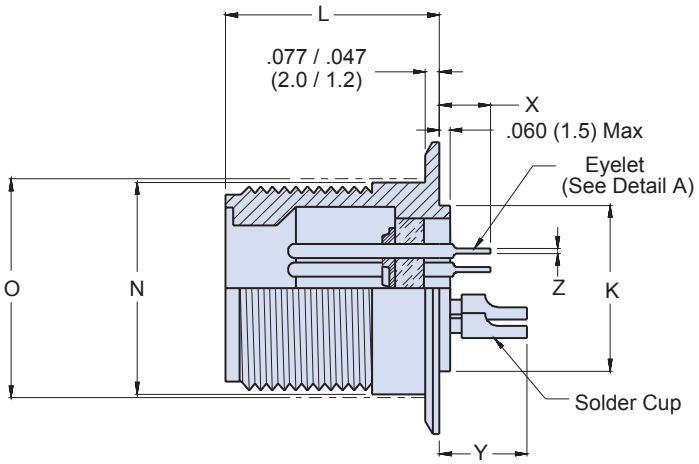
Connector Style
Solder Mount Hermetic Receptacle

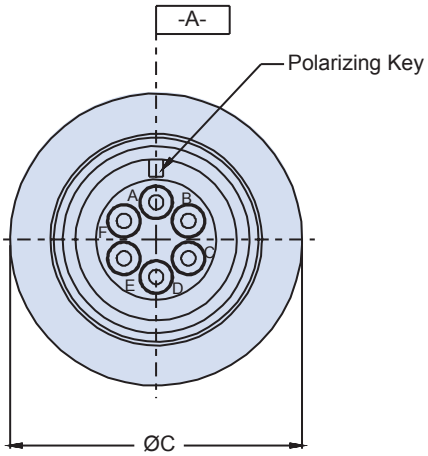
Insert Arrangement
Per MIL-STD-1651 (See Page G-2)

Termination Type
P = Solder Cup
X = Eyelet

Alternate Key Position
W, X, Y, or Z (Omit for Normal) (See Page G-4)







APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Solder mount receptacle.
3. Material/Finish:
   Shell* - Fused tin over carbon steel; Z1 passivated stainless steel
   Contacts - 52 Nickel alloy/gold plate
   Seals - Silicone elastomer/N.A.
   Insulation - Glass beads, NOIBN/N.A.
4. Glenair 250-014 will mate with any MIL-DTL-5015 Series threaded coupling plug of same size and insert polarization.
5. Performance:
   Hermeticity - <1 x 10^{-6} cc/Sec @ 1 ATM differential.
   Dielectric Withstanding Voltage - See Table II.
   Insulation Resistance - 5000 Megohms min @ 500VDC.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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250-014
MIL-DTL-5015 Type Hermetic
Threaded Coupling Solder Mount Receptacle Connector
MS3143 Type

Glenair®

TABLE I: CONTACT DIMENSIONS

Contact Size	X Max	Y Max	Z Min	V Min	W Max
16	.219 (5.6)	.375 (9.5)	.020 (0.5)	.065 (1.7)	.115 (2.9)
12	.281 (7.1)	.516 (13.1)	.020 (0.5)	.096 (2.4)	.190 (4.8)
8	.700 (17.8)	.719 (18.3)	.040 (1.0)	.135 (3.4)	.330 (8.4)
4	.900 (22.9)	.980 (24.9)	.050 (1.3)	.220 (5.6)	.440 (11.2)
0	.900 (22.9)	.980 (24.9)	.090 (2.3)	.335 (8.5)	.605 (15.4)

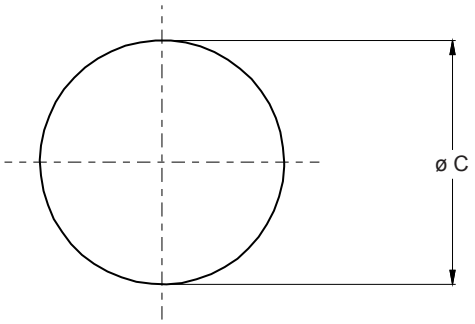
Note: Contact sizes 4 and 0 are not available for "S" size shells (8S, 10S, 10SL, 12S, 14S, and 16S) and size 12 and 14

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE II: SERVICE RATING

Service Rating	Working Voltage (Volts RMS)
INST	200
A	500
D	900
E	1250
B	1750
C	3000



Recommended Panel Cut-Out

TABLE III: CONNECTOR DIMENSIONS

Size	C Dia ±.010 (0.25)	K Dia ±.010 (0.25)	L Max Contact Size		N Dia +.000 -.062 (+.000 -.1.6)	O Dia (Ref) Mtg Hole
			16, 12 & 8	4 & 0		
8S	.750 (19.1)	.428 (10.9)	.730 (18.5)	-	.532 (13.5)	.562 (14.3)
10S	.875 (22.2)	.490 (12.4)	.730 (18.5)	-	.656 (16.7)	.688 (17.5)
10SL	.875 (22.2)	.490 (12.4)	.730 (18.5)	-	.656 (16.7)	.688 (17.5)
12S	1.000 (25.4)	.646 (16.4)	.730 (18.5)	-	.782 (19.9)	.812 (20.6)
12	1.000 (25.4)	.646 (16.4)	.915 (23.2)	-	.782 (19.9)	.812 (20.6)
14S	1.125 (28.6)	.709 (18.0)	.730 (18.5)	-	.906 (23.0)	.938 (23.8)
14	1.125 (28.6)	.709 (18.0)	.915 (23.2)	-	.906 (23.0)	.938 (23.8)
16S	1.250 (31.8)	.834 (21.2)	.730 (18.5)	1.040 (26.4)	1.032 (26.2)	1.062 (27.0)
16	1.250 (31.8)	.834 (21.2)	.834 (21.2)	1.040 (26.4)	1.032 (26.2)	1.062 (27.0)
18	1.375 (34.9)	.959 (24.4)	.915 (23.2)	1.040 (26.4)	1.156 (29.4)	1.188 (30.2)
20	1.500 (38.1)	1.146 (29.1)	.915 (23.2)	1.040 (26.4)	1.282 (32.6)	1.312 (33.3)
22	1.625 (41.3)	1.240 (31.5)	.915 (23.2)	1.040 (26.4)	1.406 (35.7)	1.438 (36.5)
24	1.750 (44.5)	1.365 (34.7)	.915 (23.2)	1.040 (26.4)	1.532 (38.9)	1.562 (39.7)
28	2.000 (50.8)	1.615 (41.0)	.915 (23.2)	1.040 (26.4)	1.782 (45.3)	1.812 (46.0)
32	2.250 (57.2)	1.865 (47.4)	.915 (23.2)	1.040 (26.4)	2.032 (51.6)	1.062 (27.0)
36	2.500 (63.5)	2.115 (53.7)	.915 (23.2)	1.040 (26.4)	2.282 (58.0)	2.500 (63.5)
40	2.750 (69.9)	2.365 (60.1)	.915 (23.2)	1.040 (26.4)	2.532 (64.3)	2.750 (69.9)
44	3.000 (76.2)	2.615 (66.4)	.915 (23.2)	1.040 (26.4)	2.782 (70.7)	3.000 (76.2)
48	3.250 (82.6)	2.865 (72.8)	.915 (23.2)	1.040 (26.4)	3.032 (77.0)	3.250 (82.6)

Dimensions in Inches (millimeters) are subject to change without notice.

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250-016
MIL-DTL-5015 Type Hermetic
Threaded Coupling Solder Mount Receptacle Connector
MS3143 Type Sockets

250	-	016	Z1	24	-	10	S	X

Series 250 MIL-DTL-5015 Type Hermetic

Connector Style
Solder Mount Hermetic Receptacle

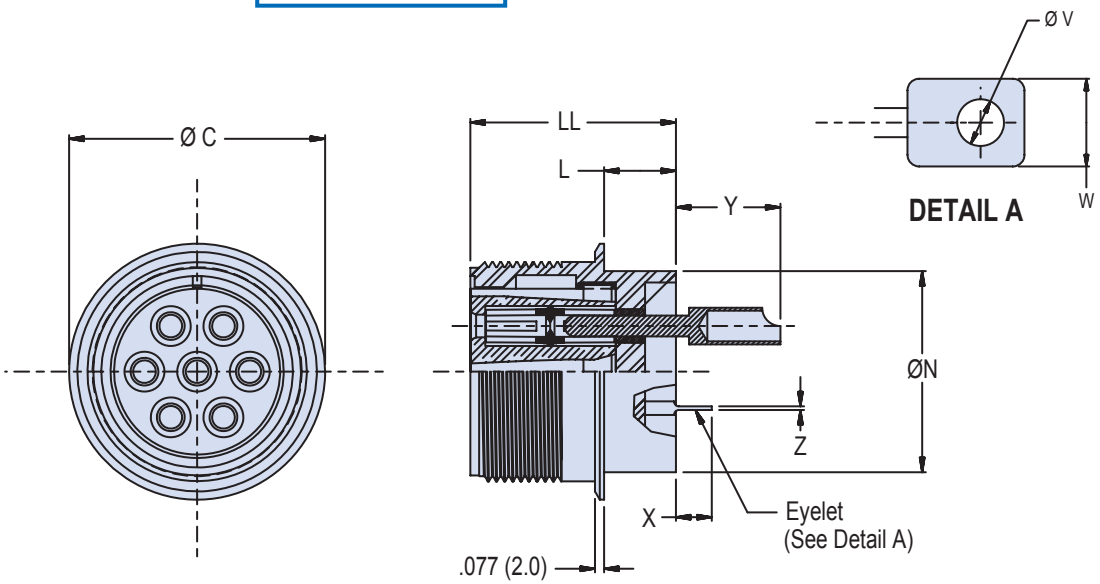
Material Designation
FT = Fused Tin over Ferrous Steel
Z1 = Passivated Stainless Steel

Shell Size

Insert Arrangement
Per MIL-STD-1651 (See Page G-2)

Termination Type
S = Solder Cup
Z = Eyelet

Alternate Key Position
W, X, Y, or Z (Omit for Normal) (See Page G-4)



APPLICATION NOTES

1. Material/Finish:
   Shell: FT - Fused Tin over Carbon Steel
   Z1 - Passivated Stainless Steel
   Contacts - 52 Nickel Alloy/Gold Plate
   Sockets - Copper Alloy/Gold Plate
   Insulator - Glass/N.A.
   Socket Insulator - Rigid Dielectric/N.A.
2. Assembly to be identified with Glenair's name, part number and date code, space permitting.
3. Performance:
   Hermeticity - <1_X10^-7 cc/Sec @ 1 atmosphere differential.
   Dielectric Withstanding Voltage - See Table II.
   Insulation Resistance - 5000 Megohms minimum @ 500VDC.
4. Glenair 250-016 will mate with any MIL-DTL-5015 threaded coupling plug of same size and insert polarization.
5. Metric dimensions (mm) are in parenthesis.

Dimensions in Inches (millimeters) are subject to change without notice.

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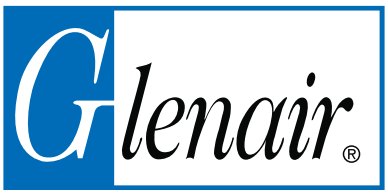


TABLE I: CONTACT DIMENSIONS

Contact Size	X Max	Y Max	Z Min	V Min	W Max
16	.219 (5.6)	.375 (9.5)	.020 (0.5)	.065 (1.7)	.115 (2.9)
12	.281 (7.1)	.516 (13.1)	.020 (0.5)	.096 (2.4)	.190 (4.8)
8	.700 (17.8)	.719 (18.3)	.040 (1.0)	.135 (3.4)	.330 (8.4)
4	.900 (22.9)	.980 (24.9)	.050 (1.3)	.220 (5.6)	.440 (11.2)
0	.900 (22.9)	.980 (24.9)	.090 (2.3)	.335 (8.5)	.605 (15.4)

Note: Contact sizes 4 and 0 are not available for "S" size shells (8S, 10S, 10SL, 12S, 14S, and 16S) and size 12 and 14

TABLE II: SERVICE RATING

Service Rating	Working Voltage (Volts RMS)
INST	200
A	500
D	900
E	1250
B	1750
C	3000

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE III: CONNECTOR DIMENSIONS

Size	C Dia ± .010 (0.3)	L ± .010 (0.3)	LL Max	N Dia + .000 - .062	O Dia (Ref) Mtg Hole
12S	1.000 (25.4)	.438 (11.1)	1.094 (27.8)	.782 (19.9)	.812 (20.6)
12	1.000 (25.4)	.438 (11.1)	1.282 (32.6)	.782 (19.9)	.812 (20.6)
14S	1.125 (28.6)	.438 (11.1)	1.094 (27.8)	.906 (23.0)	.938 (23.8)
14	1.125 (28.6)	.438 (11.1)	1.282 (32.6)	.906 (23.0)	.938 (23.8)
16S	1.250 (31.8)	.438 (11.1)	1.094 (27.8)	1.032 (26.2)	1.062 (27.0)
16	1.250 (31.8)	.438 (11.1)	1.282 (32.6)	1.032 (26.2)	1.062 (27.0)
18	1.375 (34.9)	.438 (11.1)	1.282 (32.6)	1.156 (29.4)	1.188 (30.2)
20	1.500 (38.1)	.438 (11.1)	1.282 (32.6)	1.282 (32.6)	1.312 (33.3)
22	1.625 (41.3)	.438 (11.1)	1.282 (32.6)	1.406 (35.7)	1.438 (36.5)
24	1.750 (44.5)	.563 (14.3)	1.406 (35.7)	1.532 (38.9)	1.562 (39.7)
28	2.000 (50.8)	.563 (14.3)	1.406 (35.7)	1.782 (45,3)	1.812 (46.0)
32	2.250 (57.2)	.563 (14.3)	1.406 (35.7)	2.032 (51.6)	2.062 (53.4)
36	2.500 (63.5)	.563 (14.3)	1.406 (35.7)	2.282 (58.0)	2.500 (63.5)
40	2.750 (69.9)	.563 (14.3)	1.406 (35.7)	2.532 (64.3)	2.750 (69.9)
44	3.000 (76.2)	.563 (14.3)	1.406 (35.7)	2.782 (70.7)	3.000 (76.2)
48	3.250 (82.6)	.563 (14.3)	1.406 (35.7)	3.032 (77.0)	3.250 (82.6)

Dimensions in Inches (millimeters) are subject to change without notice.

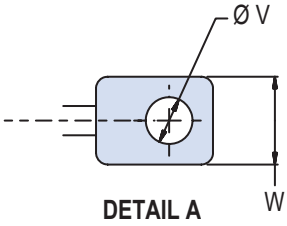
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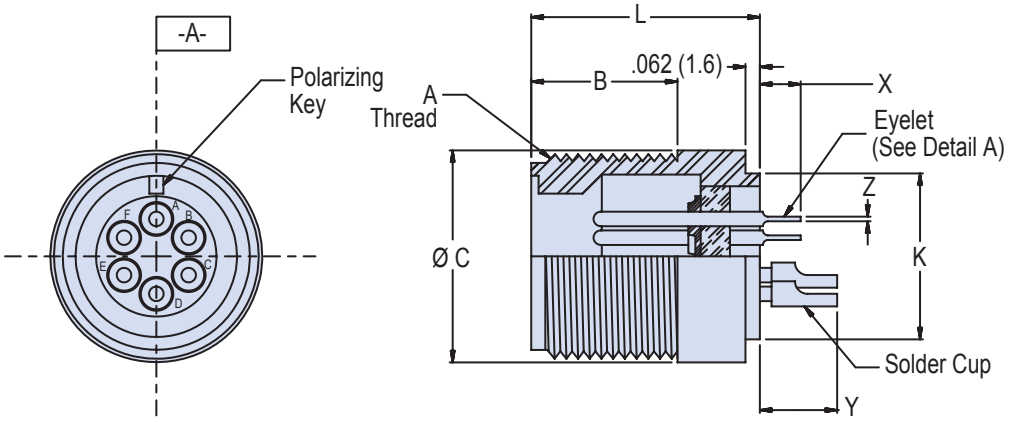
250-025
MIL-DTL-5015 Type Hermetic
Threaded Coupling Flangeless Mount Receptacle Connector
MS3143 Type

Connector Style	Insert Arrangement	Alternate Key Position
Flangeless Mount Hermetic Receptacle	*Per MIL-STD-1651 (See Page G-2)*	***W, X, Y, or Z*** *(Omit for Normal) (See Page G-4)*

250	-	025	Z1	14	-	6	X	X

Series 250 MIL-DTL-5015 Type Hermetic	Material Designation	Shell Size	Termination Type
	FT *= Fused Tin over Ferrous Steel* ***Z1*** *= Passivated Stainless Steel*		***P*** *= Solder Cup* ***X*** *= Eyelet*





APPLICATION NOTES

1. Material/Finish:
   Shell: FT - Fused Tin over Carbon Steel
   Z1 - Passivated Stainless Steel
   Contacts - 52 Nickel Alloy/Gold Plate
   Seals - Silicone Elastomer/N.A.
   Insulator - Full Glass
2. Assembly to be identified with Glenair's name, part number and date code, space permitting.
3. Performance:
   Hermeticity - <1_X10^-7 cc/Sec @ 1 atmosphere differential.
   Dielectric Withstanding Voltage - See Table II.
   Insulation Resistance - 5000 Megohms minimum @ 500VDC.
4. Glenair 250-016 will mate with any MIL-DTL-5015 threaded coupling plug of same size and insert polarization.
5. Metric dimensions (mm) are in parenthesis.

Dimensions in Inches (millimeters) are subject to change without notice.

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250-025
MIL-DTL-5015 Type Hermetic
Threaded Coupling Flangeless Mount Receptacle Connector
MS3143 Type

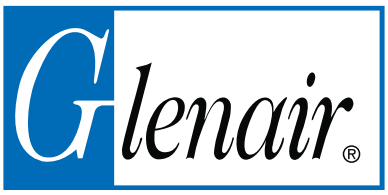


TABLE I: CONTACT DIMENSIONS

Contact Size	X Max	Y Max	Z Min	V Min	W Max
16	.219 (5.6)	.375 (9.5)	.020 (0.5)	.065 (1.7)	.115 (2.9)
12	.281 (7.1)	.516 (13.1)	.020 (0.5)	.096 (2.4)	.190 (4.8)
8	.700 (17.8)	.719 (18.3)	.040 (1.0)	.135 (3.4)	.330 (8.4)
4	.900 (22.9)	.980 (24.9)	.050 (1.3)	.220 (5.6)	.440 (11.2)
0	.900 (22.9)	.980 (24.9)	.090 (2.3)	.335 (8.5)	.605 (15.4)

Note: Contact sizes 4 and 0 are not available for "S" size shells (8S, 10S, 10SL, 12S, 14S, and 16S) and size 12 and 14

TABLE II: SERVICE RATING

Service Rating	Working Voltage (Volts RMS)
INST	200
A	500
D	900
E	1250
B	1750
C	3000

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE III: CONNECTOR DIMENSIONS

Size	A Thread Class 2A	B Min Thread	C Dia ± .010 (0.3)	K Dia ± .010 (0.3)	L Max Contact Size	
					16, 12, 8	4 and 0
8S	.500-28 UNEF	.375 (9.5)	.500 (12.7)	.438 (11.1)	.730 (18.5)	—
10S	.625-24 UNEF	.375 (9.5)	.625 (15.9)	.500 (12.7)	.730 (18.5)	—
10SL	.625-24 UNEF	.375 (9.5)	.625 (15.9)	.500 (12.7)	.730 (18.5)	—
12S	.750-20 UNEF	.375 (9.5)	.750 (19.1)	.656 (16.7)	.730 (18.5)	—
12	.750-20 UNEF	.625 (15.9)	.750 (19.1)	.656 (16.7)	.915 (23.2)	—
14S	.875-20 UNEF	.375 (9.5)	.875 (22.2)	.719 (18.3)	.730 (18.5)	—
14	.875-20 UNEF	.625 (15.9)	.875 (22.2)	.719 (18.3)	.915 (23.2)	—
16S	1.000-20 UNEF	.375 (9.5)	1.000 (25.4)	.844 (21.4)	.730 (18.5)	1.040 (26.4)
16	1.000-20 UNEF	.625 (15.9)	1.000 (25.4)	.844 (21.4)	.915 (23.2)	1.040 (26.4)
18	1.125-18 UNEF	.625 (15.9)	1.125 (28.6)	.969 (24.6)	.915 (23.2)	1.040 (26.4)
20	1.250-18 UNEF	.625 (15.9)	1.250 (31.8)	1.156 (29.4)	.915 (23.2)	1.040 (26.4)
22	1.375-18 UNEF	.625 (15.9)	1.375 (34.9)	1.250 (31.8)	.915 (23.2)	1.040 (26.4)
24	1.500-18 UNEF	.625 (15.9)	1.500 (38.1)	1.375 (34.9)	.915 (23.2)	1.040 (26.4)
28	1.750-18 UNS	.625 (15.9)	1.750 (44.5)	1.625 (41.3)	.915 (23.2)	1.040 (26.4)
32	2.000-18 UNS	.625 (15.9)	2.000 (50.8)	1.875 (47.6)	.915 (23.2)	1.040 (26.4)
36	2.250-16 UN	.625 (15.9)	2.250 (57.2)	2.125 (54.0)	.915 (23.2)	1.040 (26.4)
40	2.500-16 UN	.625 (15.9)	2.500 (63.5)	2.375 (60.3)	.915 (23.2)	1.040 (26.4)
44	2.750-16 UN	.625 (15.9)	2.750 (69.9)	2.625 (66.7)	.915 (23.2)	1.040 (26.4)
48	3.000-16 UN	.625 (15.9)	3.000 (76.2)	2.875 (73.0)	.915 (23.2)	1.040 (26.4)

Dimensions in Inches (millimeters) are subject to change without notice.

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257-384
MIL-DTL-5015 Type Hermetic
Jam Nut Mount Mount Receptacle Connector
MS3404 Type

257	-	384	Z1	14	-	6	C	X	V

Connector Style
Jam Nut Mount Hermetic Receptacle

Insert Arrangement
Per MIL-STD-1651 (See Page G-2)

Alternate Key Position
W, X, Y, or Z (Omit for Normal) (See Page G-4)

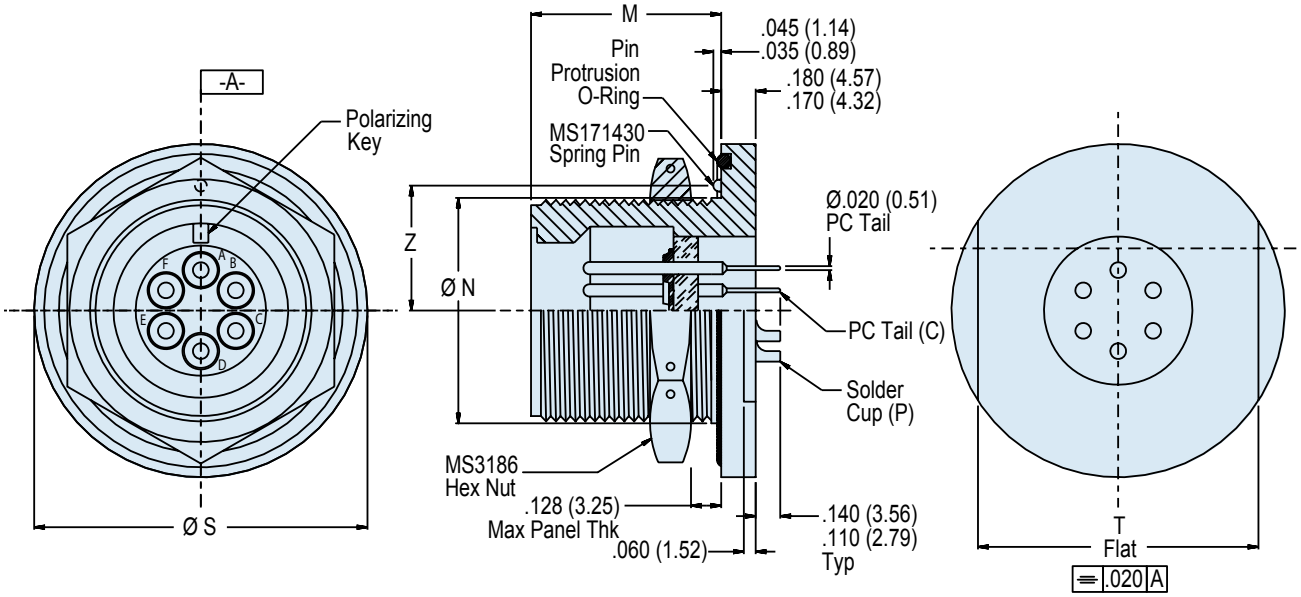
Series 257 MIL-DTL-5015 Type Hermetic

Material Designation
FT = Fused Tin over Ferrous Steel
Z1 = Passivated Stainless Steel
ZL = Nickel Plated Stainless Steel

Shell Size

Termination Type
P = Solder Cup
C = PC Tail

O-Ring Material
(See Table III)



APPLICATION NOTES

1. Material/Finish:
   Shell: FT - Fused tin over Carbon steel
   Z1 - Passivated stainless steel
   ZL - Nickel plated stainless steel
   Contacts - 52 Nickel alloy/Gold plate
   Seals - Fluorosilicone elastomer/N.A.
   Insulator - Full vitreous glass
   O-Ring - Specify per Table III
2. Assembly to be identified with Glenair's name, part number and date code, space permitting.
3. Performance:
   Hermeticity - <1_X10^-7 cc/Sec @ 1 atmosphere differential.
   Dielectric Withstanding Voltage - See Table II.
   Insulation Resistance - 5000 Megohms minimum @ 500VDC.
4. Glenair 257-384 will mate with any MIL-DTL-5015 threaded coupling plug of same size and insert polarization.
5. Metric dimensions (mm) are in parenthesis.

Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: CONNECTOR DIMENSIONS

Size	M ± .005 (0.1)	Ø N +.000 -.005 (+0.0 -0.1)	Ø O +.015 -.000 (+0.4 -0.0)	Ø S ± .005 (0.1)	T ± .010 (0.3) Flats	Z ± .005 (0.1)
8S	.720 (9.5)	.500 (12.7)	.505 (12.8)	1.072 (27.2)	.865 (22.0)	.326 (8.3)
10S	.720 (9.5)	.625 (15.9)	.630 (16.0)	1.193 (30.3)	.990 (25.1)	.385 (9.8)
10SL	.720 (9.5)	.625 (15.9)	.630 (16.0)	1.193 (30.3)	.990 (25.1)	.385 (9.8)
12S	.720 (9.5)	.750 (19.1)	.755 (19.2)	1.317 (33.5)	1.050 (26.7)	.448 (11.4)
12	.966 (24.5)	.750 (19.1)	.755 (19.2)	1.317 (33.5)	1.050 (26.7)	.448 (11.4)
14S	.720 (9.5)	.875 (22.2)	.880 (22.4)	1.443 (36.7)	1.175 (29.8)	.510 (13.0)
14	.966 (24.5)	.875 (22.2)	.880 (22.4)	1.443 (36.7)	1.175 (29.8)	.510 (13.0)
16S	.720 (9.5)	1.000 (25.4)	1.005 (25.5)	1.567 (39.8)	1.300 (33.0)	.573 (14.6)
16	.966 (24.5)	1.000 (25.4)	1.005 (25.5)	1.567 (39.8)	1.300 (33.0)	.573 (14.6)
18	.966 (24.5)	1.125 (28.6)	1.130 (28.7)	1.693 (43.0)	1.425 (36.2)	.635 (16.1)
20	.966 (24.5)	1.250 (31.8)	1.255 (31.9)	1.817 (46.2)	1.550 (39.4)	.698 (17.7)
22	.966 (24.5)	1.375 (34.9)	1.380 (35.1)	1.943 (49.4)	1.550 (39.4)	.760 (19.3)
24	.966 (24.5)	1.500 (38.1)	1.505 (38.2)	2.067 (52.5)	1.800 (45.7)	.823 (20.9)
28	.966 (24.5)	1.750 (44.5)	1.755 (44.6)	2.317 (58.9)	1.925 (48.9)	.948 (24.1)
32	.966 (24.5)	2.000 (50.8)	2.005 (50.9)	2.567 (65.2)	2.175 (55.2)	1.073 (27.3)
36	.966 (24.5)	2.250 (57.2)	2.255 (57.3)	2.817 (71.6)	2.550 (64.8)	1.198 (30.4)
40	.966 (24.5)	2.500 (63.5)	2.505 (63.6)	3.061 (77.7)	2.800 (71.1)	1.323 (33.6)
44	.966 (24.5)	2.750 (69.9)	2.755 (70.0)	3.311 (84.1)	3.050 (77.5)	1.448 (36.8)
48	.966 (24.5)	3.000 (76.2)	3.005 (76.3)	3.561 (90.4)	3.300 (83.8)	1.573 (40.0)

TABLE II: SERVICE RATING

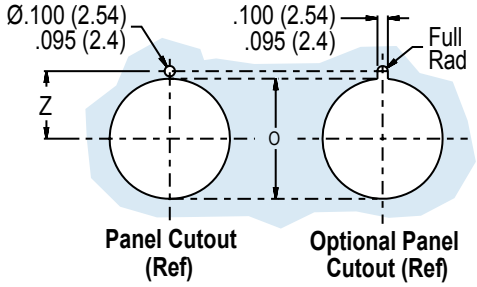
Service Rating	Test Voltages (Sea-Level) (Volts-RMS)	Working Voltage (Sea-Level) (Volts RMS)
INST	1000	200
A	2000	500
D	2800	900
E	3500	1250
B	4500	1750
C	7000	3000

HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE III: O-RINGS

Sym	Material
F	Fluorosilicone (Non-Conductive)
E	EPDM (Ethylene-Propylene)
V	Viton (Fluorocarbon, FKM)
N	Nitrile (Buna-N, NBR)
S	Silicone (ZZ-R-765)
B	Butyl Rubber (IIR)
K	Kalrez (FFKM)



Dimensions in Inches (millimeters) are subject to change without notice.

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947-042
MIL-DTL-5015 Type Hermetic
Jam Nut Mount Bulkhead Feed-Through D Series Connector with Pin/Socket Contacts

Series 947 MIL-DTL-5015 D Series

Shell Size

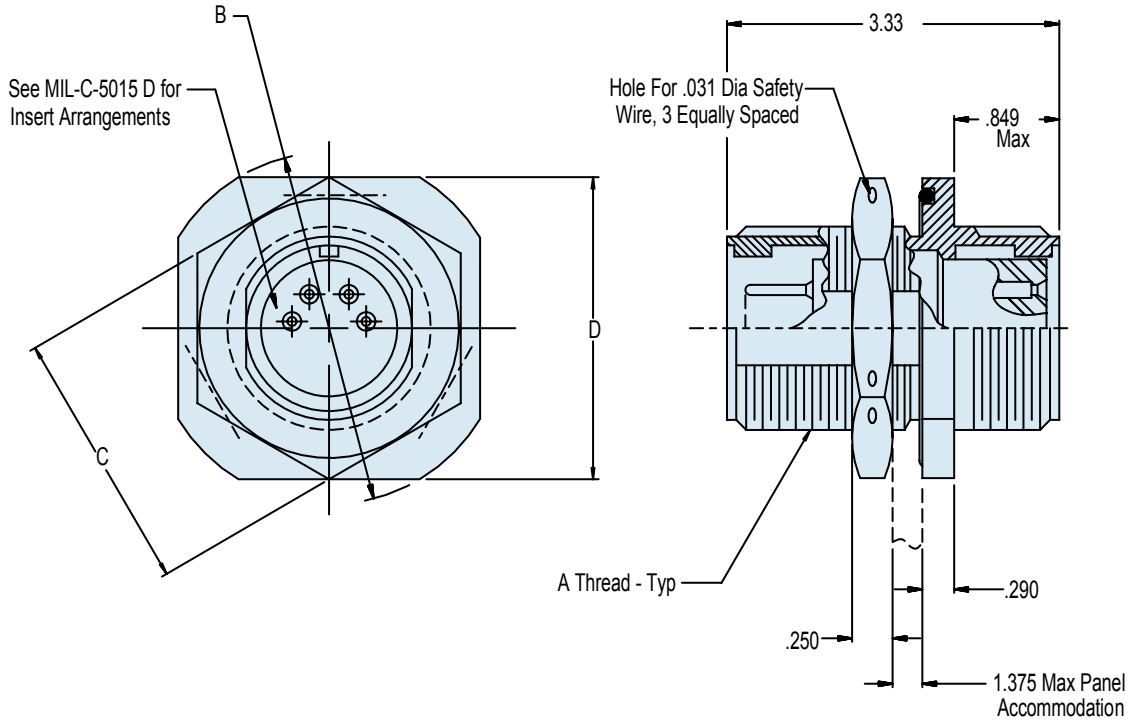
Termination Type
P = Pin on Jam-Nut Side, Socket Opposite
S = Socket on Jam-Nut Side, Pin Opposite
PP = Pin on Both Sides (See Note 2)

947	-	042	-	36	-	12	P	X

Connector Style
042 = Jam-Nut Mount Hermetic Receptacle

Insert Arrangement
Per MIL-DTL-5015D (See Page G-2)

Alternate Key Position
W, X, Y, or Z (Omit for Normal) (See Page G-4)



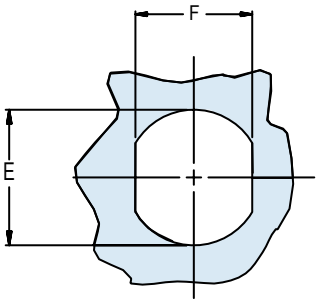
APPLICATION NOTES

1. Material/Finish:
   Jam-nut, hoods, lock-ring, shell* - Stainless steel/passivated.
   Contacts - Alloy 52/gold plated.
   Insulators - High-grade rigid dielectric, full glass or glass bead.
   O-Rings - Silicone/N.A.
2. For pin-to-pin, symmetrical layouts only. Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter.
3. Hermeticity - Less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere. Connector rated to 200° C and 1000 PSI max.
4. Outgas for space application.
5. To be identified with manufacturer's name, part number and date code, space permitting.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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RECOMMENDED PANEL CUT-OUT

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia ± .005 (0.1)	F + .005 -.000 (+0.1 - 0.0)
08	1/2-28 UNEF	1.000 (25.4)	.688 (17.5)	.875 (22.2)	.510 (13.0)	.460 (11.7)
10	5/8-24 UNEF	1.125 (28.6)	.812 (20.6)	1.000 (25.4)	.635 (16.1)	.578 (14.7)
12	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.692 (17.6)
14	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.817 (20.8)
16	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.942 (23.9)
18	1 1/8-18 UNEF	1.750 (44.5)	1.375 (34.9)	1.625 (41.3)	1.135 (28.8)	1.060 (26.9)
20	1 1/4-18 UNEF	1.875 (47.6)	1.500 (38.1)	1.750 (44.5)	1.260 (32.0)	1.185 (30.1)
22	1 3/8-18 UNEF	2.000 (50.8)	1.625 (41.3)	1.875 (47.6)	1.385 (35.2)	1.310 (33.3)
24	1 1/2-18 UNEF	2.188 (55.6)	1.750 (44.5)	2.000 (50.8)	1.510 (38.4)	1.435 (36.4)
28	1 3/4-18 UNEF	2.438 (61.9)	2.000 (50.8)	2.250 (57.2)	1.760 (44.7)	1.687 (42.8)
32	2-18 UNEF	2.688 (68.3)	2.250 (57.2)	2.500 (63.5)	2.010 (51.1)	1.937 (48.6)
36	2 1/4-18 UN	2.938 (74.6)	2.500 (63.5)	2.750 (69.9)	2.260 (57.4)	2.177 (55.3)

Dimensions in Inches (millimeters) are subject to change without notice.

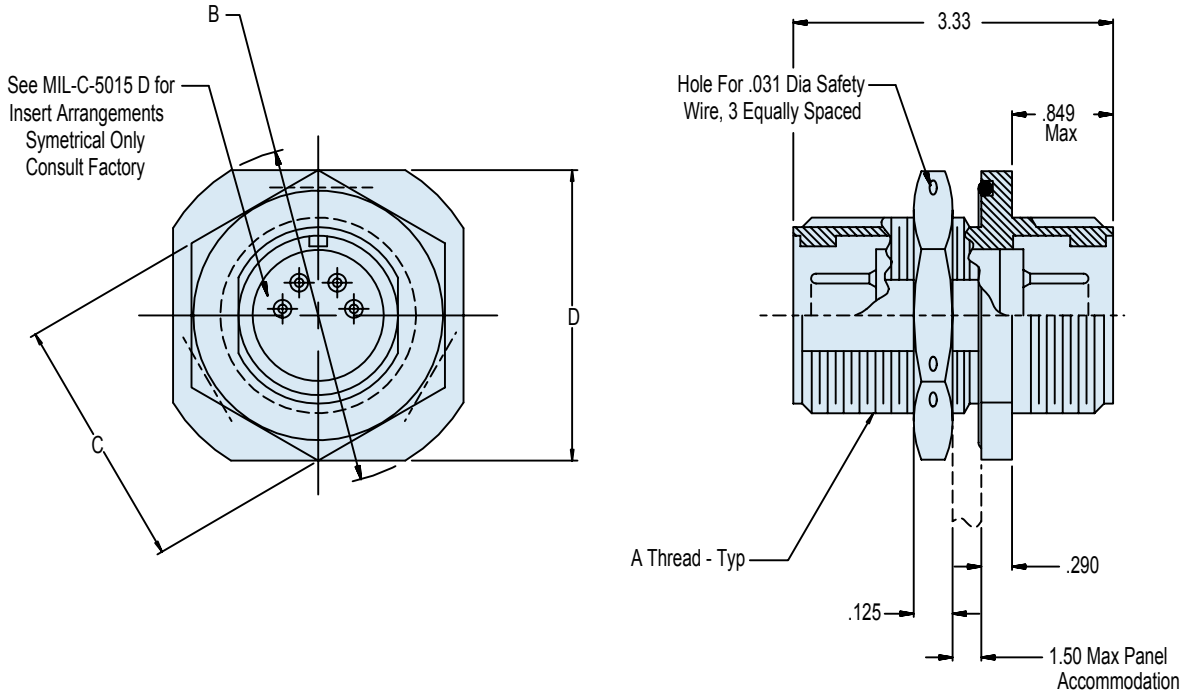
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947-056
MIL-DTL-5015 Type Hermetic
Jam Nut Mount Bulkhead Feed-Thru D Series Connector with Pin/Pin Contacts

Connector Style	Insert Arrangement
056 = Jam-Nut Mount Hermetic Receptacle	*Per MIL-DTL-5015 (See Page G2)*

947 - 056 - 16 - 12 X

- **947** — Series 947 MIL-DTL-5015 D Series
- **16** — Shell Size
- **X** — Alternate Key Position: *W, X, Y, or Z (Omit for Normal) (See Page G-4)*



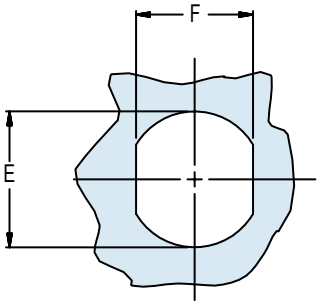
APPLICATION NOTES

1. Material/Finish:
   Jam-nut, lock-ring, shell* - Stainless steel/passivated.
   Contacts - Alloy 52/gold plated.
   Insulators - High-grade rigid dielectric, full glass or glass bead.
   O-Rings - Silicone/N.A.
2. For pin-to-pin, symmetrical layouts only. Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter.
3. Hermeticity - Less than 1 x 10^{-7} cc/sec at one atmosphere. Not for use in liquid atmosphere.
4. Outgas for space application.
5. To be identified with manufacturer's name, part number and date code, space permitting.
6. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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RECOMMENDED PANEL CUT-OUT

HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia ± .005 (0.1)	F + .005 -.000 (+0.1 - 0.0)
08	1/2-28 UNEF	1.000 (25.4)	.688 (17.5)	.875 (22.2)	.510 (13.0)	.460 (11.7)
10	5/8-24 UNEF	1.125 (28.6)	.812 (20.6)	1.000 (25.4)	.635 (16.1)	.578 (14.7)
12	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.692 (17.6)
14	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.817 (20.8)
16	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.942 (23.9)
18	1 1/8-18 UNEF	1.750 (44.5)	1.375 (34.9)	1.625 (41.3)	1.135 (28.8)	1.060 (26.9)
20	1 1/4-18 UNEF	1.875 (47.6)	1.500 (38.1)	1.750 (44.5)	1.260 (32.0)	1.185 (30.1)
22	1 3/8-18 UNEF	2.000 (50.8)	1.625 (41.3)	1.875 (47.6)	1.385 (35.2)	1.310 (33.3)
24	1 1/2-18 UNEF	2.188 (55.6)	1.750 (44.5)	2.000 (50.8)	1.510 (38.4)	1.435 (36.4)
28	1 3/4-18 UNEF	2.438 (61.9)	2.000 (50.8)	2.250 (57.2)	1.760 (44.7)	1.687 (42.8)
32	2-18 UNEF	2.688 (68.3)	2.250 (57.2)	2.500 (63.5)	2.010 (51.1)	1.937 (48.6)
36	2 1/4-16 UN	2.938 (74.6)	2.500 (63.5)	2.750 (69.9)	2.260 (57.4)	2.177 (55.3)

Dimensions in Inches (millimeters) are subject to change without notice.

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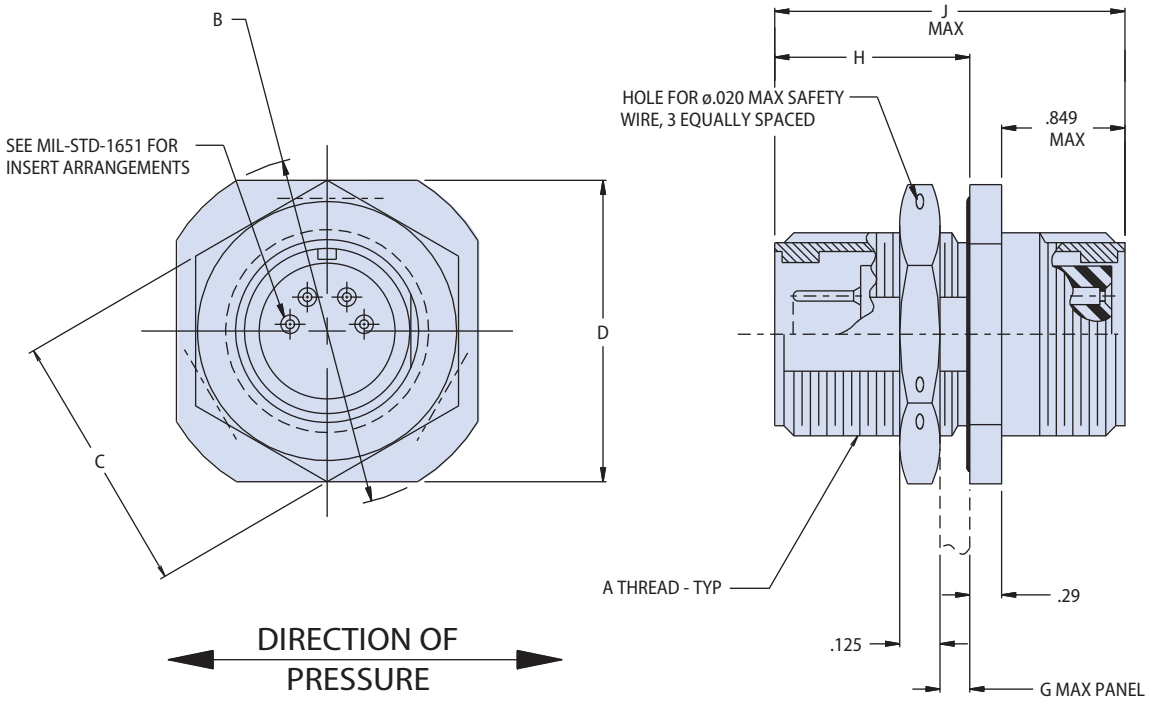
947-259
MIL-DTL-5015 Type Hermetic
Jam Nut Mount Bulkhead Feed-Thru

Basic Number	Material and Finish	Shell Size	Insert Arrangement	Alternate Key Position	Panel Thickness
947-259	ZW	18 - 11	Per MIL-DTL-5015 (See Page G-2)	P N	01

Contact Type
- **P** = Pin on Jam-Nut Side, Socket Opposite
- **S** = Socket on Jam-Nut Side, Pin Opposite
- **PP** = Pin to Pin
- **SS** = Socket to Socket

Alternate Key Position
W, X, Y, or Z
(N for Normal)
(See Page G-4)

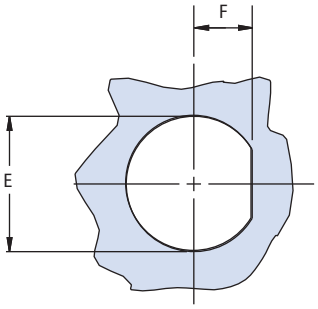
HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



Dimensions in Inches (millimeters) are subject to change without notice.

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947-259
MIL-DTL-5015 Type Hermetic
Jam Nut Mount Bulkhead Feed-Thru



RECOMMENDED PANEL CUT-OUT

TABLE II			
Dash No.	G Max	H Max	J
01	.375 (9.52)	1.320 (33.53)	2.36 (59.94)
02	.625 (15.88)	1.490 (37.85)	2.62 (66.55)

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia ± .005 (0.1)	F Dim. Min.
8S	1/2-28 UNEF	1.000 (25.4)	.688 (17.5)	.875 (22.2)	.510 (13.0)	.219 (5.6)
10SL	5/8-24 UNEF	1.125 (28.6)	.812 (20.6)	1.000 (25.4)	.635 (16.1)	.281 (7.1)
12	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.344 (8.7)
12S	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.344 (8.7)
14	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.406 (10.3)
14S	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.406 (10.3)
16	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.469 (11.9)
16S	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.469 (11.9)
18	1 1/8-18 UNEF	1.650 (44.5)	1.375 (34.9)	1.625 (41.3)	1.135 (28.8)	.531 (13.5)
20	1 1/4-18 UNEF	1.875 (47.6)	1.500 (38.1)	1.750 (44.5)	1.260 (32.0)	.594 (15.1)
22	1 3/8-18 UNEF	2.000 (50.8)	1.625 (41.3)	1.875 (47.6)	1.385 (35.2)	.656 (16.7)
24	1 1/2-18 UNEF	2.188 (55.6)	1.750 (44.5)	2.000 (50.8)	1.510 (38.4)	.719 (18.3)
28	1 3/4-18 UNEF	2.438 (61.9)	2.000 (50.8)	2.250 (57.2)	1.760 (44.7)	.844 (21.4)
32	2-18 UNEF	2.688 (68.3)	2.250 (57.2)	2.500 (63.5)	2.010 (51.1)	.969 (24.6)
36	2 1/4-16 UN	2.938 (74.6)	2.500 (63.5)	2.750 (69.9)	2.260 (57.4)	1.089 (27.7)
40	2 1/2-16 UN	3.188 (81.0)	2.750 (69.9)	3.000 (76.2)	2.510 (63.7)	1.219 (31.0)
44	2 3/4-16 UN	3.438 (87.3)	3.000 (76.2)	3.250 (82.6)	2.760 (70.1)	1.344 (34.1)
48	3-16 UN	3.688 (93.7)	3.250 (82.6)	3.500 (88.9)	3.010 (76.5)	1.469 (37.3)

APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. For pin/pin and socket/socket symmetrical layouts only, consult factory for available insert arrangements.
3. Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter.
4. Hermeticity - Less than 1 x 10^{-7} cc/sec at one atmosphere.
5. Electrical safety limits must be established by the user. Peak voltage, switching surge, transient voltage, etc. should be used to determine the safety application.
6. Material/Finish*:

   Jam-nut, lock-ring, shell - stainless steel/O.D. cadmium over nickel
   Contacts - copper alloy/gold plated and alloy 52/gold plate
   Insulators - High-grade rigid dielectric/N.A. and full glass
   Interfacial seals and O-rings - silicone
7. Metric Dimensions (mm) are indicated in parentheses.

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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947-371
MIL-DTL-5015 Type Hermetic Receptacle
Jam Nut Mount Bulkhead Feed-Through

Basic Number	Shell Size		Contact Type	Alternate Key Position	Panel Thickness
947-371	Z1	32 -	6	S	N	01

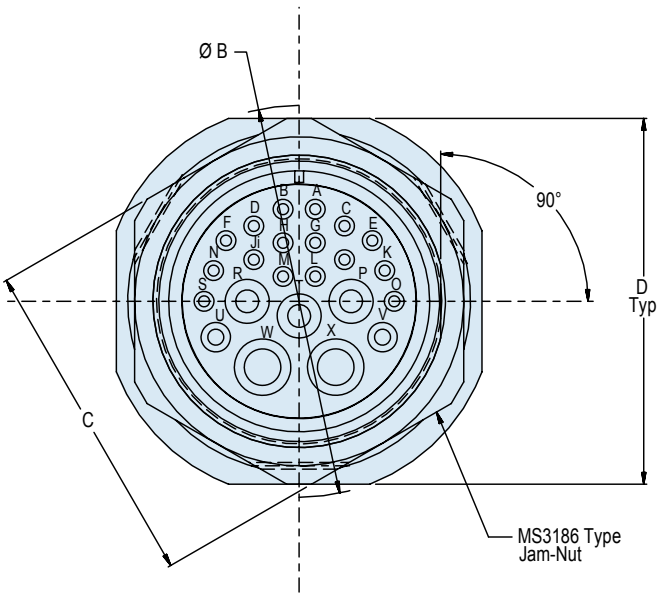
Material and Finish
Z1 = CRES, Passivate
ZL = CRES, Nickel

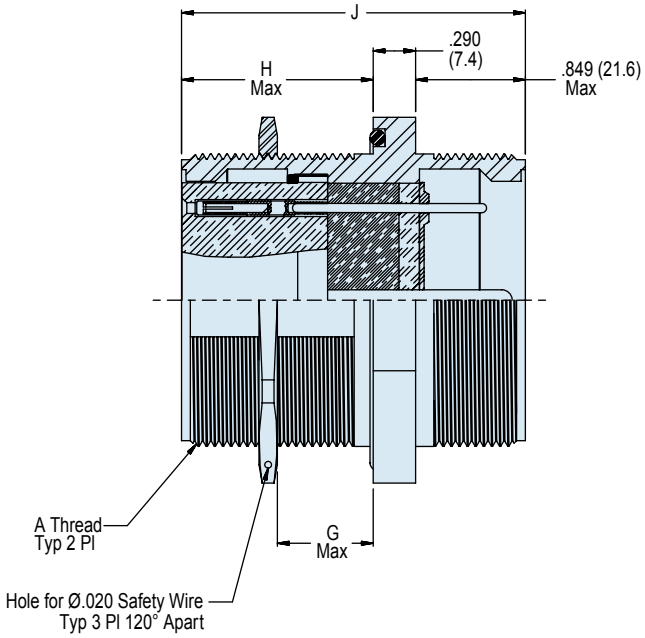
Insert Arrangement
Per MIL-SD-1651
(See Page G-2)

Contact Type
P = Pin on Jam-Nut Side, Socket Opposite
S = Socket on Jam-Nut Side, Pin Opposite
PP = Pin to Pin
SS = Socket to Socket

Alternate Key Position
W, X, Y, or Z
(N for Normal)
(See Page G-4)

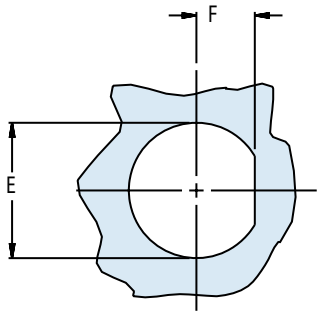
HERMETIC LEAK RATE MOD CODES	
Designator	**Required Leak Rate**
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second





Dimensions in Inches (millimeters) are subject to change without notice.

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Recommended Panel Cut Out

TABLE II			
Dash No.	G	H	J
01	.125 (3.2)	1.100 (27.9)	2.230 (56.6)
02	.250 (6.4)	1.224 (31.1)	2.360 (59.9)
03	.500 (12.7)	1.474 (37.4)	2.620 (66.5)

TABLE I: CONNECTOR AND CUT-OUT DIMENSIONS

Shell Size	A Thread Class 2A	B Dia Max	C Hex	D Flats	E Dia ± .005 (0.1)	F Dim. Min.
8S	1/2-28 UNEF	1.000 (25.4)	.688 (17.5)	.875 (22.2)	.510 (13.0)	.219 (5.6)
10SL	5/8-24 UNEF	1.125 (28.6)	.812 (20.6)	1.000 (25.4)	.635 (16.1)	.281 (7.1)
12	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.344 (8.7)
12S	3/4-20 UNEF	1.250 (31.8)	.938 (23.8)	1.125 (28.6)	.760 (19.3)	.344 (8.7)
14	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.406 (10.3)
14S	7/8-20 UNEF	1.375 (34.9)	1.062 (27.0)	1.250 (31.8)	.885 (22.5)	.406 (10.3)
16	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.469 (11.9)
16S	1-20 UNEF	1.500 (38.1)	1.250 (31.8)	1.375 (34.9)	1.010 (25.7)	.469 (11.9)
18	1 1/8-18 UNEF	1.650 (44.5)	1.375 (34.9)	1.625 (41.3)	1.135 (28.8)	.531 (13.5)
20	1 1/4-18 UNEF	1.875 (47.6)	1.500 (38.1)	1.750 (44.5)	1.260 (32.0)	.594 (15.1)
22	1 3/8-18 UNEF	2.000 (50.8)	1.625 (41.3)	1.875 (47.6)	1.385 (35.2)	.656 (16.7)
24	1 1/2-18 UNEF	2.188 (55.6)	1.750 (44.5)	2.000 (50.8)	1.510 (38.4)	.719 (18.3)
28	1 3/4-18 UNEF	2.438 (61.9)	2.000 (50.8)	2.250 (57.2)	1.760 (44.7)	.844 (21.4)
32	2-18 UNEF	2.688 (68.3)	2.250 (57.2)	2.500 (63.5)	2.010 (51.1)	.969 (24.6)
36	2 1/4-16 UN	2.938 (74.6)	2.500 (63.5)	2.750 (69.9)	2.260 (57.4)	1.089 (27.7)
40	2 1/2-16 UN	3.188 (81.0)	2.750 (69.9)	3.000 (76.2)	2.510 (63.7)	1.219 (31.0)
44	2 3/4-16 UN	3.438 (87.3)	3.000 (76.2)	3.250 (82.6)	2.760 (70.1)	1.344 (34.1)
48	3-16 UN	3.688 (93.7)	3.250 (82.6)	3.500 (88.9)	3.010 (76.5)	1.469 (37.3)

APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. For pin/pin and socket/socket symmetrical layouts only, consult factory for available insert arrangements.
3. Power to a given contact on one end will result in power to contact directly opposite regardless of identification letter.
4. Hermeticity - Less than 1 x 10^{-7} cc/sec at one atmosphere.
5. Metric Dimensions (mm) are indicated in parentheses.
6. Electrical safety limits must be established by the user. Peak voltage, switching surge, transient voltage, etc. should be used to determine the safety application.
7. Material/Finish:

   Jam-nut, lock-ring, shell* - stainless steel/O.D. cadmium over nickel
   Contacts - copper alloy/gold plated and alloy 52/gold plate
   Insulators - High-grade rigid dielectric/N.A. and full glass
   Interfacial seals and O-rings - silicone

* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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HE-ITS
MIL-DTL-5015 Type Hermetic
Bayonet Coupling Connectors



Material / Finish
Z1 = Stainless Steel / Passivated
ZL = Stainless Steel / Nickel Plated

Contact Type
P = Pin - Solder Cup
C = Pin - PC Tail

Basic Number

HE ITS	00	Z1	-	20-27	P	N

Material and Finish
00 = Front Wall Mount
01 = In Line
030 = Rear Wall Mount
070 = Jam Nut
04 = Weld Mount

Insert Arrangement
Per MIL-STD-1651
(See Page G-2)

Alternate Key Position
W, X, Y, or Z
(N for Normal)
(See Page G-4)

G

Table I: Hermetic Leak Rate Mode Codes

Designator	Required Leak Rate
-585A	1 x 10^{-10} cc Helium per second
-585B	1 x 10^{-9} cc Helium per second
-585C	1 x 10^{-8} cc Helium per second

Table II: Contact Style



P = Pin - Solder Cup

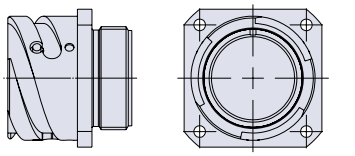


C = Pin - PC Tail

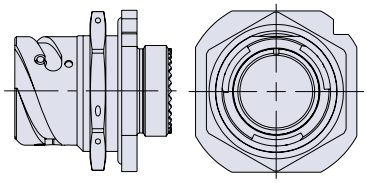
Table III: Service Rating

Service Rating	Working Voltage (Volts RMS)
Inst	200
A	500
D	900
E	1250
B	1750
C	3000

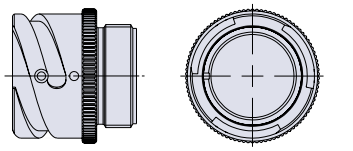
Table II: Connector Style



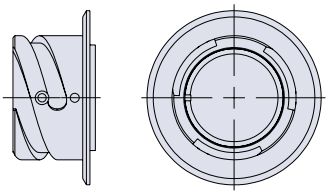
00 = Front Panel Mount



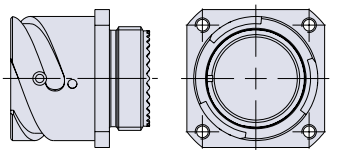
070 = Jam Nut



01 = In Line



04 = Weld Mount



030 = Rear Panel Mount

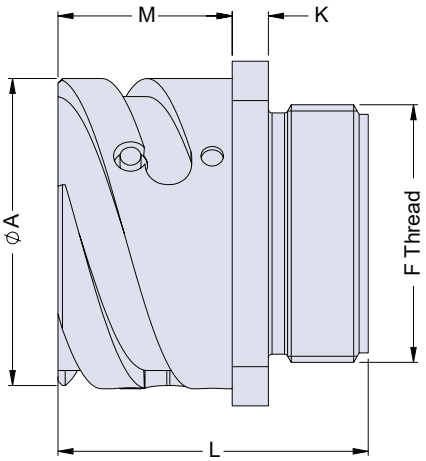
APPLICATION NOTES

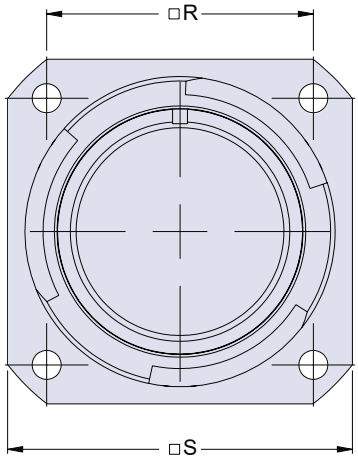
1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Will mate with any MIL-DTL-5015 Series bayonet coupling plug of same size and insert polarization.
3. Performance:
   Hermeticity - <1 x 10^{-7} cc/Sec @ 1 Atm. differential.
   Dielectric Withstanding Voltage - See Table III.
   Insulation Resistance - 5000 Megohms min @ 500VDC.
4. Material/Finish:
   - Stainless steel / passivated;
   - Stainless steel / nickel plated;

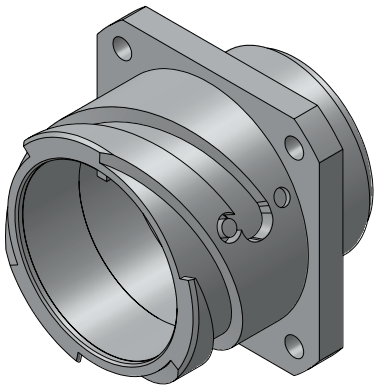
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00 - FRONT PANEL MOUNT SQUARE FLANGE RECEPTACLE WITH ACCESSORY MOUNTING THREADS







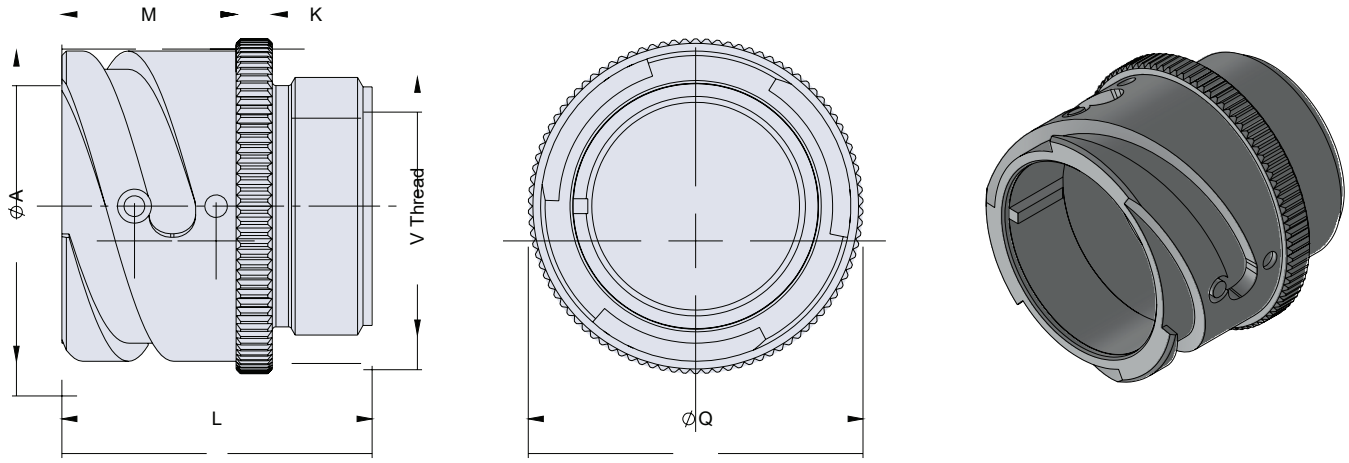
Dimensions								
Shell Size	**ØA + .008 (+0.2) -.004 (-0.1)**	**K ±.008 (±0.2)**	**L Max.**	**M +.016 (+0.4) -0 (-0)**	**R ±.007 (±0.2)**	**S ±.007 (±0.2)**	**ØT -.004 (-0.1) -0 (-0)**	**F Thread**
10SL	.717 (18.2)	.110 (2.8)	.972 (24.7)	.559 (14.2)	.719 (18.3)	1.000 (25.4)	.126 (3.2)	.06250 - 24 UNEF
14S	.965 (24.5)	.126 (3.2)	.980 (24.9)	.559 (14.2)	.906 (23.0)	1.197 (30.4)	.126 (3.2)	0.7500 - 20 UNEF
16S	1.071 (27.2)	.126 (3.2)	.980 (24.9)	.559 (14.2)	.969 (24.6)	1.280 (32.5)	.126 (3.2)	0.8750 - 20UNEF
16	1.071 (27.2)	.126 (3.2)	1.335 (33.9)	.748 (19.0)	.969 (24.6)	1.280 (32.5)	.126 (3.2)	0.8750 - 20UNEF
18	1.209 (30.7)	.157 (4.0)	1.350 (34.3)	.748 (19.0)	1.063 (27.0)	1.378 (35.0)	.126 (3.2)	1.0000 - 20UNEF
20	1.339 (34.0)	.157 (4.0)	1.350 (34.3)	.748 (19.0)	1.157 (29.4)	1.496 (38.0)	.126 (3.2)	1.1250 - 18UNEF
22	1.469 (37.3)	.157 (4.0)	1.350 (34.3)	.748 (19.0)	1.250 (31.8)	1.614 (41.0)	.126 (3.2)	1.2500 - 18UNEF
24	1.610 (40.9)	.157 (4.0)	1.409 (35.8)	.811 (20.6)	1.374 (34.9)	1.752 (44.5)	.146 (3.7)	1.3750 - 18UNEF
28	1.839 (46.7)	.157 (4.0)	1.409 (35.8)	.811 (20.6)	1.563 (39.7)	2.004 (50.9)	.146 (3.7)	1.6250 - 18UNEF
32	2.102 (53.4)	.157 (4.0)	1.472 (37.4)	.874 (22.2)	1.752 (44.5)	2.244 (57.0)	.169 (4.3)	1.8750 - 16UN
36	2.346 (59.6)	.157 (4.0)	1.472 (37.4)	.874 (22.2)	1.937 (49.2)	2.500 (63.5)	.169 (4.3)	2.0625 - 16UNS

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HE-ITS
MIL-DTL-5015 Type Hermetic
Bayonet Coupling Connectors

01 -IN-LINE CYLINDRICAL RECEPTACLE WITH ACCESSORY MOUNTING THREAD

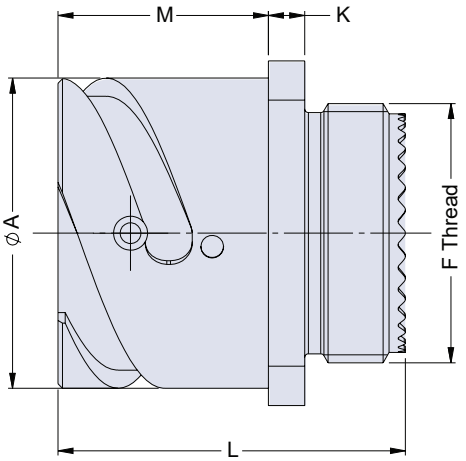


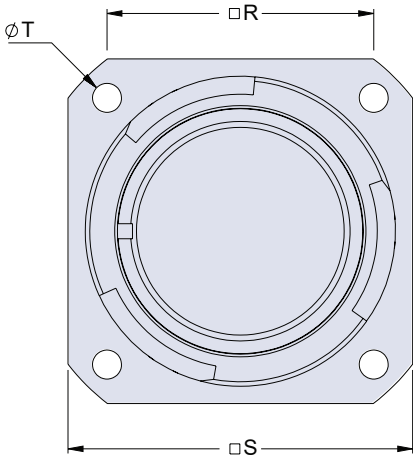
01 -In-Line Cylindrical Receptacle with Accessory Mounting Thread						
Shell Size	0A +.008 (+0.2) -.004 (-0.1)	K ±.008 (±0.2)	L Max.	M +.016 (+0.4) -0 (-0)	Q -.004 (-0.1)	V Thread
10SL	0.717 (18.21)	0.110 (2.79)	0.972 (24.69)	0.559 (14.20)	0.858 (21.79)	0.6250-24UNEF
145	0.965 (24.51)	0.126 (3.20)	0.980 (24.89)	0.559 (14.20)	1.134 (28.80)	0.7500-20UNEF
165	1.071 (27.20)	0.126 (3.20)	0.980 (24.89)	0.559 (14.20)	1.201 (30.51)	0.8750- 20UNEF
16	1.071 (27.20)	0.126 (3.20)	1.335 (33.91)	0.748 (19.00)	1.201 (30.51)	0.8750- 20UNEF
18	1.209 (30.71)	0.157 (3.99)	1.350 (34.29)	0.748 (19.00)	1.331 (33.81)	1.0000- 20UNEF
20	1.339 (34.01)	0.157 (3.99)	1.346 (34.19)	0.748 (19.00)	1.453 (36.91)	1.1250-18UNEF
22	1.469 (37.31)	0.157 (3.99)	1.350 (34.29)	0.748 (19.00)	1.555 (39.50)	1.2500- 18UNEF
24	1.610 (40.89)	0.157 (3.99)	1.409 (35.79)	0.811 (20.60)	1.728 (43.89)	1.3750-18UNEF
28	1.839 (46.71)	0.157 (3.99)	1.409 (35.79)	0.811 (20.60)	1.906 (48.41)	1.6250-18UNEF
32	2.102 (53.39)	0.157 (3.99)	1.472 (37.39)	0.874 (22.20)	2.205 (56.01)	1.8750-16UN
36	2.346 (59.59)	0.157 (3.99)	1.472 (37.39)	0.874 (22.20)	2.457 (62.41)	2.0625-16UNS

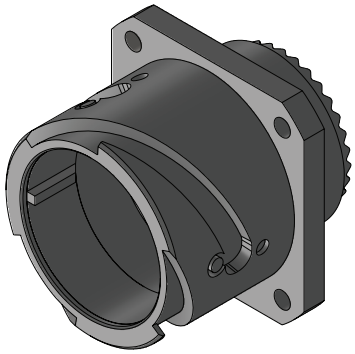
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030 - REAR PANEL MOUNT SQUARE FLANGE RECEPTACLE WITH ACCESSORY MOUNTING THREADS





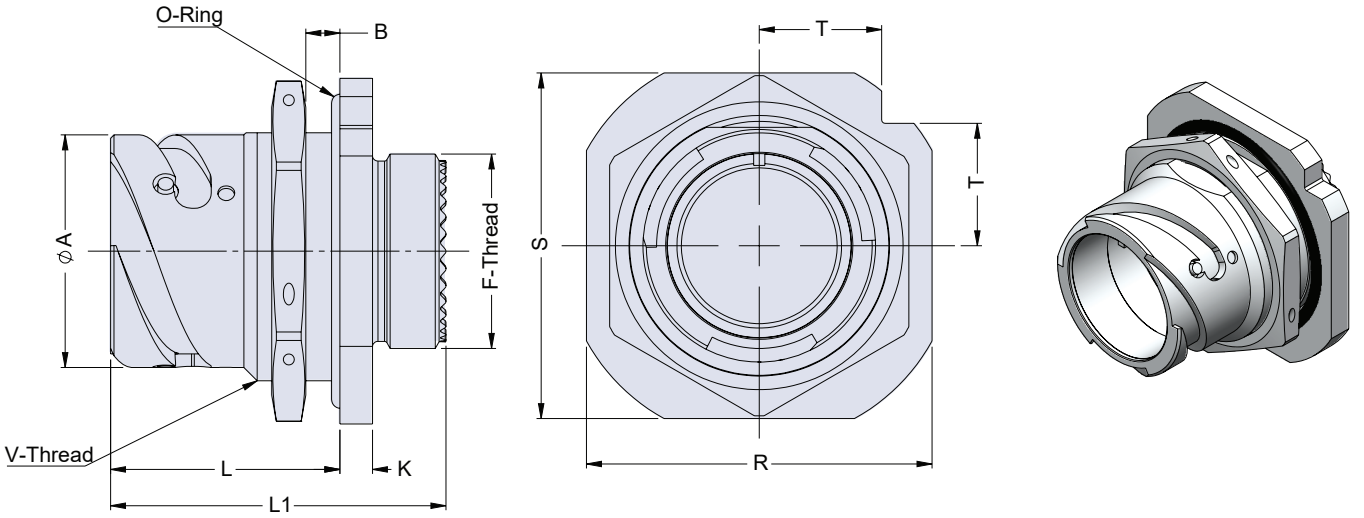


030 - Rear Panel Mount Square Flange Receptacle with Accessory Mounting Threads								
Shell Size	0A + .008 (+0.2) -.004 (-0.1)	K ±.007 (±0.2)	L +.008 (+0.2) -0 (-0.)	M + .008 (+0.2) -0 (-0)	R ±.008 (±0.2)	S ±.008 (±0.2)	T Thread	V Thread
10SL	0.717 (18.25)	0.110 (2.8)	1.181 (30.0)	0.724 (18.4)	0.719 (18.25)	1.000 (25.4)	M4	0.6250-24UNEF
145	0.965 (24.5)	0.126 (3.2)	1.181 (30.0)	0.724 (18.4)	0.906 (23.0)	1.197 (30.4)	M4	0.7500-20UNEF
165	1.071 (27.2)	0.126 (3.2)	1.181 (30.0)	0.724 (18.4)	0.969 (24.6)	1.280 (32.5)	M4	0.8750- 20UNEF
16	1.071 (27.2)	0.126 (3.2)	1.457 (37.0)	0.913 (23.2)	0.969 (24.6)	1.280 (32.5)	M4	0.8750- 20UNEF
18	1.209 (30.7)	0.157 (4.0)	1.417 (36.0)	0.913 (23.2)	1.063 (27.0)	1.378 (35.0)	M4	1.0000- 20UNEF
20	1.339 (34.0)	0.157 (4.0)	1.508 (38.3)	0.913 (23.2)	1.157 (29.4)	1.496 (38.0)	M4	1.1250-18UNEF
22	1.469 (37.3)	0.157 (4.0)	1.457 (37.0)	0.913 (23.2)	1.250 (31.75)	1.614 (41.0)	M4	1.2500- 18UNEF
24	1.610 (40.9)	0.157 (4.0)	1.457 (37.0)	0.953 (24.2)	1.374 (34.9)	1.752 (44.5)	M4	1.3750-18UNEF
28	1.839 (46.7)	0.157 (4.0)	1.555 (39.5)	0.953 (24.2)	1.563 (39.7)	2.004 (50.9)	M5	1.6250-18UNEF
32	2.102 (53.4)	0.157 (4.0)	1.555 (39.5)	0.953 (24.2)	1.752 (44.5)	2.244 (57.0)	M5	1.8750-16UN
36	2.346 (59.6)	0.157 (4.0)	1.555 (39.5)	0.953 (24.2)	1.937 (49.2)	2.500 (63.5)	M5	2.0625-16UNS

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070 - JAM NUT MOUNT CYLINDRICAL RECEPTACLE WITH ACCESSORY MOUNTING THREAD

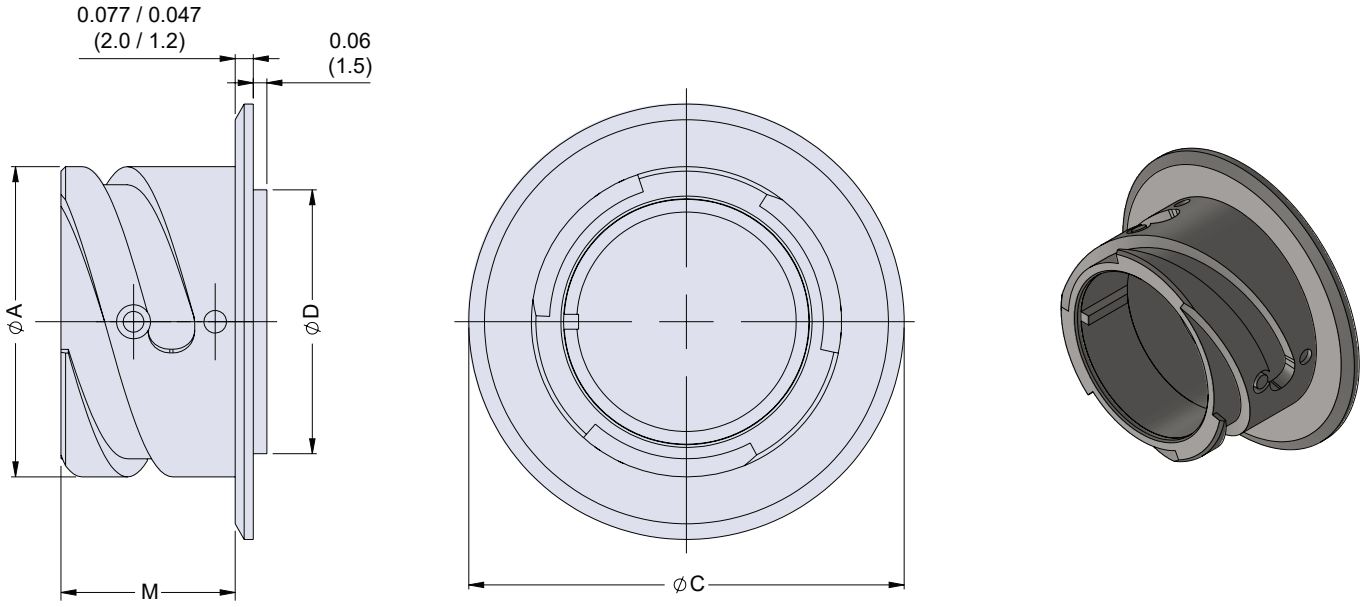


070 - Jam Nut Mount Cylindrical Receptacle with Accessory Mounting Thread						
Shell Size	ØA + .008 (+0.2) -.004 (-0.1)	K ±.007 (±0.2)	L Max.	M +.016 (+0.4) -0 (-0)	Q -.004 (-0.1)	V Thread
10SL	0.717 (18.21)	0.110 (2.79)	0.972 (24.69)	0.559 (14.20)	0.858 (21.79)	0.6250-24UNEF
145	0.965 (24.51)	0.126 (3.20)	0.980 (24.89)	0.559 (14.20)	1.134 (28.80)	0.7500-20UNEF
165	1.071 (27.20)	0.126 (3.20)	0.980 (24.89)	0.559 (14.20)	1.201 (30.51)	0.8750- 20UNEF
16	1.071 (27.20)	0.126 (3.20)	1.335 (33.91)	0.748 (19.00)	1.201 (30.51)	0.8750- 20UNEF
18	1.209 (30.71)	0.157 (3.99)	1.350 (34.29)	0.748 (19.00)	1.331 (33.81)	1.0000- 20UNEF
20	1.339 (34.01)	0.157 (3.99)	1.346 (34.19)	0.748 (19.00)	1.453 (36.91)	1.1250-18UNEF
22	1.469 (37.31)	0.157 (3.99)	1.350 (34.29)	0.748 (19.00)	1.555 (39.50)	1.2500- 18UNEF
24	1.610 (40.89)	0.157 (3.99)	1.409 (35.79)	0.811 (20.60)	1.728 (43.89)	1.3750-18UNEF
28	1.839 (46.71)	0.157 (3.99)	1.409 (35.79)	0.811 (20.60)	1.906 (48.41)	1.6250-18UNEF
32	2.102 (53.39)	0.157 (3.99)	1.472 (37.39)	0.874 (22.20)	2.205 (56.01)	1.8750-16UN
36	2.346 (59.59)	0.157 (3.99)	1.472 (37.39)	0.874 (22.20)	2.457 (62.41)	2.0625-16UNS

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04 - FRONT PANEL SOLDER MOUNT RECEPTACLE



04 - Front Panel Solder Mount Receptacle				
Shell Size	ØA + .008 (+0.2) -.004 (-0.1)	C ±0.25	D ±.010 (±0.25)	M +.016 (+0.4) -0 (-0)
10SL	0.874 (22.2)	1.299 (33.0)	0.488 (12.4)	0.559 (14.2)
145	0.965 (24.5)	1.575 (40.0)	0.709 (18.0)	0.559 (14.2)
165	1.071 (27.2)	1.654 (42.0)	0.835 (21.2)	0.559 (14.2)
16	1.071 (27.2)	1.654 (42.0)	0.835 (21.2)	0.748 (19.0)
18	1.209 (30.7)	1.772 (45.0)	0.961 (24.4)	0.748 (19.0)
20	1.339 (34.0)	1.890 (48.0)	1.146 (29.1)	0.748 (19.0)
22	1.469 (37.3)	2.126 (54.0)	1.240 (31.5)	0.748 (19.0)
24	1.610 (40.9)	2.323 (59.0)	1.366 (34.7)	0.811 (20.6)
28	1.839 (46.7)	2.559 (65.0)	1.614 (41.0)	0.811 (20.6)
32	2.102 (53.4)	2.953 (75.0)	1.866 (47.4)	0.874 (22.2)
36	2.346 (59.6)	3.303 (83.9)	2.114 (53.7)	0.874 (22.2)

Dimensions in Inches (millimeters) are subject to change without notice.

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SERIES 22

GEO-MARINE®

Series III Type Hermetic Connectors



Glenair's Series 22 Geo-Marine® connectors o□er high-density insert arrangements for a variety of oceanographic, geophysical and other severe environmental applications. The Mated stainless steel plug and receptacle have a hydrostatic pressure sealing capacity of up to 5000 psi (345 bar), and feature a hermetic glass seal for extremely harsh environments. Because Glenair makes all its hermetic connectors in-house, including the machining of shells, molding of interfacial seals and □ring of hermetic components, we can o□er you outstanding availability on stock products and fast turnaround on special orders.

Geo Marine®

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com



Corrosion Resistant Glass Sealed Hermetic Connectors Designed for Use in Harsh Geophysical, Marine and Oil-Patch Applications

Series 22 Geo-Marine® hermetic connectors feature single-start stub-Acme threads for quick coupling of plug and receptacle, reducing thread fouling and binding as a result of dirt, grit and other foreign debris. Receptacles can be ordered in standard and scoop-proof shell styles for maximum design flexibility. Gold plated nickel-iron alloy 52 solder cup contacts, available in sizes 8, 12, 16, 20 and 22, depending on the layout chosen, offer a wide selection of insert arrangement options.

Quick Selection Guide

Part Number	Description	Page
	Series 22 Geo-Marine® Product Information	H-2
	Glenair Hermetic Connector Products Space Grade Mod Code	H-3
	Geo-Marine® Insert Arrangements	H-4
	Geo-Marine® Alternate Keyway Positions, Materials and Finishes	H-5
220-00 and 220-10	Front Mounted Jam-Nut Bulkhead Connector Receptacle	H-6
220-01 and 220-11	In-Line Connector Receptacle Assembly	H-8
220-02 and 220-12	Square Flange Mount Connector Receptacle Assembly	H-10
220-03 and 220-13	Solder Mount Bulkhead Connector Receptacle Assembly	H-12
220-04 and 220-14	Rear Mounted Jam Nut Wall Mount Connector Receptacle Assembly	H-14
220-07 and 220-17	Rear Mounted Jam Nut Box Mount Receptacle Assembly	H-16
227-092	Special Scoop-Proof Jam Nut Receptacle, Sizes -10, -12 and -14	H-18
227-039 and 227-040	Jam Nut Mount Bulkhead Feed-Through Connector	H-20

Performance Characteristics

Hydrostatic Pressure Rating	5000 psi (fully mated)	
Operating Temperature Range	-65°C to +175°C	
Durability	500 Cycles of mate/demate	
Class H Hermetic Receptacles		
Open-Face Pressure Rating	1000 to 5000 psi (Depending on Insert Arrangement)	
Hermeticity	Less than 1 X 10^{-6} sccHe/second @ 1 Atmosphere	
Current Rating	**Hermetic**	
Contact Size 22 Contact Size 20 Contact Size 16 Contact Size 12	3 amps 5 amps 10 amps 17 amps	

Service Rating	**Suggested Operational Voltage (Sea Level)**		**Test Voltage (Sea Level)**
	AC(RMS)	DC	
M	400	550	1300 VMRS
N	300	450	1000 VMRS
I	600	850	1800 VMRS
II	900	1250	2300 VMRS

Insulation Resistance	1000 Megohms minimum at 500 VDC

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Glenair®

Series 22 Geo-Marine® Connector Products
Product Information

Product Features

- **Marine Grade Alloy 316 Stainless Steel machined Shells**
- **Lockmith Keying Polarization**
- **Full Line of Accessories:**
  Backshells, Protective Covers and Molding Adapters

Background

Glenair's Geo-Marine® Series 22 product offering is a ***third generation*** product development. Having started in the harsh environment and Geo-Marine applications since the early 1970's with its "G" and "GL" series, Glenair continued to develop products meeting the increasing and stringent requirements associated with these markets. In doing so, the products became a favorite with the military, especially the US Navy and manufacturers of oil patch equipment.

Applications

Designed for use in oceanographic, geophysical and other severe commercial/industrial environments, Glenair's line of Geo-Marine® Series 22 Connectors and Cables are designed to withstand hydrostatic pressures up to 5,000 PSI and exposure to extreme temperatures and corrosives.

Our Geo-Marine® products are used in numerous applications, such as US Navy towed array sonar systems, military land vehicles, submersibles and ROV's, offshore oil drilling equipment, seabed exploration, hazardous areas, pipeline inspection systems, well monitoring equipment, and digital seismic streamers.

Benefits

Utilizing Marine Grade Alloy 316 stainless steel, and insulators made from fused glass for the "H" hermetic class, Glenair offers rugged corrosion resistant Geo-Marine® connectors. The products are available as separate interconnects or may be incorporated into custom cable assemblies. Additionally, for varying applications where solvents, oils, hydraulic fluids, etc., are not compatible with the rubber materials offered as the standard, Glenair can offer alternate rubber options to meet the most severe requirements.

Receptacles

Receptacles in "H" hermetic class are available in a wide choice of shell styles and insert arrangements. These connectors are designed to mate with the proper corresponding plug, offering an ideally pressure sealed interconnect. This is achieved by the more positive "O" ring piston seal located inside the receptacle barrel-interfacing on the OD of the plug barrel with the added sealing of the plug's seals as previously noted.

The full-spectrum product line also includes ***Bulkhead Feedthrough Connectors, Connector Savers*** and a complete choice of ***Connector Accessories*** to satisfy various cable or wire bundle terminations requirements.

Metric dimensions (mm) are indicated in parentheses

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Glenair Hermetic Connector Products
Space Grade Mod Codes

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA speci cation EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space ight projects.

What screening level is required?

NASA de nes three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The uorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

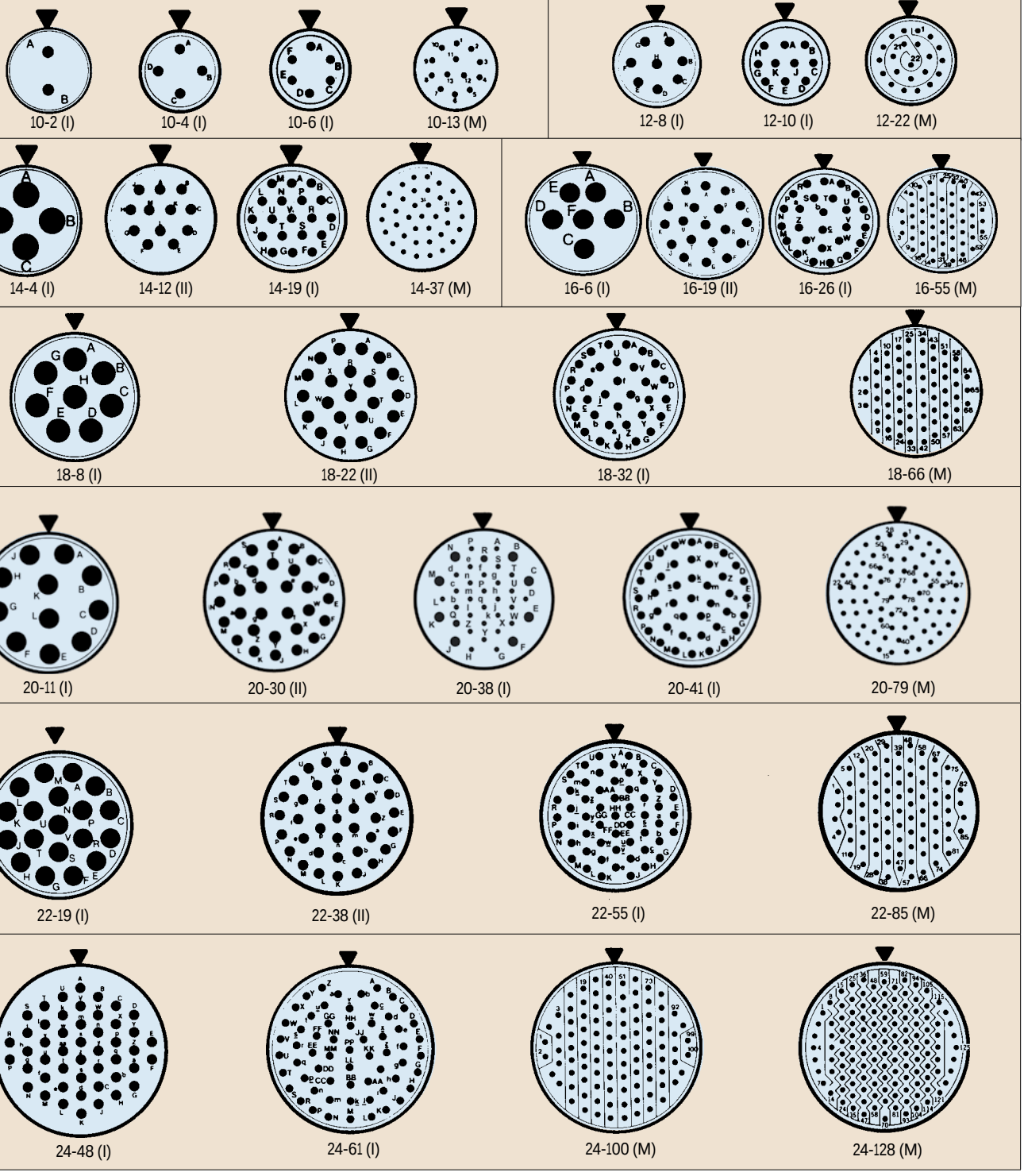
NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

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Series 22 Geo-Marine® Connectors
Insert Arrangements

Geo-Marine® Contact Arrangements

Front Face of Pin Inserts Illustrated. Service Ratings Indicated in Parentheses.



Metric dimensions (mm) are indicated in parentheses

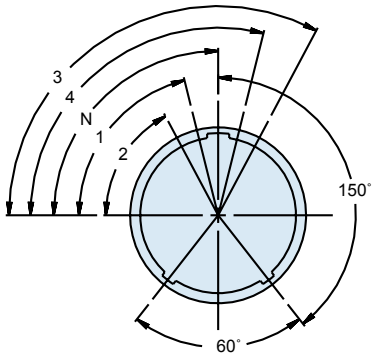
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Series 22 Geo-Marine® Connectors
Alternate Keyway Positions

Contact Arrangements

SHELL SIZE	SERIES 22 PATTERN	SERVICE RATING	CONTACT SIZE/QUANTITY			
			22	20	16	12
10	10-2	II			2	
	10-04	I		4		
	10-06	I		6		
	10-13	M	13			
12	12-08	II			8	
	12-10	I		10		
	12-22	M	22			
14	14-04	II				4
	14-12	II			14	
	14-19	I		19		
	14-37	M	37			
16	16-06	II				6
	16-19	II			19	
	16-26	I		26		
	16-55	M	55			
18	18-08	I		8		
	18-22	II			22	
	18-32	I		32		
	18-66	M	66			
20	20-11	II				11
	20-30	II			30	
	20-38	I		30	8	
	20-41	I		41		
	20-79	M	79			
22	22-19	II				19
	22-38	II			38	
	22-55	I		55		
	22-85	M	85			
24	24-48	II			48	
	24-61	I		61		
	24-100	M	100			
	24-128	M	128			

Alternate Keyway Positions



FACE VIEW
RECEPTACLE

SHELL SIZE DESIG.	N°	1°	2°	3°	4°
10	90	76	62	118	104
12	90	70	58	122	110
14	90	69	56	124	111
16	90	72	60	120	108
18	90	72	62	120	108
20	90	72	60	120	108
22	90	75	64	116	105
24	90	75	64	115	105

Depth/Pressure Conversion

Feet	Meters	P.S.I.	Bar
1	.3	.4	.0296
10	3.1	4.3	.2965
50	15.2	21.7	1.4962
100	30.5	43.3	2.9854
250	76.2	108.3	7.4670
500	152.4	216.5	24.9271
1,000	304.8	433.0	29.8543
1,500	457.2	649.5	44.7814
2,500	762.0	1082.5	74.6357
5,000	1524.0	2165.0	149.2715
10,000	3048.0	4330.0	298.5430
11,547	3519.35	5000.0	344.7379

Custom Contact Arrangements

Series 22 inserts may be tooled for alternative contact insert arrangements including variably sized electrical contacts—from size 12 to 22—as well as hybrid arrangements incorporating fiber optic, Co-ax and other contact types. Glenair has produced hundreds of custom arrangements beyond those shown in this catalog. Please contact your local Glenair representative, or the factory, for assistance.

Materials / Finishes

ITEM	MATERIAL	FINISH
Connector Shells	CRS Alloy 316 SAE-AMS-QQ-S-763	Passivate-ASTM A967
Solder Mount Bulkhead Receptacle	CRS 316 SAE-AMS-QQ-S-763	Nickel SAE-AMS-QQ-N-290, Class 2
Insulators, Class "H"	Fused Vitreous Glass	None
Contacts, Pin Class"H"	Nickel-Iron Alloy 52 - MIL-I-23011, Class 2	Gold/Ni AMS
Contacts, Socket	Baryllium Copper	Gold
Contacts, Socket Hood	CRS QQ-S-763, AISI 305	Passivate-ASTM A967
"O"-Rings	Nitrile (Buna-N) Rubber MIL-G-21569	None
Interfacial & Peripherial Seals	Flourosilicone Rubber MIL-R-25988	None

Additional materials are available, including titanium and Inconel®. Consult factory for ordering information.

Cable/Wire D.C. Resistance

Copper Conductors at Room Temperature

AWG	Ohms per 1000 feet
28	66.2 Max
26	41.6 Max
24	26.2 Max
22	16.5 Max
20	10.4 Max
18	6.5 Max
16	4.1 Max
14	2.6 Max
12	1.6 Max

Metric dimensions (mm) are indicated in parentheses

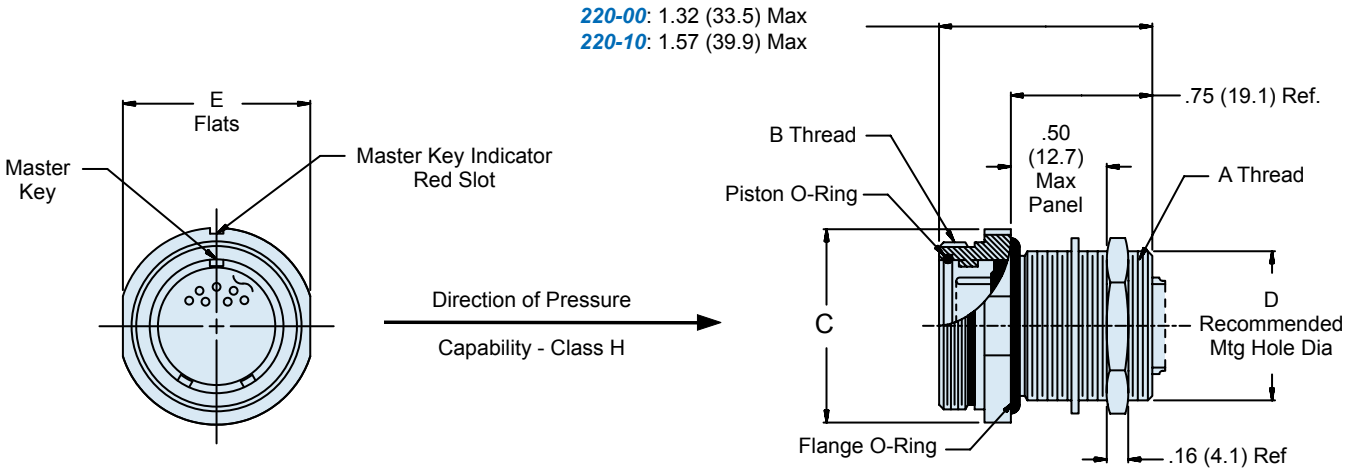
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220-00 and 220-10
Front Mounted Bulkhead Receptacle Connector



How To Order

Series No.	Class	Insert Arrangement	Polarization
	H = Hermetic		*(N, 1, 2, 3, 4)*
220 - 00	H	24 - 61	P	N
Shell Style *00 = Standard* *10 = Scoop Proof*		**Shell Size**	*P = Pins* *S = Sockets*	



APPLICATION NOTES

1. Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).
2. Hermeticity rating: less than $1x10^{-6}$ cc helium per second.
3. Open face pressure rating: 1000 to 5000 psi

Metric dimensions (mm) are indicated in parentheses

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Dimensions							
Shell Size	A Thread Class 2A	B Thread Class 2A	Ø C Max		D		E Flats
					±.005	±(0.1)	
10	5/8 - 24 UNEF	.750 - .1P - .1L	1.03	(26.2)	.635	(16.1)	.875 (22.2)
12	3/4 - 20 UNEF	.875 - .1P - .1L	1.16	(29.5)	.760	(19.3)	1.000 (25.4)
14	7/8 - 20 UNEF	1.000 - .1P - .1L	1.28	(32.5)	.885	(22.5)	1.125 (28.6)
16	1 - 20 UNEF	1.125 - .1P - .1L	1.41	(35.8)	1.010	(25.7)	1.250 (31.8)
18	1 1/18 - 16 UN	1.250 - .1P - .1L	1.66	(42.2)	1.135	(28.8)	1.500 (38.1)
20	1 1/4 - 16 UN	1.375 - .1P - .1L	1.78	(45.2)	1.260	(32.0)	1.625 (41.3)
22	1 3/8 - 16 UN	1.500 - .1P - .1L	1.91	(48.5)	1.385	(35.2)	1.750 (44.5)
24	1 1/2 - 16 UN	1.625 - .1P - .1L	2.03	(51.6)	1.510	(38.4)	1.875 (47.6)

Recommended Jam Nut Installation Torque Values		
Shell Size	Torque ± 5%	
	Inch - Lbs.	Newton - Meters
10	95	10.73
12	110	12.43
14	140	15.82
16	170	19.21
18	195	22.03
20	215	24.29
22	235	26.55
24	260	29.38

Replacement O-Ring Part Numbers*		
Shell Size	Piston O-Ring	Flange O-Ring
10	2-014	2-017
12	2-016	2-019
14	2-018	2-021
16	2-020	2-023
18	2-022	2-025
20	2-024	2-027
22	2-026	2-029
24	2-028	2-030
*Parker O-Ring Part Numbers. Compound N674-70 Or Equivalent		

Metric dimensions (mm) are indicated in parentheses

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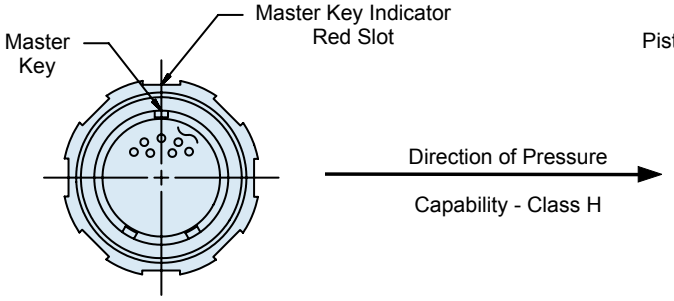
220-01 and 220-11
In-Line Connector Receptacle

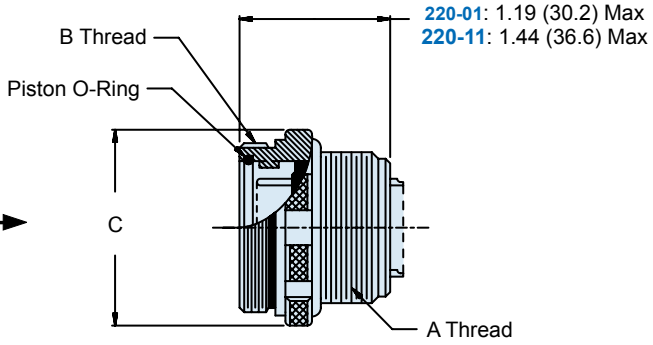
How To Order



Series No.	Class	Insert Arrangement	Polarization
220 - 01	H	24 - 61	P N

- **Shell Style**: *01* = Standard; *11* = Scoop Proof
- **Shell Size**
- **Insert Arrangement**: *P* = Pins; *S* = Sockets





APPLICATION NOTES

1. Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).
2. Hermeticity rating: less than $1x10^{-6}$ cc helium per second.
3. Open face pressure rating: 1000 to 5000 psi

Metric dimensions (mm) are indicated in parentheses

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Dimensions			
Shell Size	A Thread Class 2A	B Thread Class 2A	Ø C Max
10	5/8 - 24 UNEF	.750 - .1P - .1L	.906 (23.0)
12	3/4 - 20 UNEF	.875 - .1P - .1L	1.031 (26.2)
14	7/8 - 20 UNEF	1.000 - .1P - .1L	1.156 (29.4)
16	1 - 20 UNEF	1.125 - .1P - .1L	1.281 (32.5)
18	1 1/18 - 16 UN	1.250 - .1P - .1L	1.531 (38.9)
20	1 1/4 - 16 UN	1.375 - .1P - .1L	1.656 (42.1)
22	1 3/8 - 16 UN	1.500 - .1P - .1L	1.781 (45.2)
24	1 1/2 - 16 UN	1.625 - .1P - .1L	1.906 (48.4)

Replacement O-Ring Part Numbers*	
Shell Size	Piston O-Ring
10	2-014
12	2-016
14	2-018
16	2-023
18	2-022
20	2-024
22	2-026
24	2-028
*Parker O-Ring Part Numbers. Compound N674-70 Or Equivalent	

Metric dimensions (mm) are indicated in parentheses

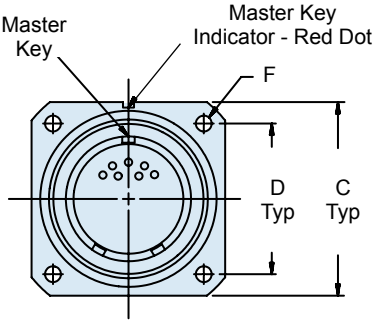
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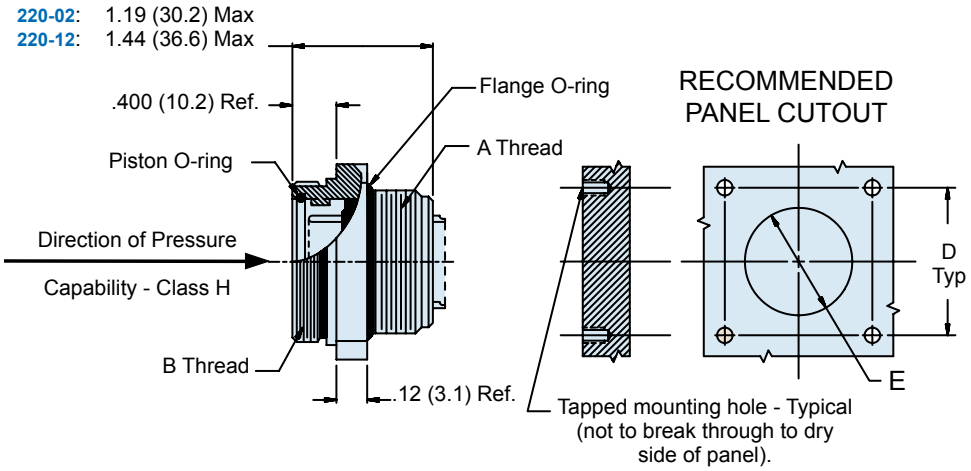
220-02 and 220-12
Square Flange Mount Receptacle



How To Order

Series No.	Class	Insert Arrangement	Polarization
	H = Hermetic		*(N, 1, 2, 3, 4)*
220 - 02	H	24 - 61	P	N
Shell Style *02 = Standard* *12 = Scoop Proof*		**Shell Size**	*P = Pins* *S = Sockets*	





APPLICATION NOTES

1. Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).
2. Hermeticity rating: less than $1x10^{-6}$ cc helium per second.
3. Open face pressure rating: 1000 to 5000 psi

Metric dimensions (mm) are indicated in parentheses

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Dimensions					
SHELLSIZE	A THREAD CLASS 2A	B THREAD CLASS 2A	C DIM	D DIM	E DIA + .015 + (0.4) - .000 - (0.0)
10	5/8 - 24 UNEF	.750 - .1P - .1L	1.188 (30.2)	.938 (23.8)	.844 (21.4)
12	3/4 - 20 UNEF	.875 - .1P - .1L	1.312 (33.3)	1.062 (27.0)	.969 (24.6)
14	7/8 - 20 UNEF	1.000 - .1P - .1L	1.438 (36.5)	1.188 (30.2)	1.078 (27.4)
16	1 - 20 UNEF	1.125 - .1P - .1L	1.562 (39.7)	1.250 (31.8)	1.219 (31.0)
18	1 1/8 - 16 UN	1.250 - .1P - .1L	1.750 (44.5)	1.375 (34.9)	1.359 (34.5)
20	1 1/4 - 16 UN	1.375 - .1P - .1L	1.875 (47.6)	1.500 (38.1)	1.515 (38.5)
22	1 3/8 - 16 UN	1.500 - .1P - .1L	2.000 (50.8)	1.625 (41.3)	1.640 (41.7)
24	1 1/2 - 6 UN	1.625 - .1P - .1L	2.125 (54.0)	1.750 (44.5)	1.765 (44.8)

Mounting/Hardware Information		
SHELL SIZE	F DIA	MTG SCREW REF.
10	.125 (3.2)	No. 4
12	.125 (3.2)	No. 4
14	.125 (3.2)	No. 4
16	.125 (3.2)	No. 4
18	.125 (3.2)	No. 4
20	.125 (3.2)	No. 4
22	.125 (3.2)	No. 4
24	.156 (4.0)	No. 6

Replacement O-Ring Part Numbers		
SHELL SIZE	PISTON O-RING	FLANGE O-RING
10	2-014	2-021
12	2-016	2-023
14	2-018	2-025
16	2-020	2-027
18	2-022	2-029
20	2-024	2-030
22	2-026	2-031
24	2-028	2-032
*Parker o-ring part numbers. Compound N674-70 or equivalent.		

Metric dimensions (mm) are indicated in parentheses

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220-03 and 220-13
Solder Mount Bulkhead Receptacle

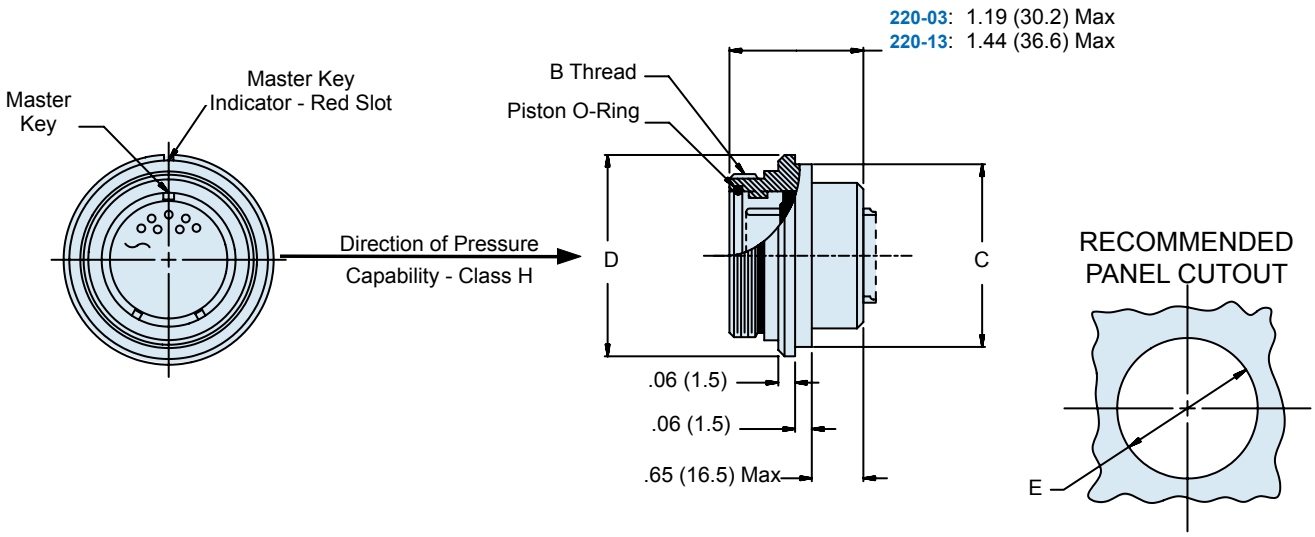


How To Order

Series No.	Class		Insert Arrangement		Polarization	
220	- 03	H	24	- 61	P	N

- **Shell Style**: *03 = Standard*, *13 = Scoop Proof*
- **Shell Size**
- **Polarization**: *P = Pins*, *S = Sockets*

H



APPLICATION NOTES

1. Prior to use, lubricate O-rings with high grade silicone lubricant (Moly-kote M55 or equivalent).
2. Hermeticity rating: less than $1x10^{-6}$ cc helium per second.

Metric dimensions (mm) are indicated in parentheses

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Dimensions				
SHELL SIZE	B THREAD CLASS 2A	C DIA MAX	D DIA	E DIA +.010+(0.3) -.000 -(0.0)
10	.750 - .1P - .1L	.870 (22.1)	1.00 (25.4)	.875 (22.2)
12	.875 - .1P - .1L	.995 (25.3)	1.13 (28.7)	1.000 (25.4)
14	1.000 - .1P - .1L	1.120 (28.4)	1.25 (31.8)	1.125 (28.6)
16	1.125 - .1P - .1L	1.245 (31.6)	1.38 (35.1)	1.250 (31.8)
18	1.250 - .1P - .1L	1.370 (34.8)	1.50 (38.1)	1.375 (34.9)
20	1.375 - .1P - .1L	1.495 (38.0)	1.63 (41.4)	1.500 (38.1)
22	1.500 - .1P - .1L	1.620 (41.1)	1.75 (44.5)	1.625 (41.3)
24	1.625 - .1P - .1L	1.745 (44.3)	1.88 (47.8)	1.750 (44.5)

Replacement O-Ring Part Numbers *	
SHELL SIZE	PISTON O-RING
10	2-014
12	2-016
14	2-018
16	2-020
18	2-022
20	2-024
22	2-026
24	2-028
* Parker O-ring part numbers. Compound N674-70 or equivalent.	

Metric dimensions (mm) are indicated in parentheses

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220-04 and 220-14
Rear Wall Mount Jam Nut Receptacle

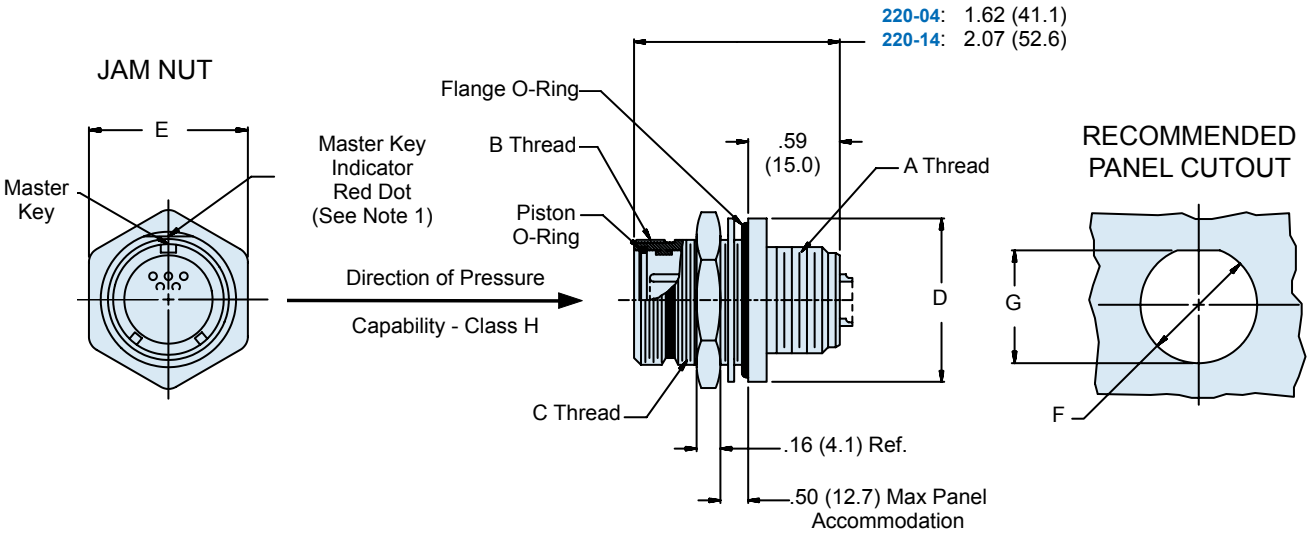
How To Order



Series No.	Class	Insert Arrangement	Polarization
	H = Hermetic		*(N, 1, 2, 3, 4)*

220	-	04	H	24	-	61	P	N

- **Shell Style**: *04 = Standard*, *14 = Scoop Proof*
- **Shell Size**
- *P = Pins*, *S = Sockets*



APPLICATION NOTES

1. Flat and master key indicator rotates with master key per position noted on Page A-4.
2. Hermeticity rating: less than $1x10^{-6}$ cc helium per second.
3. Open face pressure rating: 1000 to 5000 psi

Metric dimensions (mm) are indicated in parentheses

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220-04 and 220-14
Rear Wall Mount Jam Nut Receptacle

Dimensions							
SHELL SIZE	A THREAD CLASS 2A	B THREAD CLASS 2A	C THREAD CLASS 2A	D DIA	E FLATS	F DIA ±.005±(0.1)	G ±.005±(0.1)
10	5/8 - 24 UNEF	.750 - .1P - .1L	7/8 - 20 UNEF	1.25 (31.8)	1.125 (28.6)	.885 (22.5)	.835 (21.2)
12	3/4 - 20 UNEF	.875 - .1P - .1L	1 - 20 UNEF	1.38 (35.1)	1.250 (31.8)	1.010 (25.7)	.960 (24.4)
14	7/8 - 20 UNEF	1.000 - .1P - .1L	1 1/8 - 16 UN	1.50 (38.1)	1.500 (38.1)	1.135 (28.8)	1.085 (27.6)
16	1 - 20 UNEF	1.125 - .1P - .1L	1 1/4 - 16 UN	1.63 (41.4)	1.625 (41.3)	1.260 (32.0)	1.210 (30.7)
18	1 1/8 - 16 UN	1.250 - .1P - .1L	1 3/8 - 16 UN	1.75 (44.5)	1.750 (44.5)	1.385 (35.2)	1.335 (33.9)
20	1 1/4 - 16 U N	1.375 - .1P - .1L	1 1/2 - 16 UN	1.88 (47.8)	1.875 (47.6)	1.510 (38.4)	1.460 (37.1)
22	1 3/8 - 16 UN	1.500 - .1P - .1L	1 5/8 - 16 UN	2.00 (50.8)	2.000 (50.8)	1.635 (41.5)	1.585 (40.3)
24	1 1/2 - 16 UN	1.625 - .1P - .1L	1 3/4 - 16 UN	2.12 (53.8)	2.125 (54.0)	1.760 (44.7)	1.710 (43.4)

Recommended Jam Nut Installation Torque Values		
SHELL SIZE	TORQUE ± 5%	
	INCH-POUNDS	NEWTON-METERS
10	95	10.73
12	110	12.43
14	140	15.82
16	170	19.21
18	195	22.03
20	215	24.29
22	235	26.55
24	260	29.38

Replacement O-Ring Part Numbers *		
SHELL SIZE	PISTON O-RING	FLANGE O-RING
10	2-014	2-021
12	2-016	2-023
14	2-018	2-025
16	2-020	2-027
18	2-022	2-029
20	2-024	2-030
22	2-026	2-031
24	2-028	2-032
* Parker O-ring part numbers. Compound N674-70 or equivalent.		

Metric dimensions (mm) are indicated in parentheses

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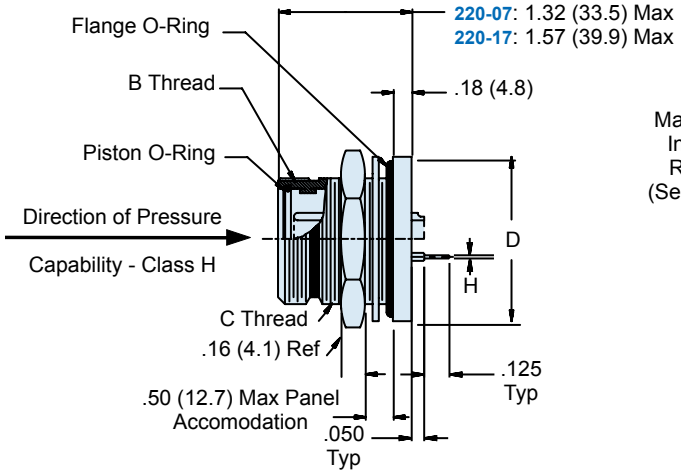
220-07 and 220-17
Rear Mounted Jam Nut Box Mount Receptacle

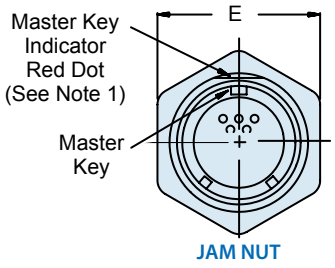


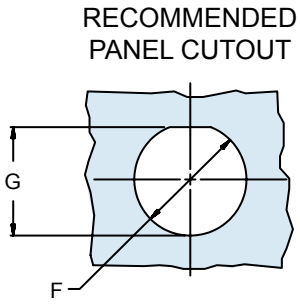
How To Order

Series No.	Class	Insert Arrangement	Polarization
220 - 07	H	24 - 61	P N

- **Shell Style**: *07* = Standard; *17* = Scoop Proof
- **Shell Size**
- **Polarization**: *P* = Pins; *S* = Sockets







Prior to use, lubricate O-Rings with high grade silicone lubricant (Moly-Kote M55 or equivalent).

APPLICATION NOTES

1. Flat and Master Key Indicator rotates with Master Key, per Key position noted on Page A-4
2. Hermeticity rating: less than 1x10-6 cc helium per second.
3. Open face pressure rating: 1000 to 5000 psi.

Metric dimensions (mm) are indicated in parentheses

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220-07 and 220-17
Rear Mounted Jam Nut Box Mount Receptacle

Dimensions								
SHELL SIZE	B THREAD CLASS 2A	C THREAD CLASS 2A	D DIA	E FLATS	F DIA ±.005± (0.1)	G ±.005± (0.1)	CONTACT SIZE	H DIA
10	.750 - .1P - .1L	7/8 - 20 UNEF	1.25 (31.8)	1.125 (28.6)	.885 (22.5)	.835 (21.2)	12	.095/.093 (2.413/2.362)
12	.875 - .1P - .1L	1 - 20 UNEF	1.38 (35.1)	1.250 (31.8)	1.010 (25.7)	.960 (24.4)		
14	1.000 - .1P - .1L	1 1/8 - 16 UN	1.50 (38.1)	1.500 (38.1)	1.135 (28.8)	1.085 (27.6)	16	.0635/.061 (1.613/1.549)
16	1.125 - .1P - .1L	1 1/4 - 16 UN	1.63 (41.4)	1.625 (41.3)	1.260 (32.0)	1.210 (30.7)		
18	1.250 - .1P - .1L	1 3/8 - 16 UN	1.75 (44.5)	1.750 (44.5)	1.385 (35.2)	1.335 (33.9)	20	.028/.024 (0.711/0.610)
20	1.375 - .1P - .1L	1 1/2 - 16 UN	1.88 (47.8)	1.875 (47.6)	1.510 (38.4)	1.460 (37.1)		
22	1.500 - .1P - .1L	1 5/8 - 16 UN	2.00 (50.8)	2.000 (50.8)	1.635 (41.5)	1.585 (40.3)	22	.021/.018 (0.533/0.457)
24	1.625 - .1P - .1L	1 3/4 - 16 UN	2.12 (53.8)	2.125 (54.0)	1.760 (44.7)	1.710 (43.4)		

Metric dimensions (mm) are indicated in parentheses.

Recommended Jam Nut Installation Torque Values		
SHELLSIZE	TORQUE ± 5%	
	INCH-POUNDS	NEWTON-METERS
10	95	10.73
12	110	12.43
14	140	15.82
16	170	19.21
18	195	22.03
20	215	24.29
22	235	26.55
24	260	29.38

Replacement O-Ring Part Numbers *		
SHELL SIZE	PISTON O-RING	FLANGE O-RING
10	2-014	2-021
12	2-016	2-023
14	2-018	2-025
16	2-020	2-027
18	2-022	2-029
20	2-024	2-030
22	2-026	2-031
24	2-028	2-032
* Parker O-ring part numbers. Compound N674-70 or equivalent.		

Metric dimensions (mm) are indicated in parentheses

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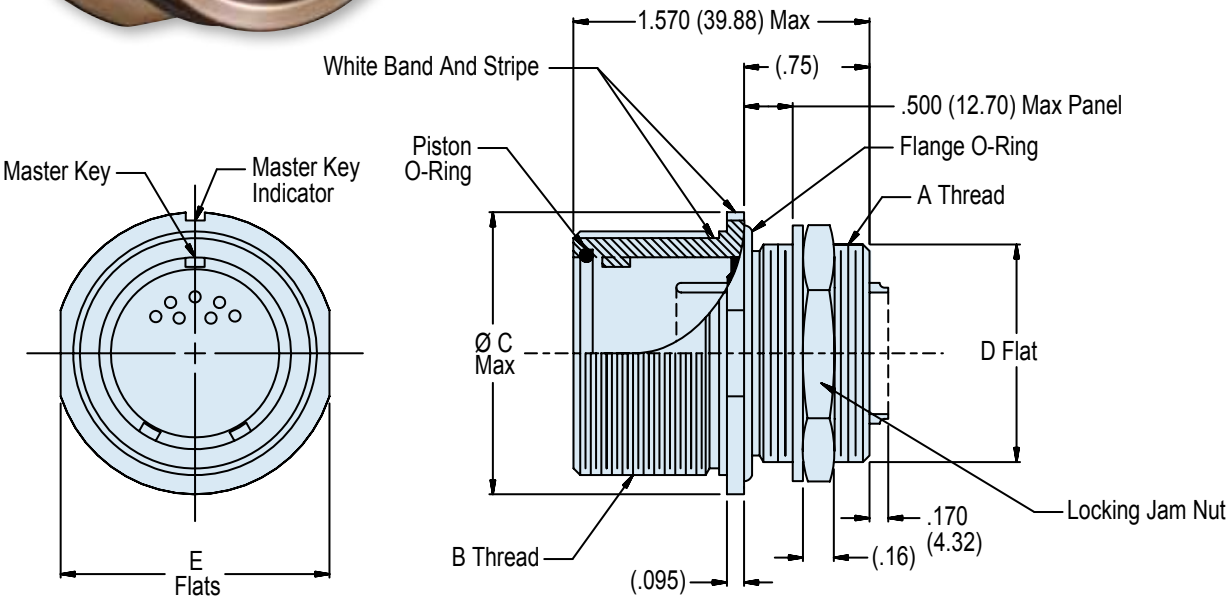
227-092
Special Scoop-Proof Jam Nut Receptacle
Shell Sizes -10, -12 and -14



How To Order

Series No.	Shell Size		Insert Arrangement	Polarization (N, 1, 2, 3, 4)
227-092	14	- 37	P	N

P = Pins
S = Sockets



Prior to use, lubricate O-Rings with high grade silicone lubricant (Moly-Kote M55 or equivalent).

APPLICATION NOTES

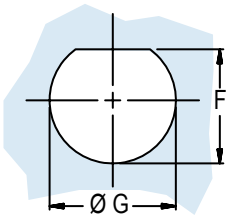
1. Current rating: Size 22 contact - 500 VDC, 3 Amps.
2. Hydrostatic pressure rating: 5000 PSI, fully mated.
3. Insulation resistance: 1000 MegOhms min at 500 VDC.

Metric dimensions (mm) are indicated in parentheses

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Dimensions							
SHELL SIZE	A THREAD CLASS 2A	B THREAD CLASS 2A	C DIA	D FLAT	E FLATS	F +.005 -(0.1)	G +.005 -(0.1)
-10	5/8-24 UNEF	.750 -.1P -.1L	1.030 (26.16)	.594 (15.09)	.875 (22.23)	.606 (15.39)	.645 (16.38)
-12	3/4-20 UNEF	.875 -.1P -.1L	1.160 (29.46)	.709 (18.01)	1.000 (25.40)	.721 (18.31)	.770 (19.56)
-14	7/8-20 UNEF	1.000 -.1P -.1L	1.280 (32.51)	.834 (21.18)	1.125 (28.58)	.846 (21.49)	.895 (22.73)

Metric dimensions (mm) are indicated in parentheses.



Recommended Panel Cut-out

Metric dimensions (mm) are indicated in parentheses

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227-039 and 227-040
Jam Nut Mount Bulkhead Feed-Through Connector
Environmental or Hermetic

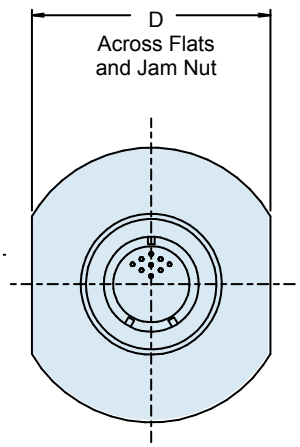
Bulkhead feed-through for high pressure applications

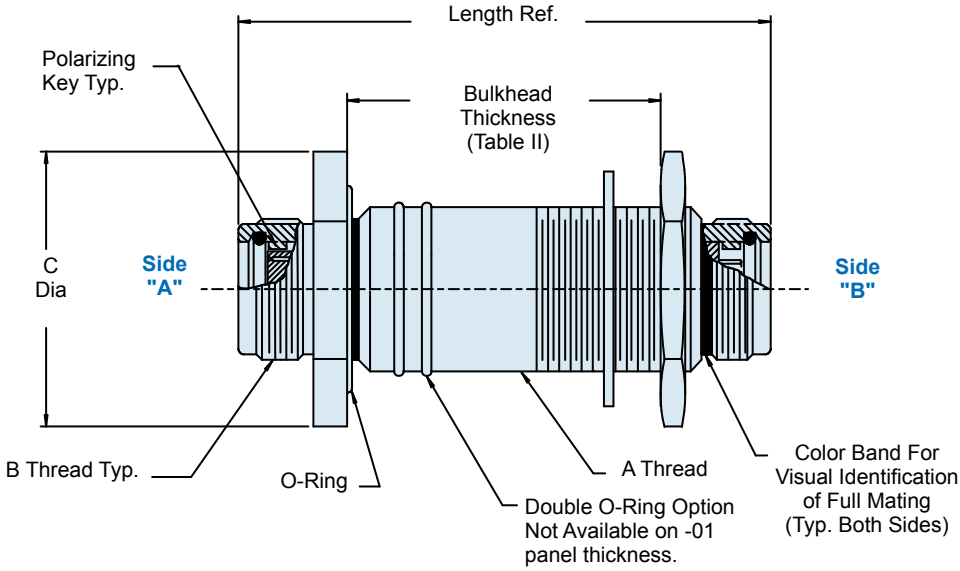
How To Order

Basic Part Number	Contact Arrangement Dash No.	Side A Alternate Insert Position	Side B Alternate Insert Position
227-039 - Standard Shell (mates with 220-06 plug) *227-040 = Scoop Proof Shell (mates with 220-16 plug)*	*(See Page H-4) (Note: For Pin/Pin or Socket/Socket, the Insert Arrangement Must Be Symmetrical.)*	*- N, 1, 2, 3, or 4 (See Page H-5)*	*- N, 1, 2, 3, or 4 (See Page H-5)*

227-039	-	10	-	2	P	N	P	N	03	D
Shell Size		Side A Configuration: *P = Pin, S = Socket, H = Hermetic Pin*			Side B Configuration: *P = Pin, S = Socket, H = Hermetic Pin*				Bulkhead Thickness Dash No. *(Table II)*	Double O-Ring Option *(Omit For None)*







Metric dimensions (mm) are indicated in parentheses

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227-039 and 227-040
Jam Nut Mount Bulkhead Feed-Through Connector
Environmental or Hermetic

Table I

Shell Size	A Thread Class 2A	B Thread Class 2A	C Dia	D Flat	E Dia *
10	7/8-20 UNEF	.750-.1P-.1L	1.41 (35.8)	1.250 (31.8)	.875 (22.2)
12	1-20 UNEF	.875-.1P-.1L	1.53 (38.9)	1.375 (34.9)	1.000 (25.4)
14	1 1/8-18 UNEF	1.000-.1P-.1L	1.66 (42.2)	1.500 (38.1)	1.125 (28.6)
16	1 1/4-16 UN	1.125-.1P-.1L	1.78 (45.2)	1.625 (41.3)	1.250 (31.8)
18	1 3/8-16 UN	1.250-.1P-.1L	1.91 (48.5)	1.750 (44.5)	1.375 (34.9)
20	1 1/2-16 UN	1.375-.1P-.1L	2.03 (51.6)	1.875 (47.6)	1.500 (38.1)
22	1 5/8-16 UN	1.500-.1P-.1L	2.16 (54.9)	2.000 (50.8)	1.625 (41.3)
24	1 3/4-16 UN	1.625-.1P-.1L	2.28 (57.9)	2.125 (54.0)	1.750 (44.5)

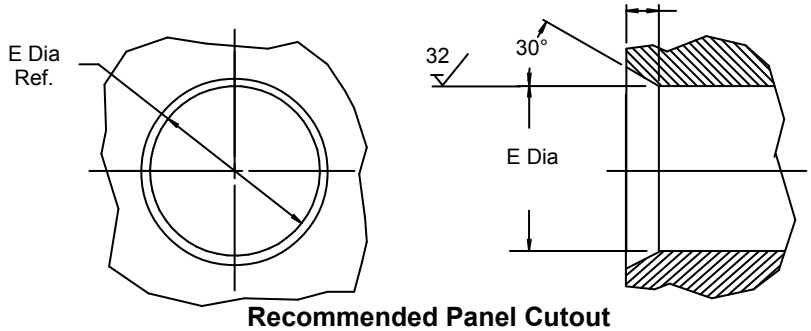
* Standard Shell +.010 (.3) -.000 (.0)
* Double "O" Ring Option +.002 (.3) -.000 (.0)

Table II

Dash No.	Panel Min	Panel Max	Length (Ref.)	
			Standard Shell Length	Scoop Proof Shell Length
01	.03 (.8)	1.00 (25.4)	2.30 (58.4)	3.00 (76.2)
02	1.00 (25.4)	2.00 (50.8)	3.30 (83.8)	4.00 (101.6)
03	2.00 (50.8)	3.00 (76.2)	4.30 (109.2)	5.00 (127.0)
04	3.00 (76.2)	4.00 (101.6)	5.30 (134.6)	6.00 (152.4)
05	4.00 (101.6)	5.00 (127.0)	6.30 (160.0)	7.00 (177.8)
06	5.00 (127.0)	6.00 (152.4)	7.30 (185.4)	8.00 (203.2)
07	6.00 (152.4)	7.00 (177.8)	8.30 (210.8)	9.00 (228.6)
08	7.00 (177.8)	8.00 (203.2)	9.30 (236.2)	10.00 (254.0)

Notes

1. Open face pressure rating: 1000 to 5000 psi, hermetic side
2. Power to a given contact on one end will result in power to the contact directly opposite, regardless of contact I.D.



Recommended Panel Cutout

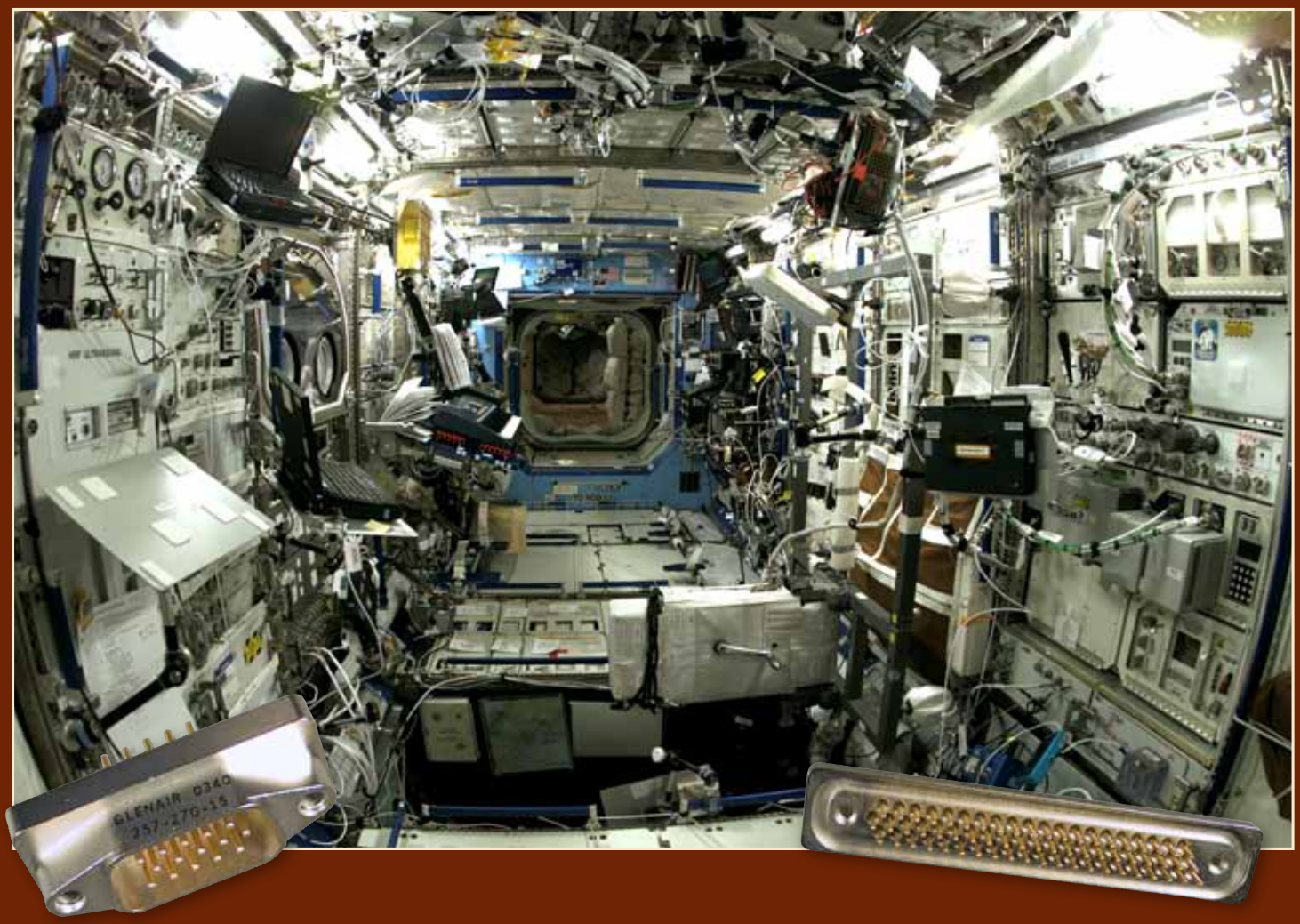
Metric dimensions (mm) are indicated in parentheses

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SERIES 28
HIPER-D

MIL-DTL-24308/9

QPL and Glenair Commercial D-Subminiature Hermetic Connectors



Glenair MIL-DTL-24308 D-Subminiature hermetic connectors are high density, compact connectors suited for use in rack and panel, cable to panel and cable to cable applications where an airtight seal is required. Front- and rear-mount shell styles are available with both solder cup and eyelet contacts in six shell sizes for maximum design flexibility. Because Glenair makes all its hermetic connectors in-house, including the machining of shells, molding of interfacial seals and firing of hermetic components, we can offer you outstanding availability on stock products and fast turnaround on special orders.

HiPer D MIL 24308™

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MIL-DTL-24308/9 and Glenair Commercial Hermetic D-Subminiature Connectors

D-Subminiature hermetic connectors are o□ered with passivated stainless steel, fused tin and nickel plated shells, with glass insulators fused to the connector shell. Ferrous alloy gold-plated contacts, available in sizes #20 and #22 contacts—on standard and high-density arrangements, respectively—meet a leak rate of 1 X 10^{-7} cc/Helium per second, excepting 280-006/MIL-DTL-24308 parts and 280-035 (1 x 10^{-8}), Kovar™. Choose from 11 di□erent insert arrangements with 9 to 104 circuits, in accordance with MIL-DTL-24308/9H and Glenair commercial series. Connectors with panel sealing are available with nitrile, □uorosilicone and silicone O-rings.

Quick Selection Guide

Part Number	Description	Page
	MIL-DTL-24308 Type Hermetic Connector Solder Mount Information	J-2
	Glenair Hermetic Connector Products Space Grade Mod Codes	J-3
	MIL-DTL-24308 Hermetic Connector Materials, Finishes and Speci□cations	J-4
	MIL-DTL-24308 Type Hermetic Connector Insert Arrangements and Panel Cut-Outs	J-5
	MIL-DTL-24308 Type Hermetic Connector Style A and Style B Dimensions	J-6
280-003	Glass Sealed D-Subminiature Receptacle	J-7
280-006	Glass Sealed D-Subminiature Receptacle	J-9
280-104	Glass Sealed D-Subminiature Receptacle	J-11
280-012	Rear PCB Termination Glass Sealed D-Subminiature Connector	J-13
280-013	O-Ring Panel Sealing D-Subminiature Connector	J-15
280-014	O-Ring Panel Sealing D-Subminiature Connector	J-17
287-018	Glass-Sealed D-Subminiature Connector with Front Mount O-Ring Seal	J-19
287-035	High Density Glass-Sealed D-Subminiature Connector	J-21
287-159	Hermetic D-Subminiature Connector, Bulkhead Feedthrough, O-Ring Seal	J-23
287-450	Hermetic D-Subminiature Connector, Rear-Mount, O-Ring Seal	J-25

Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-24308
D-Subminiature Hermetic Connectors
Solder Mount Flange, Contact Style and Shell Plating Options

Style A

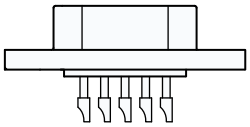


Style B



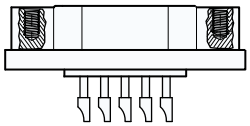
Glass-sealed hermetic receptacles are qualified to MIL-DTL-24308/9 and feature gold-plated iron alloy size #20 contacts and steel shells. Available in six shell sizes, these connectors are installed onto bulkheads by soldering. Choose solder cup or eyelet contacts for termination to #20 AWG wire. Choose Class H tin-plated steel shells for general purpose applications. For space applications choose Class K versions with nickel-plated stainless steel shells.

Flange Style A



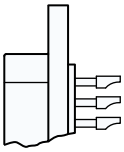
Solid connector flange with no mounting hole.

Flange Style B



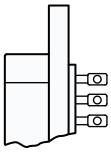
Connector flange features integral tapped #4-40 female threads for attaching mating male screw locks.

Contact Style P



Connector is supplied with solder cup contacts.

Contact Style X



Connector is supplied with eyelet style contacts.

Shell Size	No. of Contacts	Contact Style	Flange Style	Class H Tin-Plated Steel		Class K (Space) Nickel-Plated Stainless Steel	
				Part Number	Military PN	Part Number	Military PN*
1	9	Solder Cup	A	280-006H1AP	M24308/9-1	280-006K1AP	M24308/9-21
1	9	Solder Cup	B	280-006H1BP	M24308/9-11	280-006K1BP	M24308/9-31
1	9	Eyelet	A	280-006H1AX	M24308/9-6	280-006K1AX	M24308/9-26
1	9	Eyelet	B	280-006H1BX	M24308/9-16	280-006K1BX	M24308/9-36
2	15	Solder Cup	A	280-006H2AP	M24308/9-2	280-006K2AP	M24308/9-22
2	15	Solder Cup	B	280-006H2BP	M24308/9-12	280-006K2BP	M24308/9-32
2	15	Eyelet	A	280-006H2AX	M24308/9-7	280-006K2AX	M24308/9-27
2	15	Eyelet	B	280-006H2BX	M24308/9-17	280-006K2BX	M24308/9-37
3	25	Solder Cup	A	280-006H3AP	M24308/9-3	280-006K3AP	M24308/9-23
3	25	Solder Cup	B	280-006H3BP	M24308/9-13	280-006K3BP	M24308/9-33
3	25	Eyelet	A	280-006H3AX	M24308/9-8	280-006K3AX	M24308/9-28
3	25	Eyelet	B	280-006H3BX	M24308/9-18	280-006K3BX	M24308/9-38
4	37	Solder Cup	A	280-006H4AP	M24308/9-4	280-006K4AP	M24308/9-24
4	37	Solder Cup	B	280-006H4BP	M24308/9-14	280-006K4BP	M24308/9-34
4	37	Eyelet	A	280-006H4AX	M24308/9-9	280-006K4AX	M24308/9-29
4	37	Eyelet	B	280-006H4BX	M24308/9-19	280-006K4BX	M24308/9-39
5	50	Solder Cup	A	280-006H5AP	M24308/9-5	280-006K5AP	M24308/9-25
5	50	Solder Cup	B	280-006H5BP	M24308/9-15	280-006K5BP	M24308/9-35
5	50	Eyelet	A	280-006H5AX	M24308/9-10	280-006K5AX	M24308/9-30
5	50	Eyelet	B	280-006H5BX	M24308/9-20	280-006K5BX	M24308/9-40

*For Reference Only

Dimensions in Inches (millimeters) are subject to change without notice.

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Glenair Hermetic Connector Products Space Grade Mod Codes

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA speci cation EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space ight projects.

What screening level is required?

NASA de nes three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The uorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-24308 Type
D-Subminiature Hermetic Connectors
Materials, Finishes and Specifications

MATERIALS AND FINISHES	
Contacts	Ferrous alloy, gold plated per ASTM B488, type II, code C, class 1,27.
Shell, class H	Carbon steel, tin/lead plated over nickel underplating (3% min. lead)*
Shell, class K	304L alloy stainless steel, dull nickel plated
Insulators	Vitreous glass

SPECIFICATIONS		
Property	**Standard Density (#20)**	**High Density (#22)**
Current rating	5 Amps per contact maximum	3 Amps per contact maximum
Voltage rating (DWV)	70,000 ft. (21,336 meters)	500 VAC sea level
Voltage rating (DWV)	175 VAC 70,000 (21,336 m)	115 VAC 70,000 (21,336 m)
Insulation resistance	5 gigaohms minimum @ 500 VDC	
Hermeticity	meets or exceeds requirement of MIL-DTL-24308	
Contact resistance	165 milliohms maximum	
Thermal vacuum outgassing (class K)	1.0% max. TML , 0.1% max. CVCM	
Durability	500 mating cycles	
Operating temperature	-55 (+0/-3)° C to +125 (+3/-0)° C*	
Shock	50 g.	
Vibration	20 g.	
Corrosion resistance (salt spray)	48 hours	
Maximum wire size	#20 AWG	#22 AWG

* For O-ring sealing type, refer to Table I for temperature range limitations

TABLE I		
Elastomer	**O-Ring Temperature Range**	**Assembly Temperature Range**
Viton	-26°C to 205°C (-15°F to 400°F)	-26C to 155°C (-15°F to 311°F)
Nitrile	-34°C to 121°C (-30°F to 250°F)	-34°C to 121°C (-30°F to 250°F)
Fluorosilicone	-73°C to 177°C (-100°F to 350°F)	-55°C to 155°C (-67°F to 311°F)
Silicone	-54°C to 232°C (-100°F to 450°F)	-54°C to 155°C (-65°F to 311°F)
EPDM	-57°C to 149°C (-70°F to 300°F)	-55°C to 149°C (-67°F to 300°F)
Neoprene	-37°C to 107°C (-35°F to 225°F)	-37°C to 107°C (-35°F to 225°F)

Catalog Notes

For all parts in this catalog:

- All parts will be identified with manufacturer's name and part number, space permitting.
- Dimensions are subject to change without notice. Metric dimensions appear in parentheses in diagrams and tables, based on 1 inch = 25.4 mm, for reference only. Unless otherwise specified, the following other dimensional tolerances apply:

  .xx = ± .03 (0.8) Lengths = ± .060 (1.52)
  .xxx = ± .015 (0.4) Angles = ± 5°

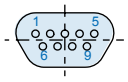
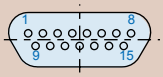
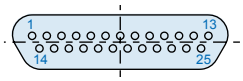
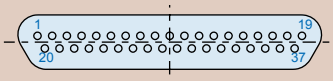
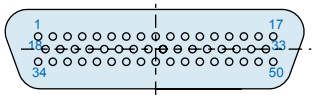
Customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. When errors or mistakes are brought to our attention, corrected content is posted immediately to www.glenair.com.

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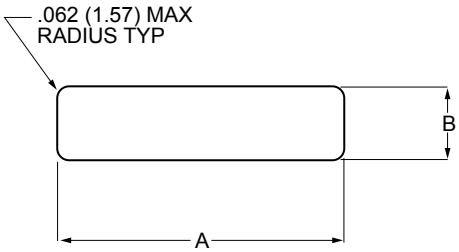
MIL-DTL-24308 Type
D-Subminiature Hermetic Connectors
Insert Arrangements and Panel Cut-Outs

STANDARD INSERT ARRANGEMENTS (#20 CONTACTS)

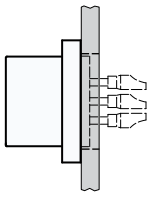
SHELL SIZE	NUMBER OF CONTACTS	MATING FACE OF CONNECTOR
1	9	
2	15	
3	25	
4	37	
5	50	

PANEL CUTOUTS

The cutout shown is for front-panel mounting of flange style A and B.

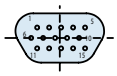
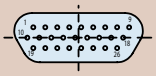
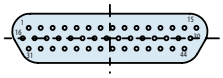
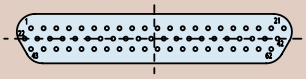
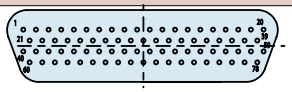
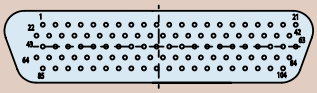


Shell Size	A		B	
	In. ± .005	mm. ± 0.13	In. ± .005	mm. ± 0.13
1	.745	18.92	.385	9.78
2	.950	24.13	.385	9.78
3	1.495	37.97	.385	9.78
4	2.145	54.48	.385	9.78
5	2.015	51.18	.520	13.21

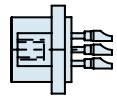


Front-Mounted Connector Installed on Bulkhead

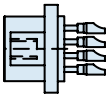
HIGH DENSITY INSERT ARRANGEMENTS (#22 CONTACTS)

SHELL SIZE	NUMBER OF CONTACTS	MATING FACE OF CONNECTOR
1	15	
2	26	
3	44	
4	62	
5	78	
6	104	

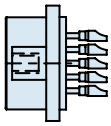
SOLDER CUP ORIENTATION



Sizes 1-4



Size 5



Size 6

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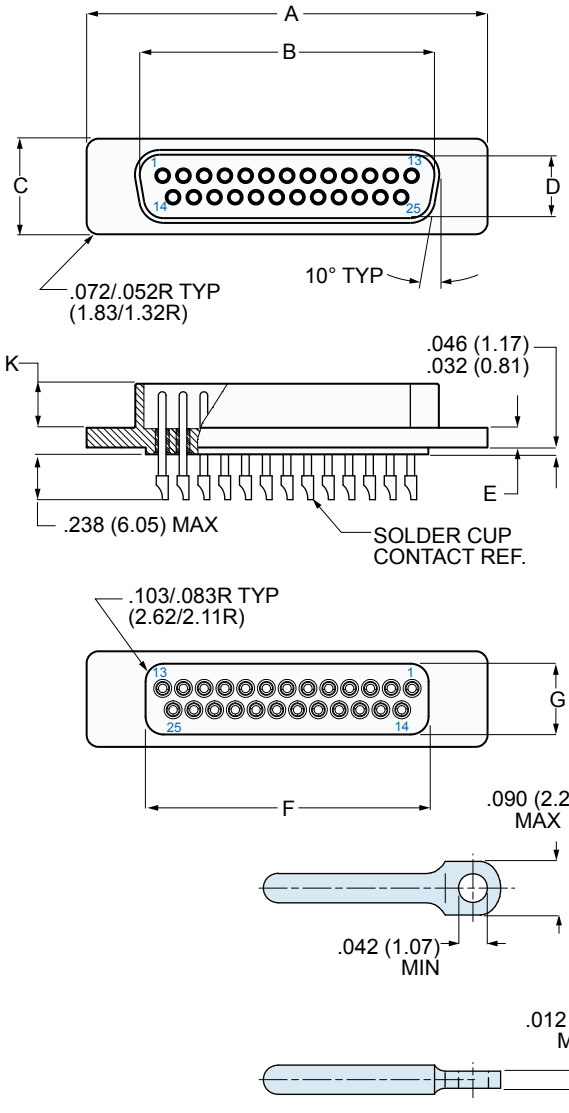
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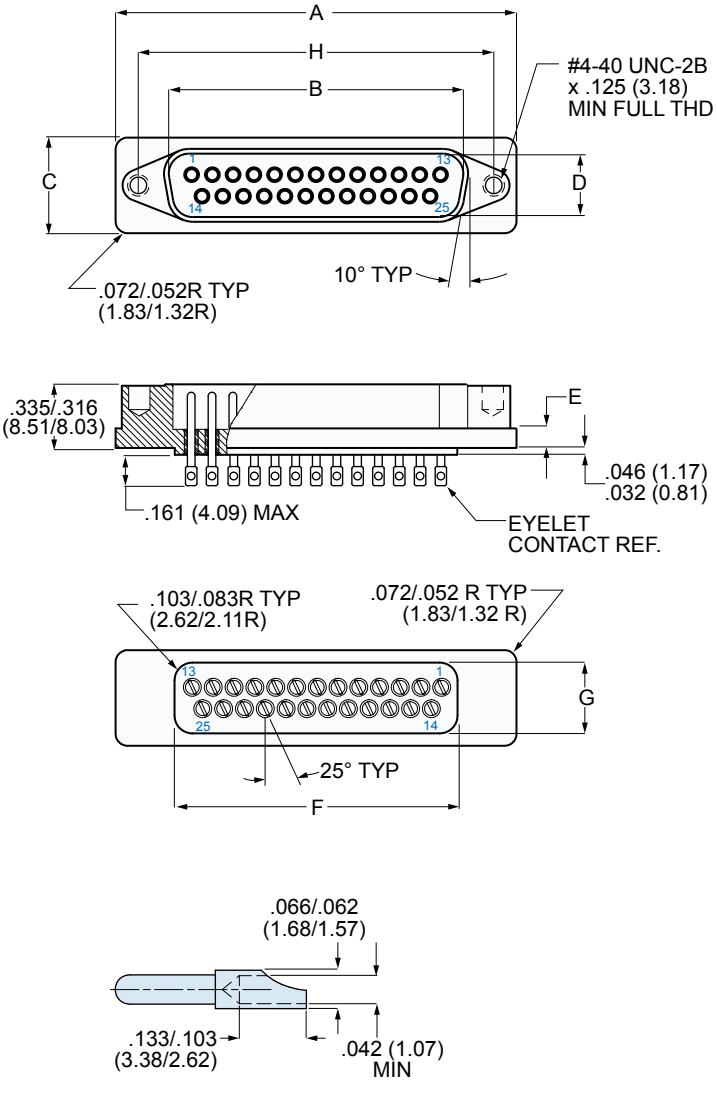
MIL-DTL-24308
D-Subminiature Hermetic Connectors
Style A and Style B Dimensions

Dimensions for Flange Style A



CONTACT STYLE X
EYELET

Dimensions for Flange Style B



CONTACT STYLE P
SOLDER CUP

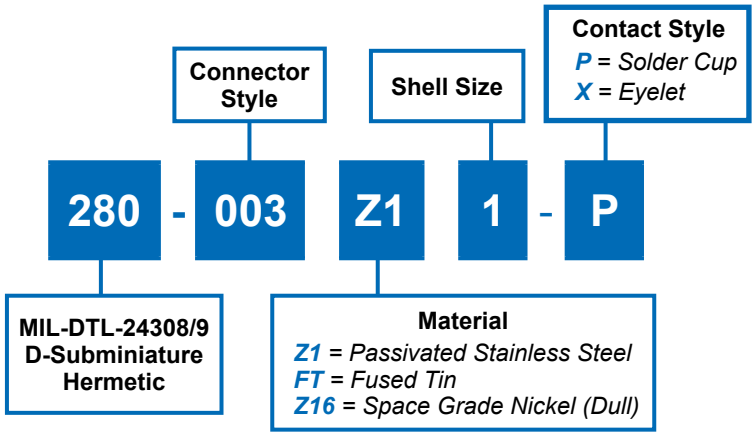
Shell Size	A		B		C		D		E		F		G		H		K	
	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.
	± .015	± 0.38	± .004	± 0.10	± .010	± 0.25	± .004	± 0.10	± .006	± 0.15	± .010	± 0.25	± .010	± 0.25	± .005	± 0.13	± .010	± 0.25
1	1.213	30.81	.667	16.94	.498	12.65	.330	8.38	.094	2.39	.725	18.42	.369	9.37	.984	24.99	.235	5.97
2	1.541	39.14	.993	25.22	.498	12.65	.330	8.38	.094	2.39	.932	23.67	.369	9.37	1.312	33.32	.235	5.97
3	2.088	53.04	1.535	38.99	.498	12.65	.330	8.38	.103	2.62	1.479	37.57	.369	9.37	1.852	47.04	.230	5.84
4	2.729	69.32	2.183	55.45	.498	12.65	.330	8.38	.103	2.62	2.125	53.98	.369	9.37	2.500	63.50	.230	5.84
5	2.635	66.93	2.079	52.81	.610	15.49	.441	11.20	.103	2.62	2.000	50.80	.500	12.70	2.406	61.11	.230	5.84

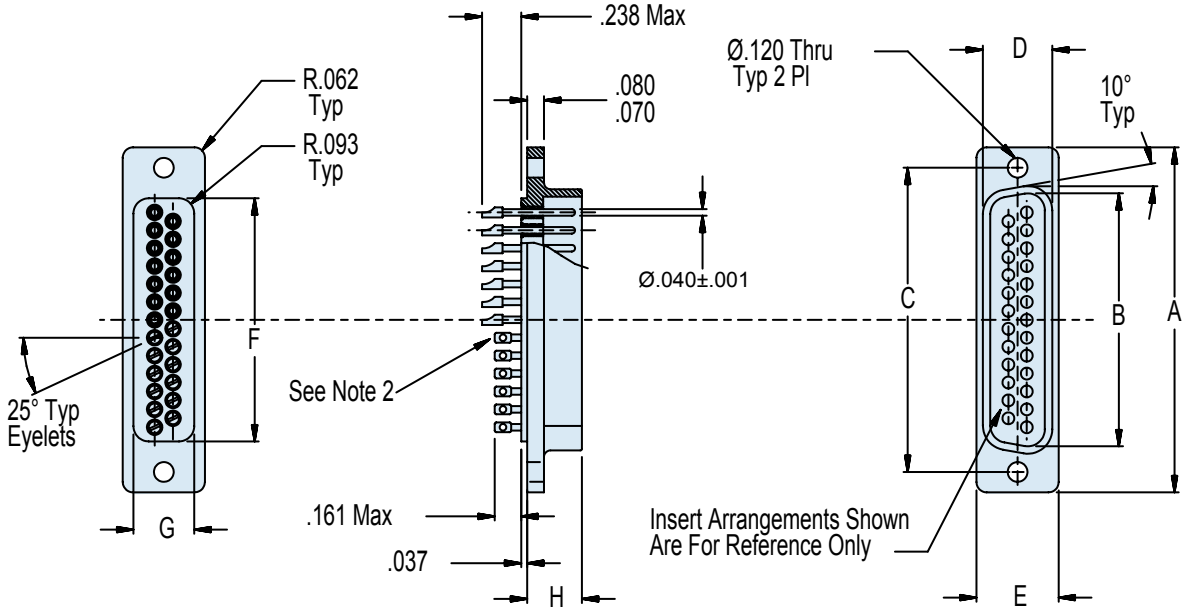
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280-003
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Receptacle

Glenair®





J

APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or Solder Cup (See Part Number Development)
3. Material/Finish:
   Shell: Z1 = Stainless steel/passivated.
   FT = Cold rolled steel/fused tin plate.
   Z16 = Stainless steel/nickel plated, dull finish
4. Insulators - Glass bead/N.A.
5. Contacts: Pins, Alloy 52/gold plated
6. Metric Dimensions (mm) are indicated in parentheses.
7. Test Criteria:
   - Hermeticity: 1 x 10^-7 ccHe/sec@ 1 ATM delta pressure
   - DWV: 750 VAC pin to shell without breakdown
   - Insulation Resistance: 5000 megohms min @ 500 VDC

Dimensions in Inches (millimeters) are subject to change without notice.

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280-003
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Receptacle

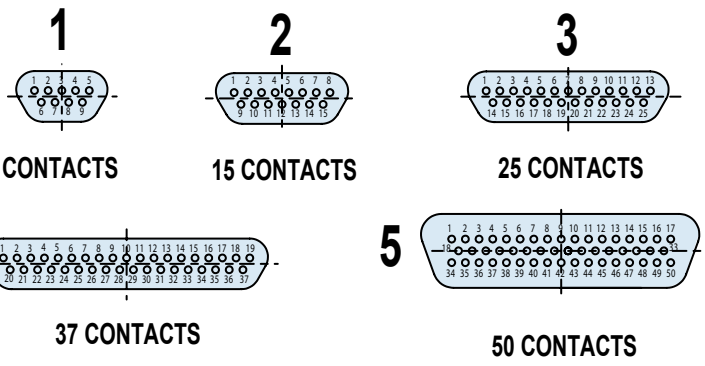


TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .010 (± 0.3)	Dim B ± .004 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .010 (± 0.3)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .010 (± 0.3)	Dim H ± .015 (± 0.4)
1	1.208 (30.7)	.667 (16.9)	.984 (25.0)	.366 (9.3)	.498 (12.6)	.725 (18.4)	.369 (9.4)	.334 (8.5)
2	1.545 (39.1)	.993 (25.2)	1.312 (33.3)	.366 (9.3)	.498 (12.6)	.932 (23.7)	.369 (9.4)	.334 (8.5)
3	2.093 (53.1)	1.535 (39.0)	1.852 (47.0)	.384 (9.8)	.498 (12.6)	1.479 (37.6)	.369 (9.4)	.334 (8.5)
4	2.733 (69.3)	2.183 (55.4)	2.500 (63.5)	.384 (9.8)	.498 (12.6)	2.125 (54.0)	.369 (9.4)	.334 (8.5)
5	2.640 (67.0)	2.079 (52.8)	2.406 (61.1)	.490 (12.4)	.610 (15.5)	2.000 (50.8)	.500 (12.7)	.334 (8.5)

Dimensions in Inches (millimeters) are subject to change without notice.

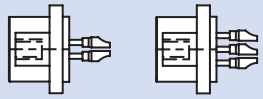
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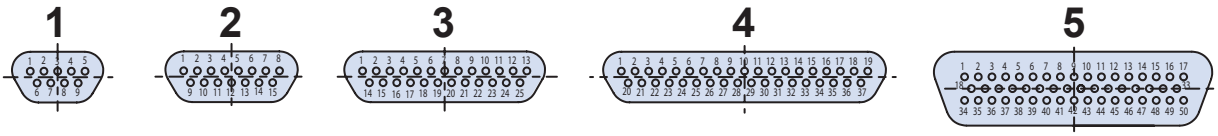
280-006
MIL-DTL-24308/9 Hermetic
Glass-Sealed D-Subminiature Receptacle

QPL qualified

MIL-DTL-24308 D-Subminiature Hermetic See TableIII	Class H = Hermetic
24308/9-1	H

SOLDER CUP ORIENTATION





9 CONTACTS | 15 CONTACTS | 25 CONTACTS | 37 CONTACTS | 50 CONTACTS

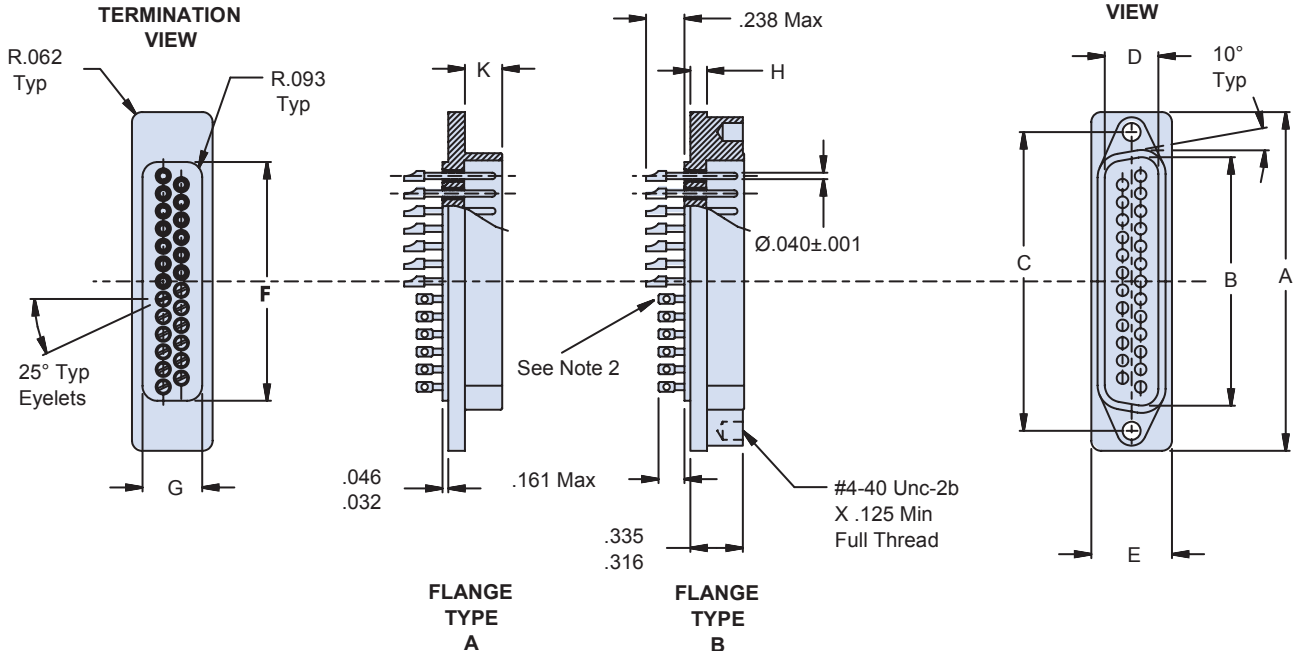


TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .010 (± 0.3)	Dim H ± .010 (± 0.3)	Dim K ± .006 (± 0.2)
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.498 (12.6)	.725 (18.4)	.369 (9.4)	.094 (2.4)	.235 (6.0)
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.498 (12.6)	.932 (23.7)	.369 (9.4)	.094 (2.4)	.235 (6.0)
3	2.088 (53.1)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.498 (12.6)	1.479 (37.6)	.369 (9.4)	.103 (2.6)	.230 (5.8)
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.498 (12.6)	2.125 (54.0)	.369 (9.4)	.103 (2.6)	.230 (5.8)
5	2.635 (66.0)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.000 (50.8)	.500 (12.7)	.103 (2.6)	.230 (5.8)

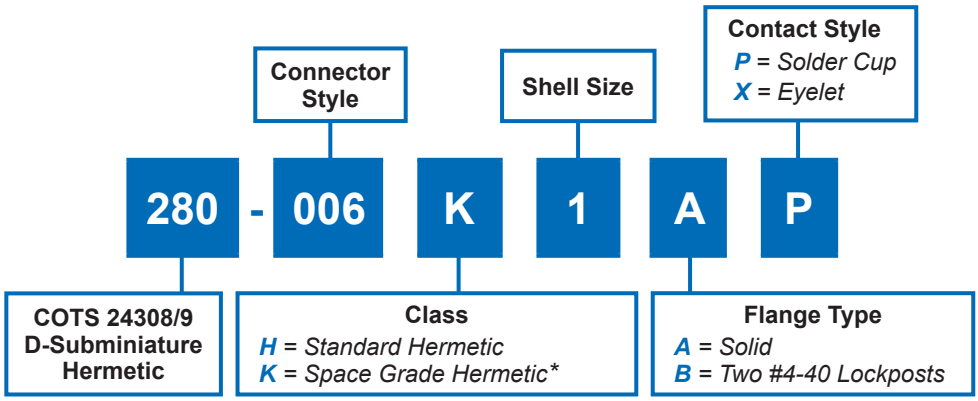
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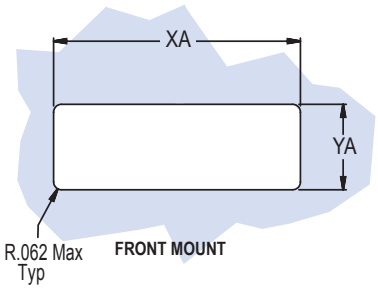
Rev. 08.21.23

280-006
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Receptacle



* NOT a current QPL Product. For a commercial equivalent, see 280-104

RECOMMENDED PANEL CUTOUT
SEE TABLE 2



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or Solder Cup (See Part Number Development).
3. Material/Finish
   Shells:
   H = FT Carbon steel/tin plate.
   K = Z16 Stainless steel/nickel plated.
   Insulators: Glass bead/N.A.
   Contacts: Pins, Alloy 52/gold plated
4. Performance:
   DWV - 750 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity <1.04 x 10^{-5} cc He/sec @ 1 atmosphere differential
5. Glenair 280-006 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
6. All dimensions are typical for flange types "A" and "B". "C" dim is not applicable to flange type "A".
7. Metric dimensions (mm) are indicated in parentheses.

TABLE II: PANEL CUT-OUT

Shell Sizes	Style A		Style B		
	Dim XA	Dim YA	Dim XB	Dim YB	Dim C
1	.745 (18.9)	.385 (9.8)	.799 (20.0)	.462 (11.7)	.984 (25.0)
2	.950 (24.1)	.385 (9.8)	1.125 (31.8)	.462 (11.7)	1.312 (33.3)
3	1.495 (38.0)	.385 (9.8)	1.690 (42.9)	.482 (12.2)	1.852 (47.0)
4	2.145 (54.5)	.385 (9.8)	2.335 (59.3)	.482 (12.2)	2.500 (63.5)
5	2.015 (51.2)	.520 (13.2)	2.231 (56.7)	.588 (14.9)	2.406 (61.1)

TABLE III: M24308 Configuration

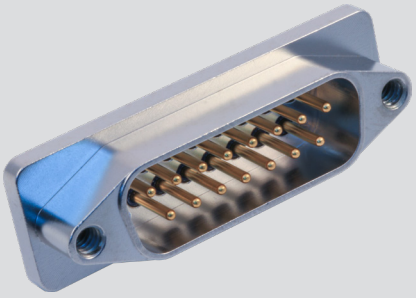
Part Number (PIN) Class H	Shell Size	Shell Detail / Flange Type	Insert Arrangement	Contact Terminals
M24308/9-1	1	A	A-1-1 (9P)	Solder cup
M24308/9-2	2	A	A-2-1 (15P)	Solder cup
M24308/9-3	3	A	A-3-1 (25P)	Solder cup
M24308/9-4	4	A	A-4-1 (37P)	Solder cup
M24308/9-5	5	A	A-5-1 (50P)	Solder cup
M24308/9-6	1	A	A-1-1 (9P)	Eyelet
M24308/9-7	2	A	A-2-1 (15P)	Eyelet
M24308/9-8	3	A	A-3-1 (25P)	Eyelet
M24308/9-9	4	A	A-4-1 (37P)	Eyelet
M24308/9-10	5	A	A-5-1 (50P)	Eyelet
M24308/9-11	1	B	A-1-1 (9P)	Solder cup
M24308/9-12	2	B	A-2-1 (15P)	Solder cup
M24308/9-13	3	B	A-3-1 (25P)	Solder cup
M24308/9-14	4	B	A-4-1 (37P)	Solder cup
M24308/9-15	5	B	A-5-1 (50P)	Solder cup
M24308/9-16	1	B	A-1-1 (9P)	Eyelet
M24308/9-17	2	B	A-2-1 (15P)	Eyelet
M24308/9-18	3	B	A-3-1 (25P)	Eyelet
M24308/9-19	4	B	A-4-1 (37P)	Eyelet
M24308/9-20	5	B	A-5-1 (50P)	Eyelet

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D-Subminiature Hermetic Connectors

280-115 High Performance* Solder or Weld Mount Connector

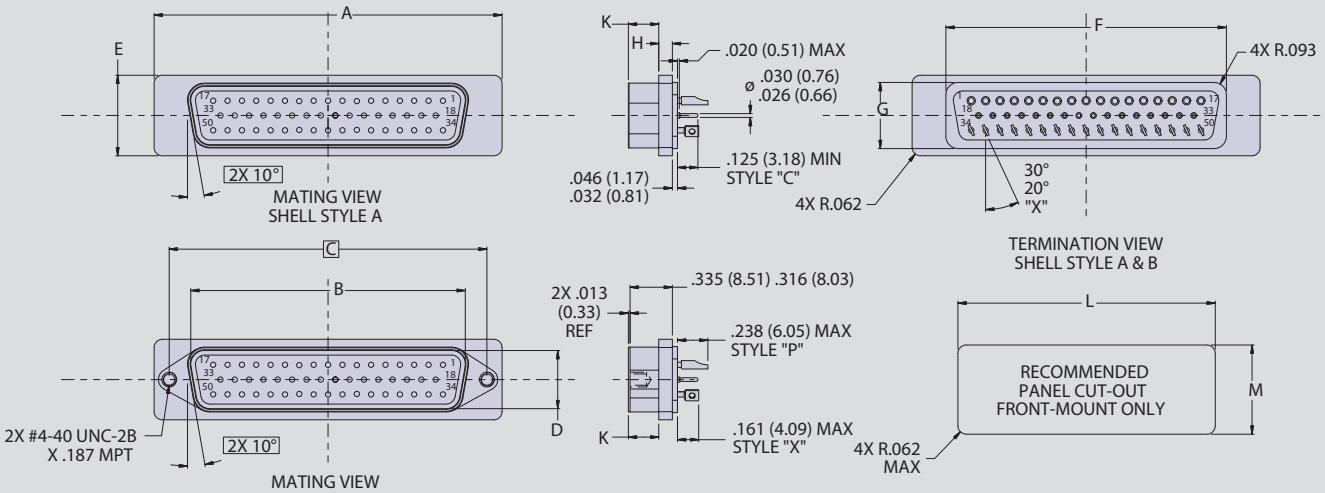


* Superior Voltage and Leak performance over standard MIL-DTL-24308 Sub-miniature D hermetic connectors.

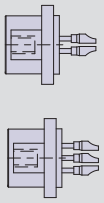
Part Number Development

Sample Part Number	280-115	H	4	SD	B	P

Series	**280-115** Hermetic Receptacle
Class	**H** = Standard
Shell Size	**1, 2, 3, 4, 5**
Arrangement	**SD** = Standard Density Only
Shell Style	**A** = No Jackpost Mount **B** = Integral Jackpost Mount
Contact Type	**C** = P.C. Termination **P** = Solder Cup **X** = Eyelet



SOLDER CUP ORIENTATION



NOTES

1. Testing Criteria:
   - DWV: 1000 VAC pin-to-pin & pin-to-shell
   - I.R.: 5,000 megOhms min @ 500VDC
   - Hermeticity - <1 x 10^{-7} ccHe/sec @ 1 Atmosphere Delta P
2. Glenair 280-115 will mate with any QPL MIL-DTL-24308 plug and receptacle of the same size and opposite contact gender
3. Material / Finish:
   - Shell H: Kovar alloy / nickel plated
   - Contacts - Kovar alloy / gold plated
   - Insulator - full glass

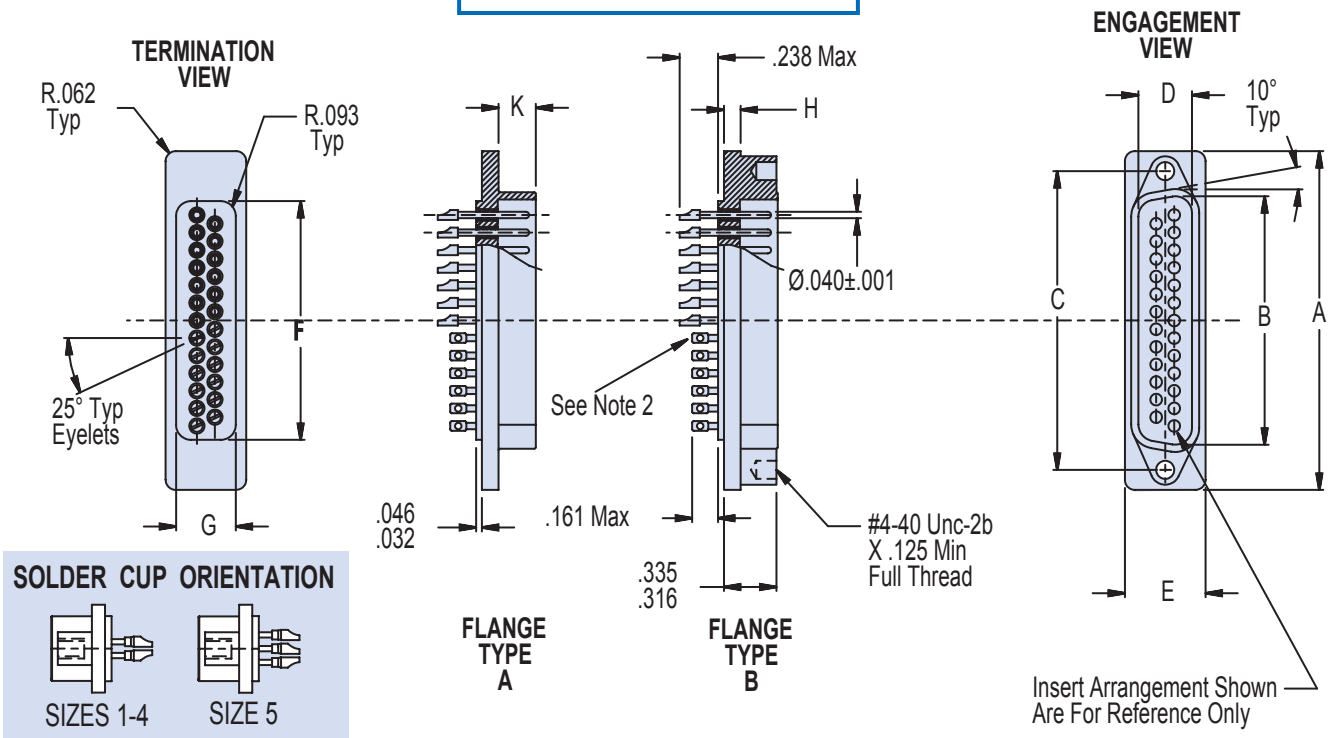
Dimensions

SHELL SIZES	PIN COUNT	DIM A ±.015	DIM B ±.004	DIM C ±.005	DIM D ±.004	DIM E ±.010	DIM F ±.010	DIM G ±.010	DIM H ±.010	DIM K ±.006	DIM L MIN	DIM M MIN
1	9	1.213 (30.81)	0.667 (16.94)	0.984 (24.99)	0.330 (8.38)	0.498 (12.65)	0.750 (19.05)	0.369 (9.37)	0.094 (2.39)	0.235 (5.97)	0.765 (19.43)	0.384 (9.75)
2	15	1.541 (39.14)	0.993 (25.22)	1.312 (33.32)	0.330 (8.38)	0.498 (12.65)	1.070 (27.18)	0.369 (9.37)	0.094 (2.39)	0.235 (5.97)	1.085 (27.56)	0.384 (9.75)
3	25	2.088 (53.04)	1.535 (38.99)	1.852 (47.04)	0.330 (8.38)	0.498 (12.65)	1.610 (40.89)	0.368 (9.35)	0.103 (2.62)	0.230 (5.84)	1.625 (41.28)	0.384 (9.75)
4	37	2.729 (69.32)	2.183 (55.45)	2.500 (63.50)	0.330 (8.38)	0.498 (12.65)	2.250 (57.15)	0.369 (9.37)	0.103 (2.62)	0.230 (5.84)	2.265 (57.53)	0.384 (9.75)
5	50	2.635 (66.93)	2.079 (52.81)	2.406 (61.11)	0.610 (15.49)	0.610 (15.49)	2.125 (53.98)	0.500 (12.70)	0.103 (2.62)	0.230 (5.84)	2.140 (54.36)	0.515 (13.08)

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Dimensions in Inches (millimeters) are subject to change without notice.

280-104
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Receptacle

280	-	104	K	1	A	P
MIL-DTL-24308/9 D-Subminiature Hermetic		Connector Style	Class: *FTR* = Standard Hermetic (RoHs); *H* = Standard Hermetic; *K* = Space Grade Hermetic	Shell Size	Flange Type: *A* = Solid; *B* = Two #4-40 Lockposts	Contact Style: *P* = Solder Cup; *X* = Eyelet



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or Solder Cup (See Part Number Development).
3. Material/Finish:
   Shell: H = FT - Carbon steel/tin plate.
   K = Z16 = Stainless steel/nickel plated, dull finish.
   FTR = Carbon steel/tin fused (RoHs compliant)
   Insulators: Glass bead/N.A.
   Contacts: Pins, nickel alloy/gold plated
4. Performance:
   DWV - 750 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity <1 x 10^{-7} cc He/sec @ 1 atmosphere differential
5. Glenair 280-104 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
6. All dimensions are typical for flange types "A" and "B". "C" dim is not applicable to flange type "A".
7. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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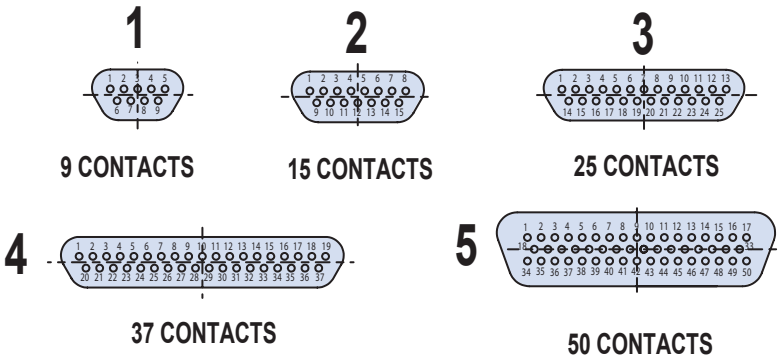


TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .010 (± 0.3)	Dim H ± .010 (± 0.3)	Dim K ± .006 (± 0.2)
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.498 (12.6)	.725 (18.4)	.369 (9.4)	.094 (2.4)	.235 (6.0)
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.498 (12.6)	.932 (23.7)	.369 (9.4)	.094 (2.4)	.235 (6.0)
3	2.088 (53.1)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.498 (12.6)	1.479 (37.6)	.369 (9.4)	.103 (2.6)	.230 (5.8)
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.498 (12.6)	2.125 (54.0)	.369 (9.4)	.103 (2.6)	.230 (5.8)
5	2.635 (66.0)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.000 (50.8)	.500 (12.7)	.103 (2.6)	.230 (5.8)

RECOMMENDED PANEL CUTOUT
SEE TABLE 2

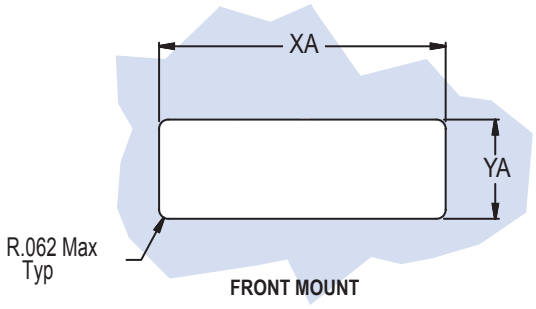


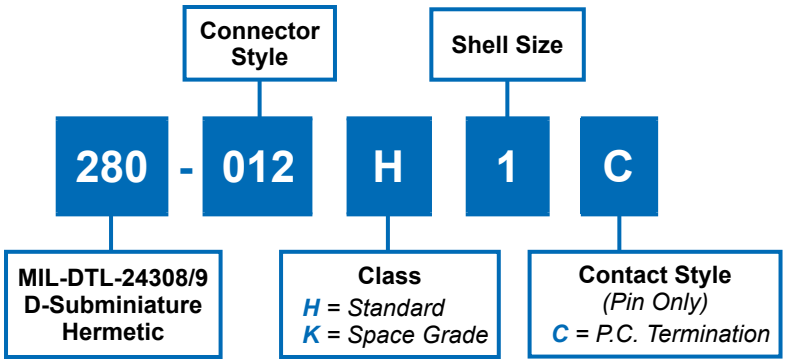
TABLE II: PANEL CUT-OUT

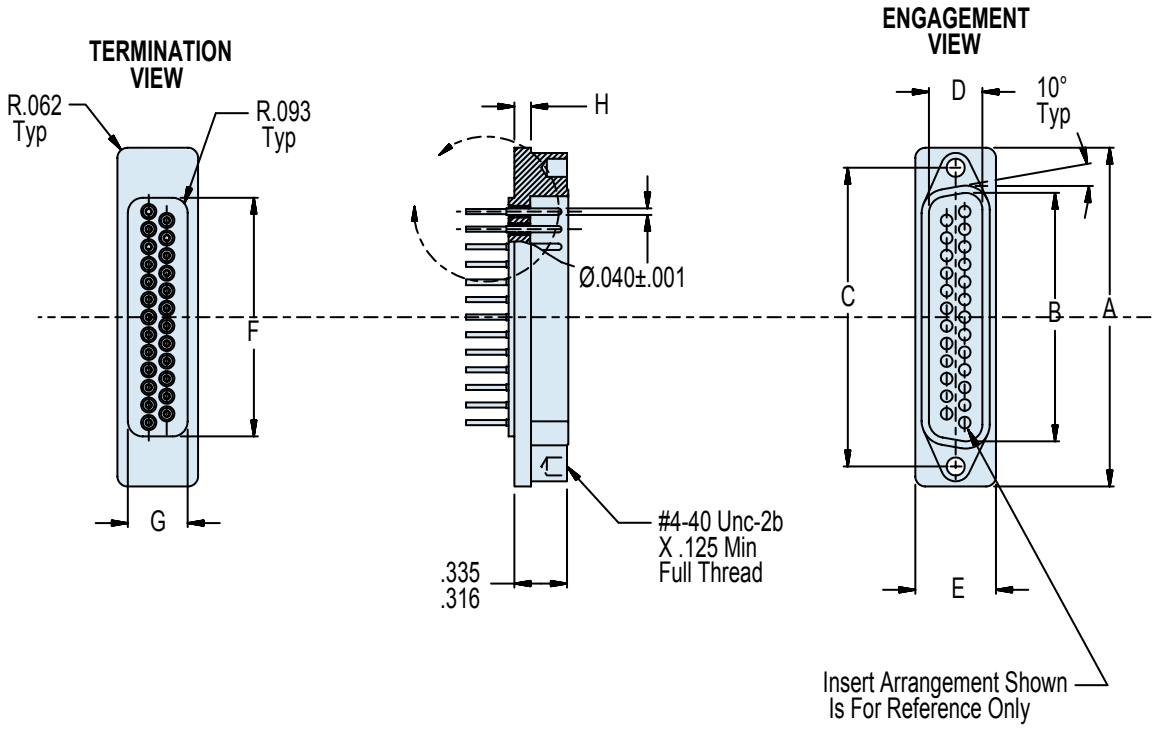
Shell Sizes	Style A		Style B		
	Dim XA	Dim YA	Dim XB	Dim YB	Dim C
1	.745 (18.9)	.385 (9.8)	.799 (20.0)	.462 (11.7)	.984 (25.0)
2	.950 (24.1)	.385 (9.8)	1.125 (31.8)	.462 (11.7)	1.312 (33.3)
3	1.495 (38.0)	.385 (9.8)	1.690 (42.9)	.482 (12.2)	1.852 (47.0)
4	2.145 (54.5)	.385 (9.8)	2.335 (59.3)	.482 (12.2)	2.500 (63.5)
5	2.015 (51.2)	.520 (13.2)	2.231 (56.7)	.588 (14.9)	2.406 (61.1)

Dimensions in Inches (millimeters) are subject to change without notice.

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280-012
MIL-DTL-24308/9 Type Hermetic
Rear Printed Circuit Board Termination
Glass-Sealed D-Subminiature Connector





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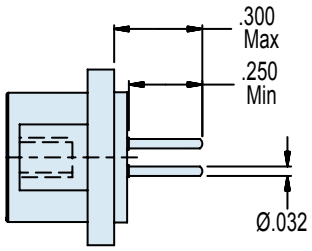
APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Printed circuit termination only.
3. Material/Finish:
   Shell: H = FT - Carbon steel/tin plated.
   K = Z16 - Stainless steel/nickel plated, dull finish.
   Insulators: Glass bead/N.A.
   Contacts: Pins, Alloy 52/gold plated
4. Performance:
   DWV - 750 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity - 1 x 10^{-7} scc He/sec @1 atmosphere differential
5. Glenair 280-012 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
6. Metric dimensions (mm) are indicated in parentheses.

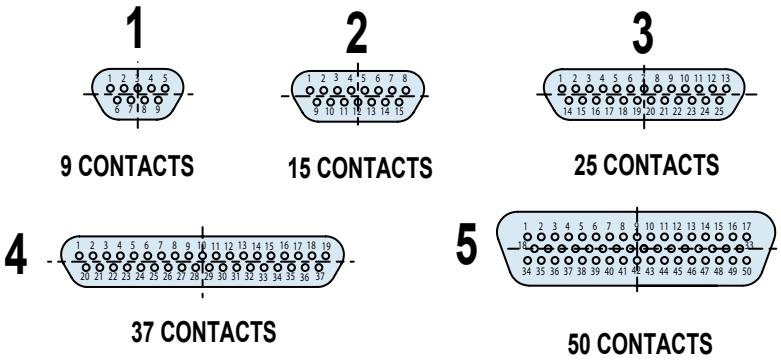
Dimensions in Inches (millimeters) are subject to change without notice.

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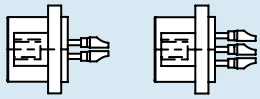
280-012
MIL-DTL-24308/9 Type Hermetic
Rear Printed Circuit Board Termination
Glass-Sealed D-Subminiature Connector



Contact Detail



SOLDER CUP ORIENTATION



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TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .010 (± 0.3)	Dim H ± .010 (± 0.3)	Dim K ± .006 (± 0.2)
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.498 (12.6)	.725 (18.4)	.369 (9.4)	.094 (2.4)	.235 (6.0)
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.498 (12.6)	.932 (23.7)	.369 (9.4)	.094 (2.4)	.235 (6.0)
3	2.088 (53.0)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.498 (12.6)	1.479 (37.6)	.369 (9.4)	.103 (2.6)	.230 (5.8)
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.498 (12.6)	2.125 (54.0)	.369 (9.4)	.103 (2.6)	.230 (5.8)
5	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.000 (50.8)	.500 (12.7)	.103 (2.6)	.230 (5.8)

RECOMMENDED PANEL CUTOUT
SEE TABLE II

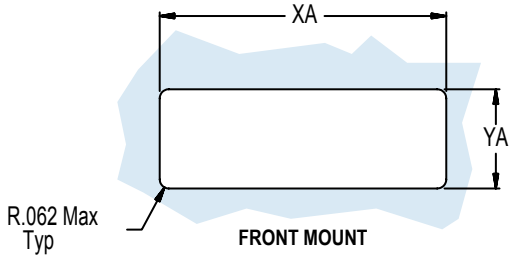


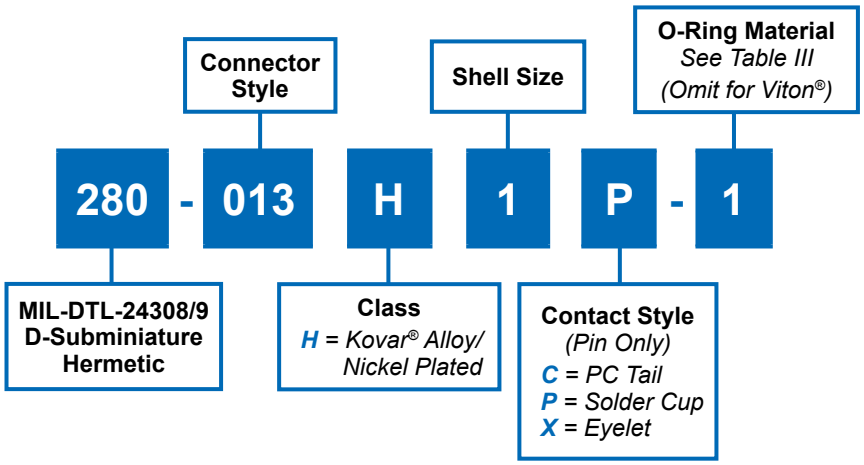
TABLE II: PANEL CUT-OUT

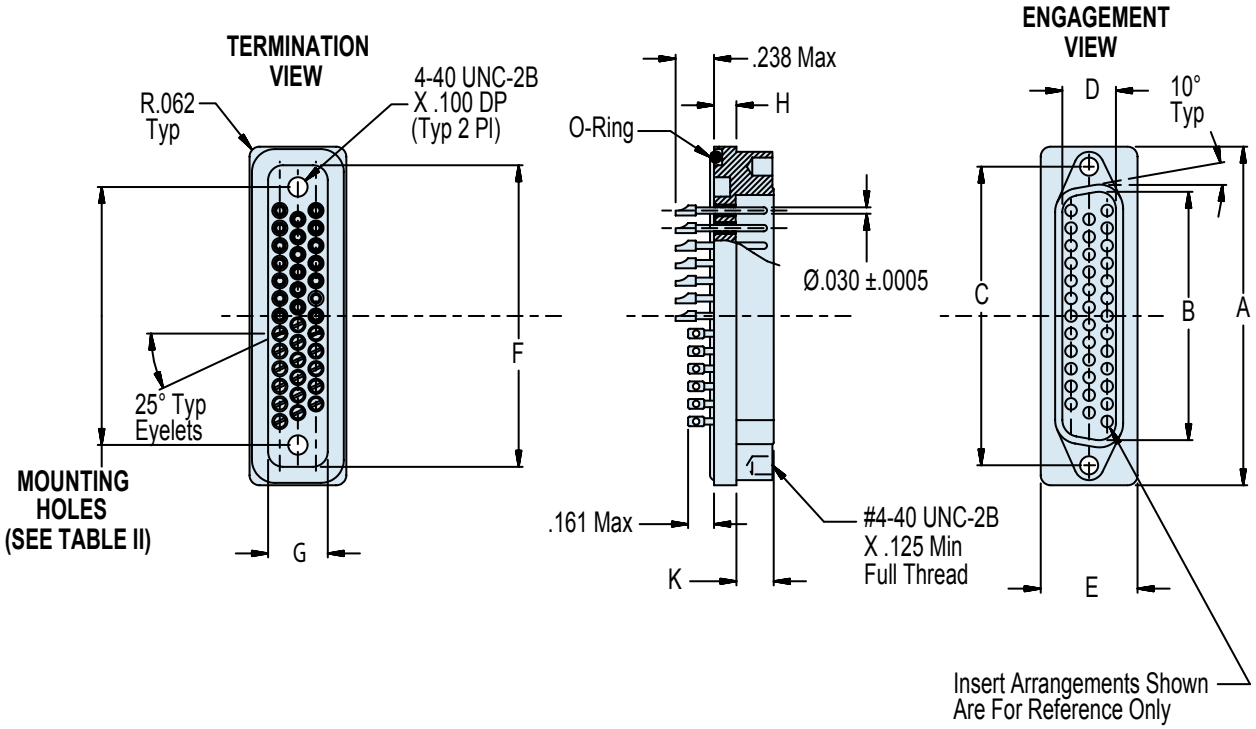
Shell Sizes	Style A		Style B		
	Dim XA	Dim YA	Dim XB	Dim YB	Dim C
1	.745 (18.9)	.385 (9.8)	.799 (20.0)	.462 (11.7)	.984 (25.0)
2	.950 (24.1)	.385 (9.8)	1.125 (31.8)	.462 (11.7)	1.312 (33.3)
3	1.495 (38.0)	.385 (9.8)	1.690 (42.9)	.482 (12.2)	1.852 (47.0)
4	2.145 (54.5)	.385 (9.8)	2.335 (59.3)	.482 (12.2)	2.500 (63.5)
5	2.015 (51.2)	.520 (13.2)	2.231 (56.7)	.588 (14.9)	2.406 (61.1)

Dimensions in Inches (millimeters) are subject to change without notice.

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280-013
MIL-DTL-24308/9 Type Hermetic
O-Ring Panel Sealing
Glass-Sealed D-Subminiature High Density Connector





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APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or solder cup (see part development).
3. Material/Finish:
   Shell: Kovar® alloy/nickel plated.
   Insulators: Glass bead/N.A.
   Contacts: Kovar® alloy/gold plated
   O-Ring: Specify (see Table III)/N.A.
4. Performance:
   DWV - 500 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity - <1 x 10 scc He/sec @1x10^{-8} atmosphere differential
5. Glenair 280-013 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
6. Metric dimensions (mm) are indicated in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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280-013
MIL-DTL-24308/9 Type Hermetic
O-Ring Panel Sealing
Glass-Sealed D-Subminiature High Density Connector

TABLE III: O-RING MATERIAL	
Dash Number	**Material**
None	Viton®
-1	Nitrile
-2	Fluorosilicone
-3	Silicone

CONTACT ARRANGEMENTS

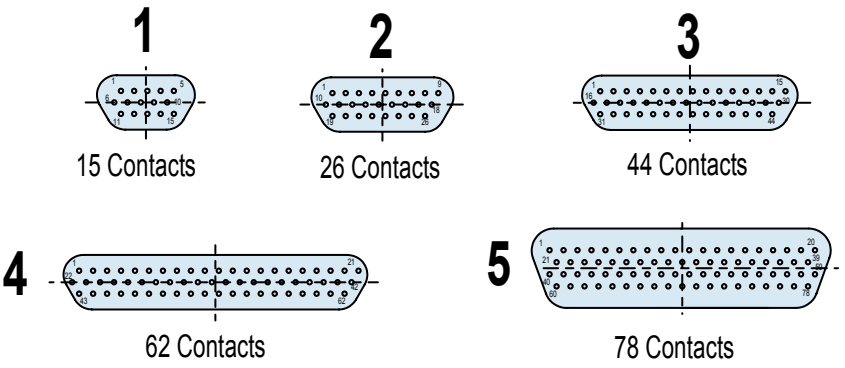
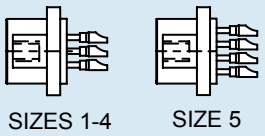


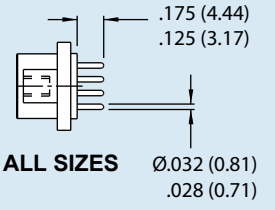
TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .010 (± 0.3)	Dim H ± .010 (± 0.3)	Dim K ± .006 (± 0.2)	O-Ring 2-
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.600 (15.2)	.874 (22.2)	.272 (6.9)	.155 (3.9)	.235 (6.0)	-017
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.600 (15.2)	1.270 (32.3)	.372 (9.5)	.155 (3.9)	.235 (6.0)	-022
3	2.088 (53.0)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.600 (15.2)	1.760 (44.7)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-027
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.600 (15.2)	2.418 (61.4)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-031
5	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.418 (61.4)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-031

SOLDER CUP ORIENTATION



PC TAIL ORIENTAITON



RECOMMENDED PANEL CUTOUT
SEE TABLE II

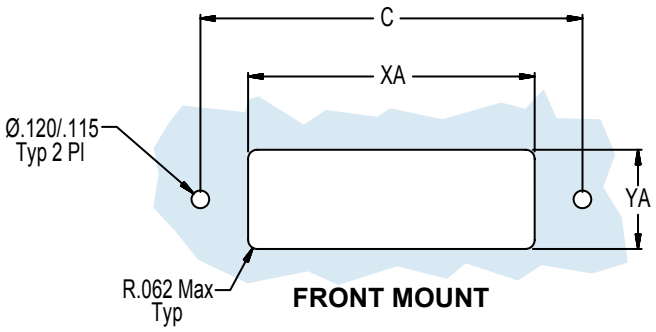


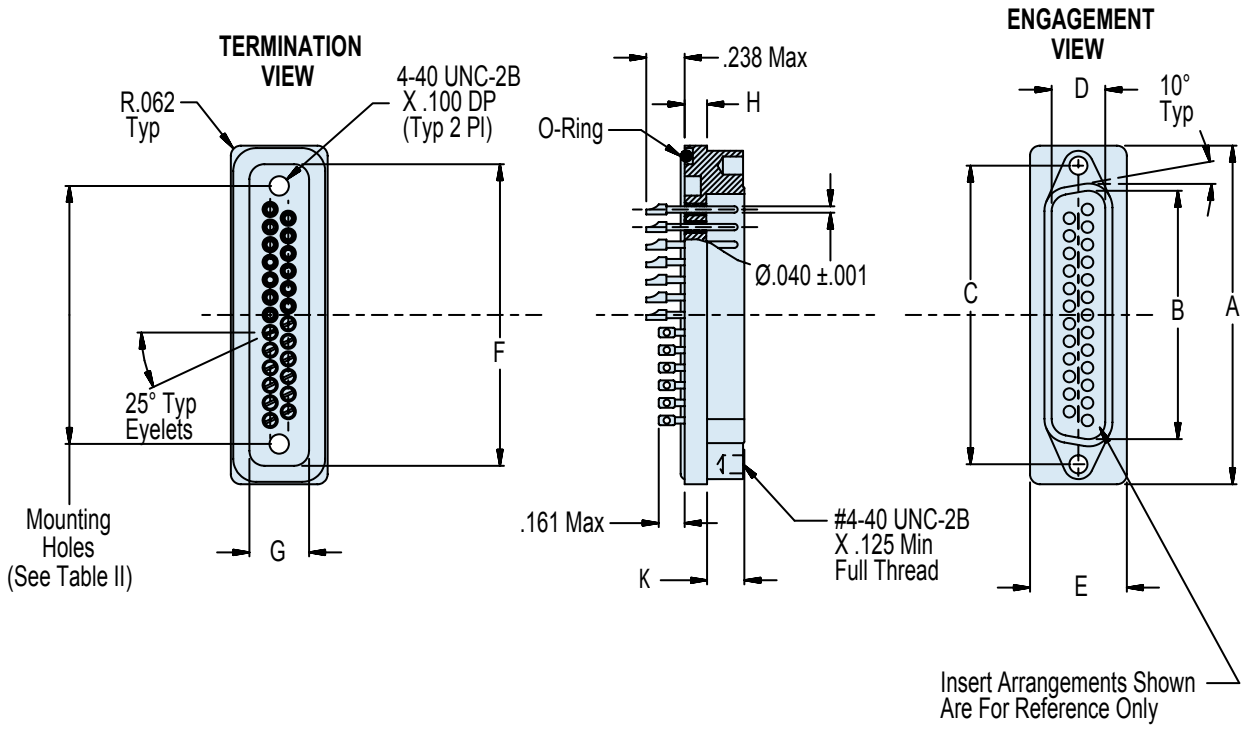
TABLE II: PANEL CUT-OUT			
Shell Size	**Dim XA**	**Dim YA**	**Dim C**
1	.500 (12.7)	.220 (5.6)	.674 (17.1)
2	.830 (21.1)	.220 (5.6)	1.070 (27.2)
3	1.375 (34.9)	.220 (5.6)	1.560 (39.6)
4	2.000 (50.8)	.220 (5.6)	2.150 (54.6)
5	1.850 (47.0)	.300 (7.6)	2.200 (55.9)

Dimensions in Inches (millimeters) are subject to change without notice.

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280-014
MIL-DTL-24308/9 Type Hermetic
O-Ring Panel Sealing
Glass-Sealed D-Subminiature Connector

280	-	014	H	1	P	-	1
MIL-DTL-24308/9 D-Subminiature Hermetic		Connector Style	Class: *H* = Carbon Steel/ Tin Plated; *K* = Z16 - Stainless Steel/Nickel Plated, Dull Finish	Shell Size	Contact Style (Pin Only): *P* = Solder Cup; *X* = Eyelet		O-Ring Material *See Table III* (Omit for Viton®)



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or solder cup (see part development).
3. Material/Finish:
   Shell: H = FT - Carbon steel/tin plated.
   K = Z16 - Stainless steel/nickel plated dull finish.
   Insulators: Glass bead/N.A.
   Contacts: Alloy 52/gold plated
   O-Ring: Specify (see Table III)/N.A.
4. Performance:
   DWV - 500 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity - <1 x 10^{-7} scc He/sec @1 atmosphere differential
5. Glenair 280-014 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
6. Metric dimensions (mm) are indicated in parentheses.

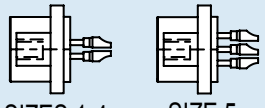
Dimensions in Inches (millimeters) are subject to change without notice.

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280-014
MIL-DTL-24308/9 Type Hermetic
O-Ring Panel Sealing
Glass-Sealed D-Subminiature Connector

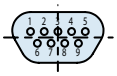
TABLE III: O-RING MATERIAL	
Dash Number	**Material**
None	Viton®
-1	Nitrile
-2	Fluorosilicone
-3	Silicone

SOLDER CUP ORIENTATION



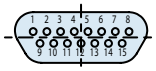
SIZES 1-4 SIZE 5

1



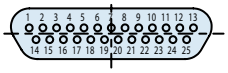
9 CONTACTS

2



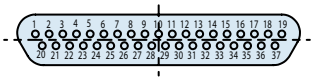
15 CONTACTS

3



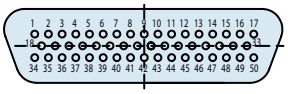
25 CONTACTS

4



37 CONTACTS

5

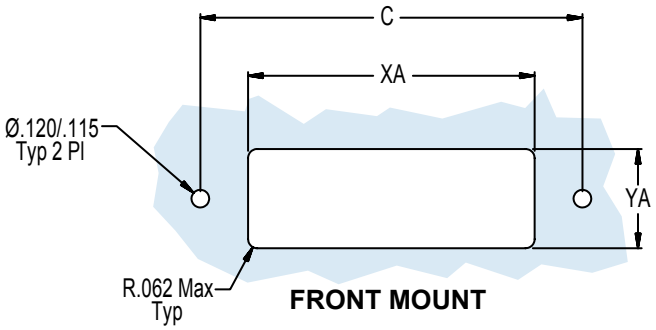


50 CONTACTS

J

TABLE I: CONNECTOR DIMENSIONS										
Shell Size	**Dim A ± .015 (± 0.4)**	**Dim B ± .004 (± 0.1)**	**Dim C ± .005 (± 0.1)**	**Dim D ± .004 (± 0.1)**	**Dim E ± .010 (± 0.3)**	**Dim F ± .010 (± 0.3)**	**Dim G ± .010 (± 0.3)**	**Dim H ± .010 (± 0.3)**	**Dim K ± .006 (± 0.2)**	**O-Ring 2-**
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.600 (15.2)	.874 (22.2)	.272 (6.9)	.155 (3.9)	.235 (6.0)	-017
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.600 (15.2)	1.270 (32.3)	.372 (9.5)	.155 (3.9)	.235 (6.0)	-022
3	2.088 (53.0)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.600 (15.2)	1.760 (44.7)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-027
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.600 (15.2)	2.418 (61.4)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-031
5	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.418 (61.4)	.372 (9.5)	.160 (4.1)	.230 (5.8)	-031

RECOMMENDED PANEL CUTOUT
SEE TABLE II



FRONT MOUNT

TABLE II: PANEL CUT-OUT			
Shell Size	**Dim XA**	**Dim YA**	**Dim C**
1	.520 (13.2)	.220 (5.6)	.674 (17.1)
2	.850 (21.6)	.300 (7.6)	1.070 (27.2)
3	1.380 (35.1)	.300 (7.6)	1.560 (39.6)
4	2.035 (51.7)	.300 (7.6)	2.200 (55.9)
5	1.850 (47.0)	.320 (8.1)	2.200 (55.9)

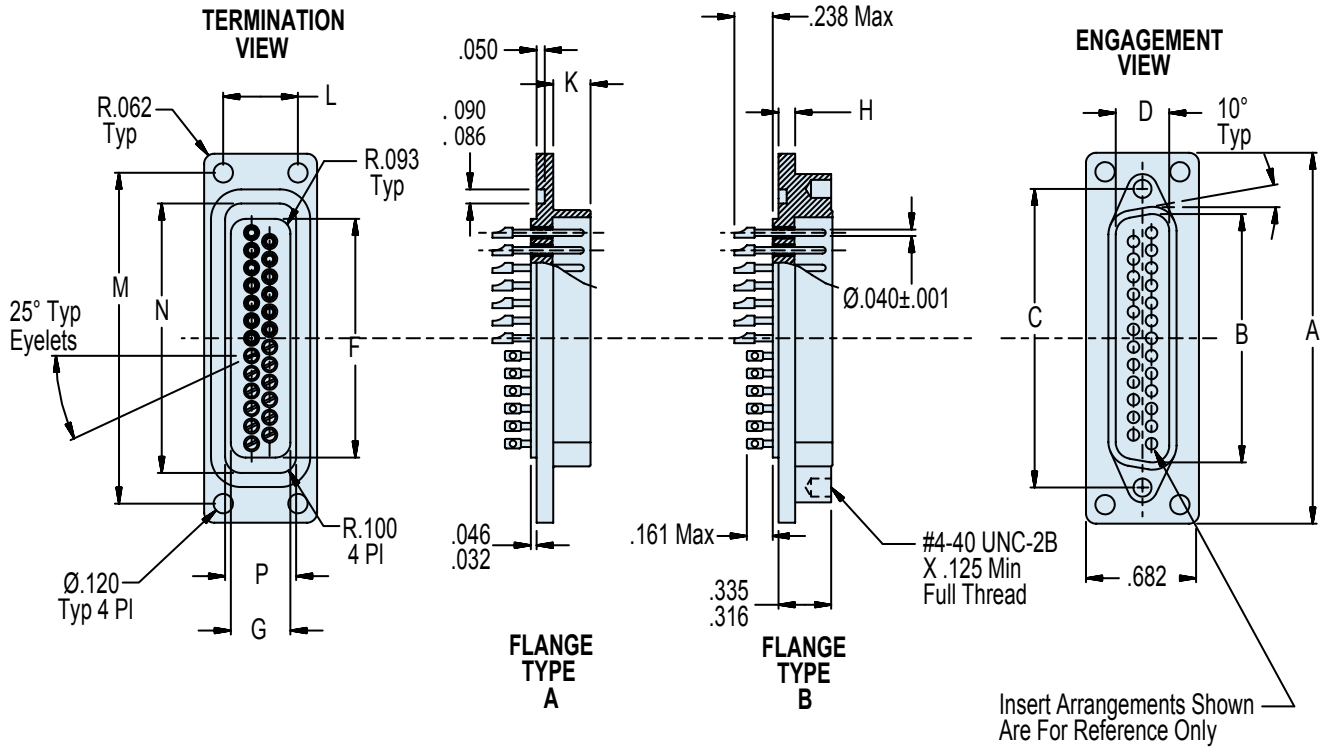
Dimensions in Inches (millimeters) are subject to change without notice.

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287-018
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Connector
Front Mount O-Ring Seal

Glenair®

287	-	018	K	1	A	P	-	1
MIL-DTL-24308/9 D-Subminiature Hermetic		Connector Style	Class *H* = Standard *K* = Space Grade	Shell Size	Flange Type *A* = Solid *B* = Two #4-40 Lockposts	Contact Style (Pin Only) *P* = Solder Cup *X* = Eyelet		O-Ring Material See Table III (Omit for Viton®)



APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or solder cup (see part development).
3. Material/Finish:
   Shell: H = FT - Carbon steel/tin plated.
   K = Z16 - Stainless steel/nickel plated dull finish.
   Insulators: Glass bead/N.A.
   Contacts: Pins, alloy 52/gold plated.
4. Metric dimensions (mm) are indicated in parentheses.
5. Performance:
   DWV - 750 VAC Pin-to-Shell
   I.R. - 5,000 Megohms Min @ 500 VDC
   Hermeticity - <1 x 10^{-7} scc He/sec @ 1 atmosphere differential.
6. All dimensions are typical for flange types "A" and "B". "C" dim is not applicable to flange type "A".
7. Glenair 287-018 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.

Dimensions in Inches (millimeters) are subject to change without notice.

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287-018
MIL-DTL-24308/9 Type Hermetic
Glass-Sealed D-Subminiature Connector
Front Mount O-Ring Seal

TABLE III: O-RING MATERIAL

Dash Number	Material
None	Viton®
-1	Nitrile
-2	Fluorosilicone
-3	Silicone
CE*	Conductive Epdm
CF*	Conductive Fluorsilicone
CS*	Conductive Silicone

*Customer to specify Chomerics® compound of choice.

Example:
CF1217 = Silver-Plated copper in fluorosilicone

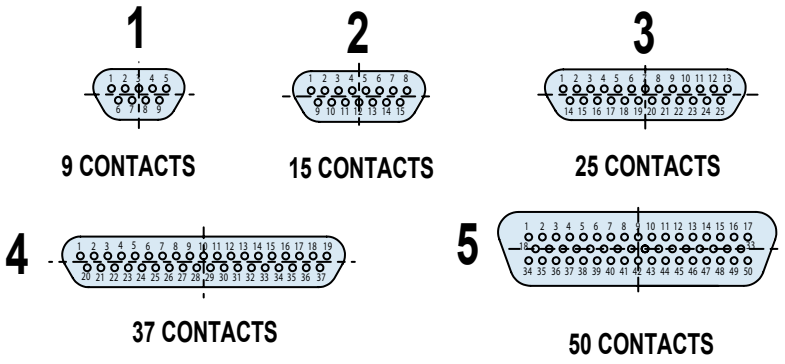
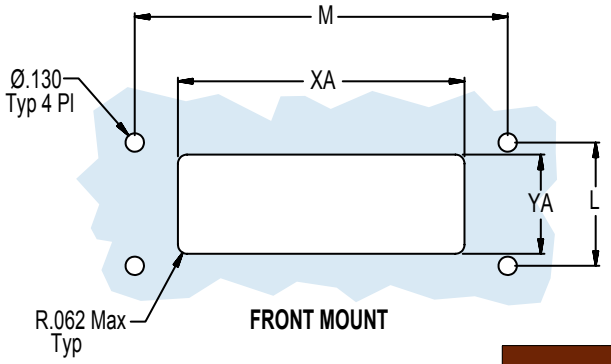


TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ±.015 (±0.4)	Dim B ±.004 (±0.1)	Dim C ±.005 (±0.1)	Dim D ±.004 (±0.1)	Dim E ±.010 (±0.3)	Dim F ±.010 (±0.3)	Dim G ±.010 (±0.3)	Dim H ±.010 (±0.3)	Dim K ±.006 (±0.2)	Dim L BSC	M BSC	N ±.005 (±0.1)	P ±.005 (±0.1)
1	1.413 (35.9)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.698 (17.7)	.725 (18.4)	.369 (9.4)	.094 (2.4)	.235 (6.0)	.462 (11.7)	1.177 (29.9)	.805 (20.4)	.440 (11.2)
2	1.741 (44.2)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.698 (17.7)	.932 (23.7)	.369 (9.4)	.094 (2.4)	.235 (6.0)	.462 (11.7)	1.499 (38.1)	1.002 (25.5)	.440 (11.2)
3	2.288 (58.1)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.698 (17.7)	1.479 (37.6)	.369 (9.4)	.103 (2.6)	.230 (5.8)	.462 (11.7)	1.972 (50.1)	1.589 (40.4)	.440 (11.2)
4	2.929 (74.4)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.698 (17.7)	2.125 (54.0)	.369 (9.4)	.103 (2.6)	.230 (5.8)	.462 (11.7)	2.693 (68.4)	2.183 (55.4)	.440 (11.2)
5	2.835 (72.0)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.810 (20.6)	2.000 (50.8)	.500 (12.7)	.103 (2.6)	.230 (5.8)	.654 (16.6)	2.599 (66.0)	2.250 (57.2)	.570 (14.5)

RECOMMENDED PANEL CUTOUT
SEE TABLE 2



HERMETIC LEAK RATE MOD CODES

Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second

SOLDER CUP ORIENTATION

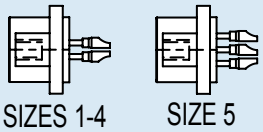


TABLE II: PANEL CUT-OUT

Shell Size	Dim XA	Dim YA	Dim L	Dim M
1	.745 (18.9)	.385 (9.8)	.462 (11.7)	1.177 (29.9)
2	.950 (24.1)	.385 (9.8)	.462 (11.7)	1.499 (38.1)
3	1.495 (38.0)	.385 (9.8)	.462 (11.7)	1.972 (50.1)
4	2.145 (54.5)	.385 (9.8)	.462 (11.7)	2.693 (68.4)
5	2.015 (51.2)	.520 (13.2)	.654 (16.6)	2.599 (66.0)

Dimensions in Inches (millimeters) are subject to change without notice.

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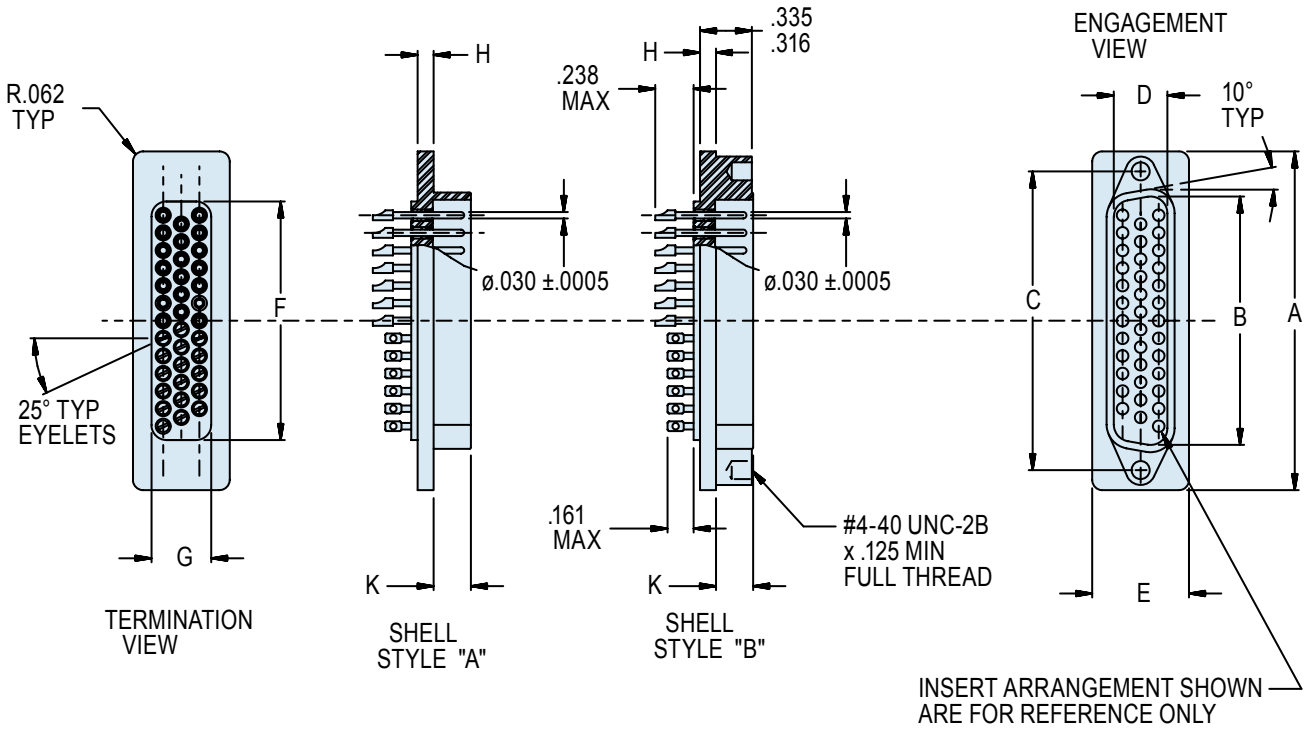
287-035
MIL-DTL-24308/9 Type Hermetic High Density
Glass-Sealed D-Subminiature Connector

Basic Number	Shell Size	Shell Type		
287-035	FT	1	P	A

Class
FT = Fused Tin
Z1 = Passivated
ZL = Nickel Plated

Contact Style
(Pin Only)
P = Solder Cup
X = Eyelet

Shell Type
A = Straight Flange
B = Integral Jackpost



APPLICATION NOTES

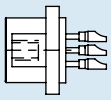
1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Eyelet or solder cup (see part development).
3. Material/Finish:
   Shell: FT = Carbon Steel / Fused Tin
   Z1 = CRES / Passivated
   ZL = CRES / Nickel Plated
   Insulators: Glass bead/N.A.
   Contacts: Nickel-Iron Alloy / Gold Plated
4. Metric dimensions (mm) are indicated in parentheses.
5. Performance:
   DWV - 500 VAC Pin-to-Shell
   I.R. - 5,000 Megohms Min @ 500 VDC
   Hermeticity - <1 x 10^{-5} scc He/sec @ 1 atmosphere differential.
6. Glenair 287-035 will mate with any QPL MIL-DTL-24308/2, /6 and /23 receptacle of the same size and arrangement.

Dimensions in Inches (millimeters) are subject to change without notice.

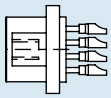
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287-035
MIL-DTL-24308/9 Type Hermetic High Density
Glass-Sealed D-Subminiature Connector

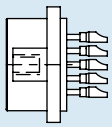
SOLDER CUP ORIENTATION



SIZES 1-4



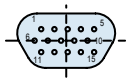
SIZE 5



SIZE 6

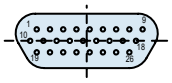
CONTACT ARRANGEMENT

1



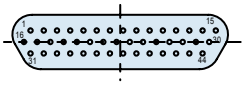
15 CONTACTS

2



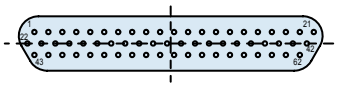
26 CONTACTS

3



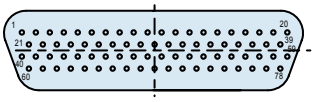
44 CONTACTS

4



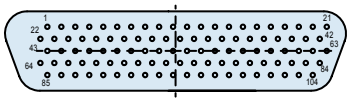
62 CONTACTS

5



78 CONTACTS

6



104 CONTACTS

RECOMMENDED PANEL CUTOUT
SEE TABLE II

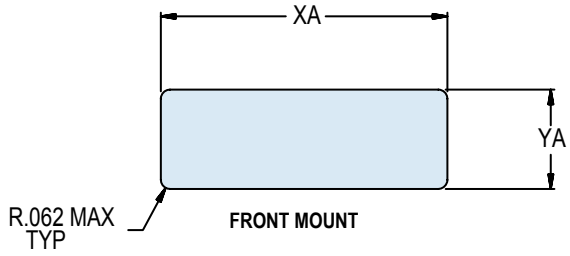


TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .005 (± 0.1)	Dim C ± .005 (± 0.1)	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F ± .010 (± 0.3)	Dim G ± .005 (± 0.1)	Dim H ± .010 (± 0.3)	Dim K ± .006 (± 0.2)
1	1.213 (30.8)	.667 (16.9)	.984 (25.0)	.330 (8.4)	.498 (12.6)	.759 (19.3)	.422 (10.7)	.094 (2.4)	.235 (6.0)
2	1.541 (39.1)	.993 (25.2)	1.312 (33.3)	.330 (8.4)	.498 (12.6)	1.083 (27.5)	.422 (10.7)	.094 (2.4)	.235 (6.0)
3	2.088 (53.0)	1.535 (39.0)	1.852 (47.0)	.330 (8.4)	.498 (12.6)	1.625 (41.3)	.422 (10.7)	.103 (2.6)	.230 (5.8)
4	2.729 (69.3)	2.183 (55.4)	2.500 (63.5)	.330 (8.4)	.498 (12.6)	2.272 (57.7)	.422 (10.7)	.103 (2.6)	.230 (5.8)
5	2.635 (66.9)	2.079 (52.8)	2.406 (61.1)	.441 (11.2)	.610 (15.5)	2.178 (55.3)	.534 (13.6)	.103 (2.6)	.230 (5.8)
6	2.729 (69.3)	2.212 (56.2)	2.500 (63.5)	.503 (12.8)	.668 (17.0)	2.302 (58.5)	.596 (15.1)	.103 (2.6)	.230 (5.8)

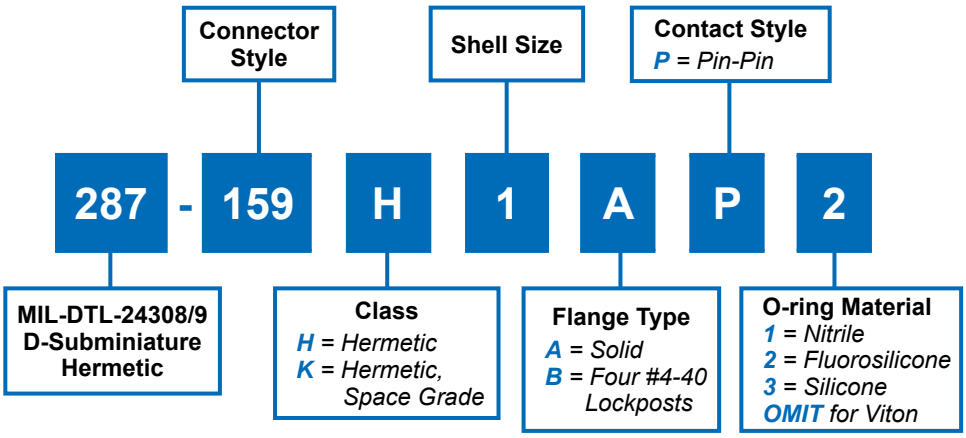
TABLE II: PANEL CUT-OUT

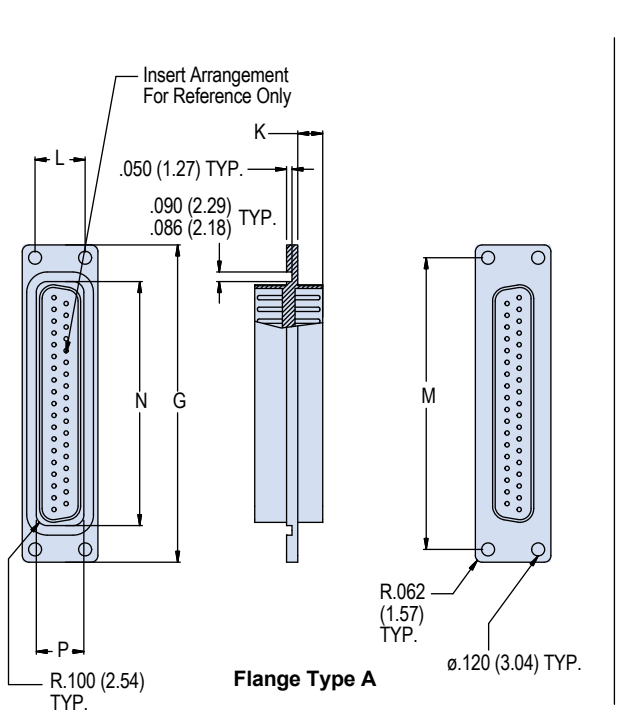
Shell Size	Dim. XA	Dim. YA
	± .005 (.13)	
1	.775 (19.7)	.438 (11.1)
2	1.099 (27.9)	.438 (11.1)
3	1.642 (41.7)	.438 (11.1)
4	2.288 (58.1)	.438 (11.1)
5	2.194 (55.7)	.550 (14.0)
6	2.318 (58.9)	.612 (15.5)

Dimensions in Inches (millimeters) are subject to change without notice.

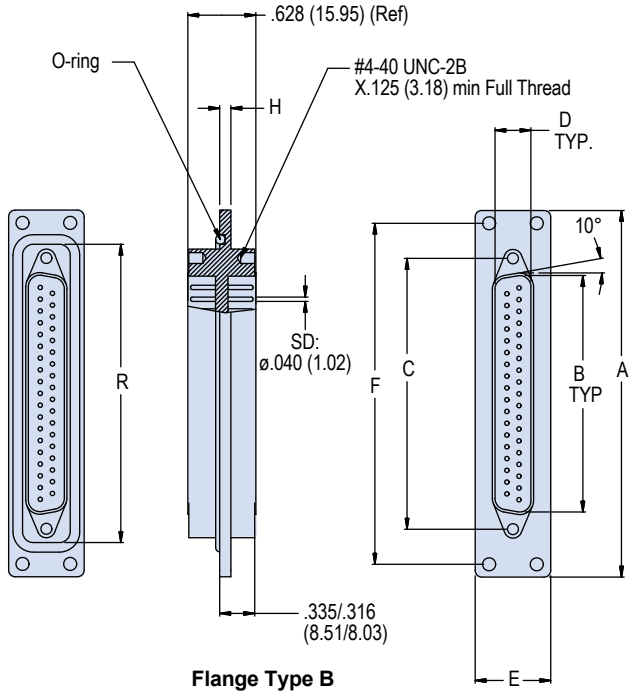
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287-159
MIL-DTL-24308/9 Type Hermetic
D-Subminiature Pin-to-Pin Feedthrough





Flange Type A



Flange Type B

J

APPLICATION NOTES

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Contact Style: Pin-to-Pin only (See Part Number Development).
3. All dimensions are typical for flange types "A" and "B." "C" dim is not applicable to flange type "A."
4. Material/Finish:
   Shell: H = FT - Carbon steel/tin plated.
   K = Z16 - Stainless steel/nickel plated, Dull Finish
5. Performance:
   DWV - SD = 750 VAC Pin-to-Shell
   I.R. - 5,000 MegOhms Min @ 500 VDC
   Hermeticity - 1 x 10^{-5} ccHe/sec @1 atmosphere differential
6. Glenair 287-159 will mate with any QPL MIL-DTL-24308/1, /2 and /23 receptacle of the same size and arrangement.
7. Metric dimensions (mm) are indicated in parentheses.

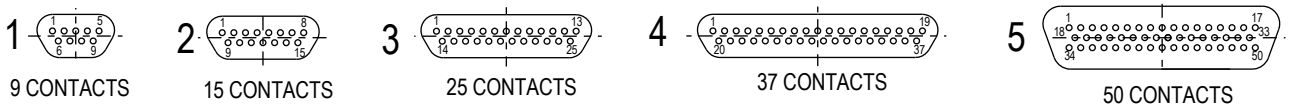
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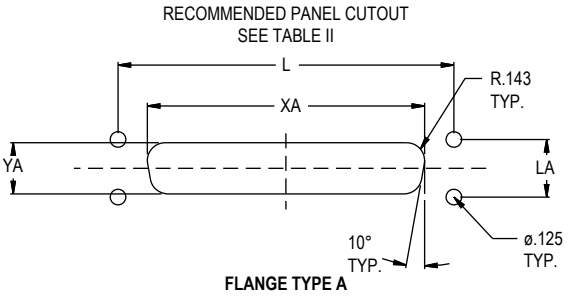
287-159
MIL-DTL-24308/9 Type Hermetic
D-Subminiature Pin-to-Pin Feedthrough



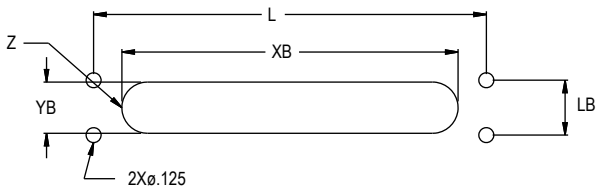
STANDARD DENSITY CONTACT ARRANGEMENT

TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C BSC	Dim D ± .004 (± 0.1)	Dim E ± .010 (± 0.3)	Dim F BSC	Dim G ± .010 (± 0.3)	Dim H ± .006 (± 0.2)	Dim K ± .010 (± 0.3)	L BSC	M BSC	N .005 (.127)	P	R	O-ring Req'd Type A	O-ring Req'd Type B
1	1.865 (47.37)	.667 (16.94)	.984 (24.99)	.330 (8.38)	.698 (17.73)	1.629 (41.38)	1.413 (35.89)	.094 (2.39)	.235 (5.97)	.462 (11.73)	1.177 (29.90)	.806 (20.47)	.440 (11.18)	1.238 (31.45)	2-108	2-022
2	2.200 (55.88)	.993 (25.22)	1.312 (33.32)	.330 (8.38)	.698 (17.73)	1.964 (49.89)	1.741 (44.22)	.094 (2.39)	.235 (5.97)	.462 (11.73)	1.499 (38.07)	1.100 (27.94)	.440 (11.18)	1.564 (39.73)	2-021	2-026
3	2.736 (69.49)	1.535 (38.99)	1.852 (47.04)	.330 (8.38)	.698 (17.73)	2.500 (63.50)	1.288 (32.72)	.103 (2.62)	.230 (5.84)	.462 (11.73)	2.052 (52.12)	1.690 (42.93)	.440 (11.18)	2.180 (55.37)	2-027	2-030
4	3.385 (85.98)	2.183 (55.45)	2.500 (63.50)	.330 (8.38)	.698 (17.73)	3.149 (79.98)	2.929 (74.40)	.103 (2.62)	.230 (5.84)	.462 (11.73)	2.693 (68.40)	2.376 (60.35)	.440 (11.18)	2.770 (68.58)	2-031	2-033
5	3.289 (83.54)	2.079 (52.81)	2.406 (61.11)	.441 (11.20)	.810 (20.57)	3.053 (77.55)	2.835 (72.01)	.103 (2.62)	.230 (5.84)	.574 (14.58)	2.599 (66.01)	2.246 (57.05)	.570 (14.48)	2.650 (67.31)	2-031	2-033



FLANGE TYPE A



FLANGE TYPE B

TABLE II: PANEL CUT-OUT DIMENSIONS - STYLE A

Shell Sizes	Dim XA	Dim YA	Dim LA	Dim L
1	.744 (18.90)	.410 (10.41)	.462 (11.73)	1.177 (29.90)
2	1.070 (27.18)	.410 (10.41)	.462 (11.73)	1.499 (38.07)
3	1.612 (40.94)	.410 (10.41)	.462 (11.73)	2.052 (52.12)
4	2.261 (57.43)	.410 (10.41)	.462 (11.73)	2.693 (68.40)
5	2.156 (54.76)	.520 (13.21)	.574 (14.58)	2.599 (66.01)

TABLE II: PANEL CUT-OUT DIMENSIONS - STYLE B

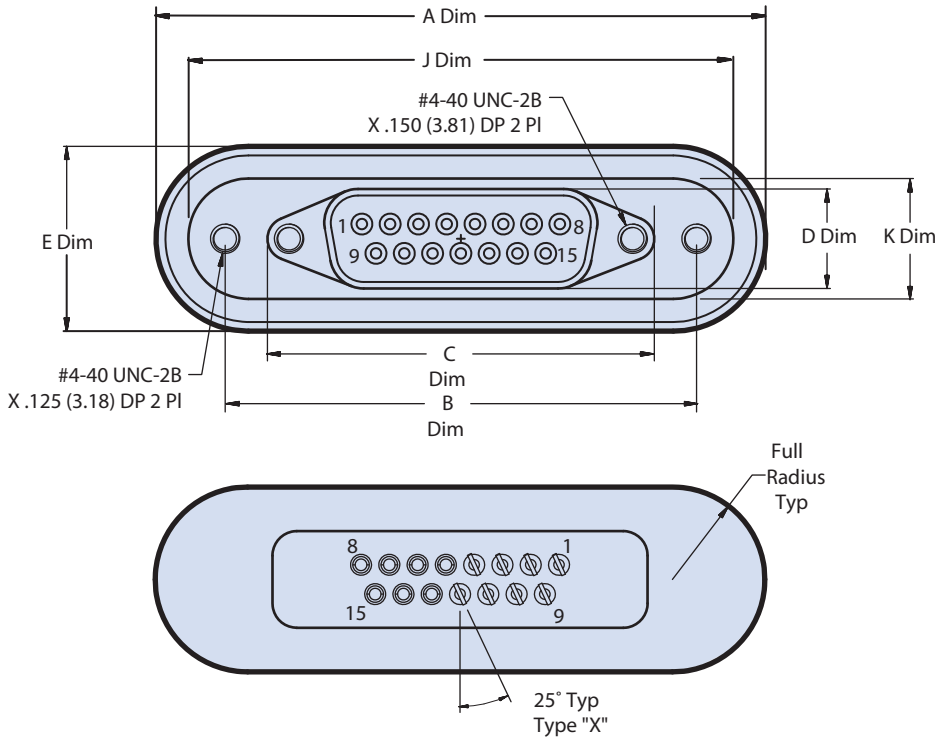
Shell Sizes	Dim XB	Dim YB	Rad. Z	Dim L	Dim LB
1	1.180 (29.97)	.410 (10.41)	.205 (5.21)	1.629 (41.38)	.462 (11.73)
2	1.508 (38.30)	.410 (10.41)	.205 (5.21)	1.964 (49.89)	.462 (11.73)
3	2.048 (52.02)	.410 (10.41)	205 (5.21)	2.500 (63.50)	.462 ()11.73
4	2.696 (68.48)	.410 (10.41)	.205 (5.21)	3.149 (79.98)	.462 (11.73)
5	2.602 (66.09)	.520 (13.21)	.260 (6.60)	3.053 (77.55)	.574 (14.58)

Dimensions in Inches (millimeters) are subject to change without notice.

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280-113
MIL-DTL-24308/9 Type
Glass Sealed Rear Panel Mount D-Subminiature with O-Ring

Connector Style	Shell Size = Number of Contacts (See Table I)	O-Ring Material See Table II	
280 - 113	H	15	P - F
MIL-DTL-24308/9, D-Subminiature Hermetic	Finish H = Kovar	Contact Style (Pin Only) P = Solder Cup X = Eyelet	



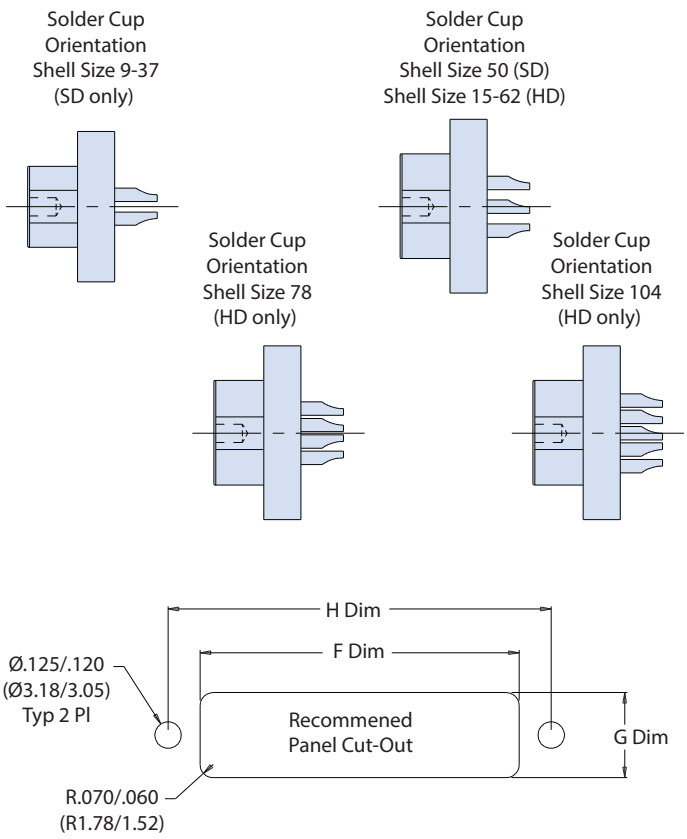
APPLICATION NOTES

1. Material/Finish:
   Shell: Kovar alloy/nickel plated.
   Insulators: glass bead
   Contacts: Kovar alloy/gold plated.
   O-Ring: specify
2. Performance:
   DWV - SD (#20) = 750 VAC Pin-to-Shell
   - HD (#22) = 500 VAC Pin-to-Shell
   I.R. - 5 Gigohms min @ 500 VDC
   Hermeticity - <1 x 10^{-7} scc He/sec @ 1 ATM Delta.
3. Glenair 280-113 series plug will mate with any QPL manufactured MIL-DTL-24308/1, /2 and /23 receptacle of the same size and contact arrangement with opposite contact gender.
4. Part to be marked with Glenair part number, name and/or cage code and date code.

Dimensions in Inches (millimeters) are subject to change without notice.

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280-113
MIL-DTL-24308/9 Type
Glass Sealed D-Subminiatures Rear Panel Mount with O-Ring



J

TABLE I: DIMENSIONS

Shell Size		A Dim		B Dim		C Dim		D Dim		E Dim		F Dim		G Dim		H Dim		O-Ring	J Dim		K Dim	
SD	HD	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.	In.	mm.		In.	mm.	In.	mm.
9	15HD	1.922	48.82	1.484	37.69	1.150	29.21	.380	9.65	.710	18.03	1.175	29.85	.400	10.16	1.484	37.69	2-026	1.676	42.57	.464	11.79
15	26HD	2.33	59.18	1.800	45.72	1.477	37.52	.380	9.65	.710	18.03	1.500	38.10	.400	10.16	1.800	45.72	2-029	2.084	52.93	.464	11.79
25	44HD	2.715	68.96	2.277	57.84	2.017	51.23	.380	9.65	.710	18.03	2.040	51.82	.400	10.16	2.277	57.84	2-031	2.469	62.71	.464	11.79
37	62HD	3.500	88.90	3.000	76.20	2.665	67.69	.380	9.65	.710	18.03	2.690	68.33	.400	10.16	3.000	76.20	2-035	3.254	82.65	.464	11.79
50	78HD	3.440	87.38	2.950	74.93	2.570	65.28	.491	12.47	.820	20.83	2.590	65.79	.510	12.95	2.950	74.93	2-035	3.194	81.13	.574	14.58
NA	104HD	3.385	85.98	3.000	76.20	2.665	67.69	.55	13.97	.885	22.48	2.685	68.20	.570	14.48	3.000	76.20	2-035	3.151	80.04	.643	16.33

TABLE II: O-RING MATERIAL

Symbol	Material
E	EPDM
F	Fluorosilicone
N	Nitrile
V	Viton®

Dimensions in Inches (millimeters) are subject to change without notice.

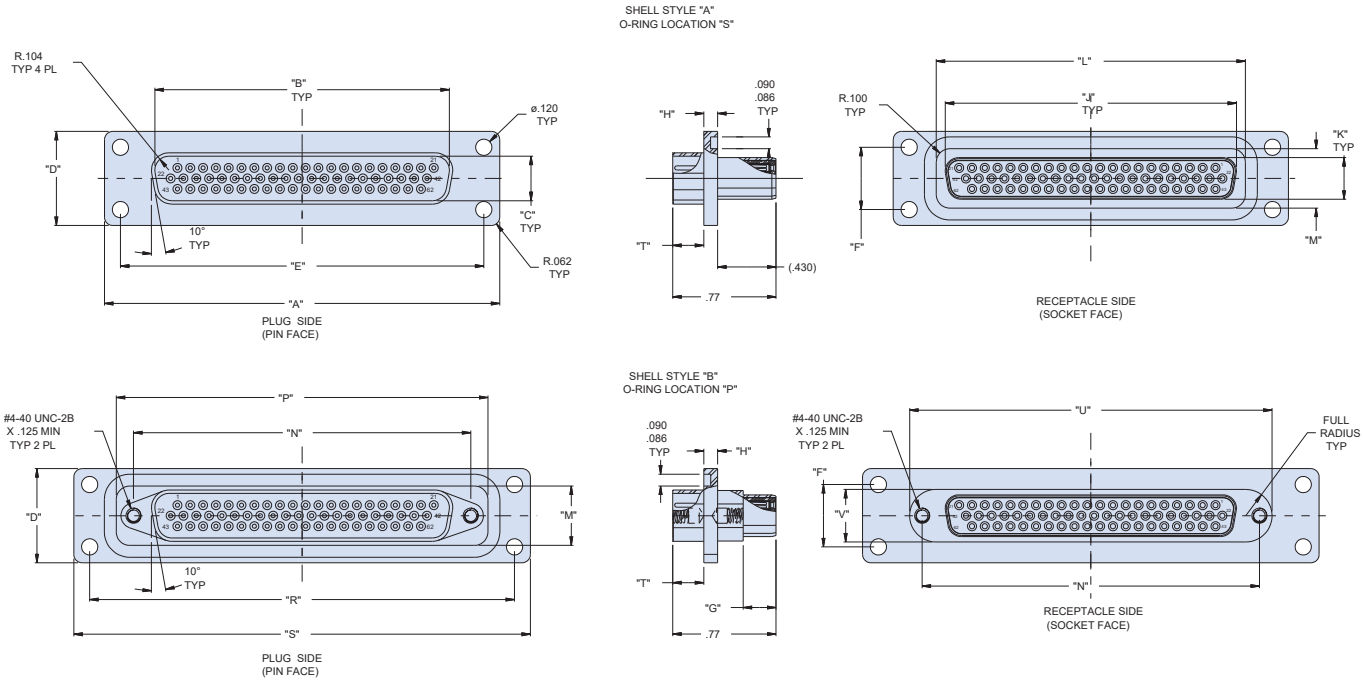
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280-114
MIL-DTL-24308/9 Type Hermetic
D-Subminiature Pin-to-Socket Feedthrough

Connector Style	Shell Size = Number of Contacts	Shell Style	O-Ring Material
	(See Table I)	***A*** *= No Jackpost Mount* ***B*** *= Integral Jackpost Mount*	*See Table II*

280	-	114	H	4	HD	B	P	-	1

MIL-DTL-24308/9, D-Subminiature Hermetic	Finish	Arrangement	O-Ring Location
	H *= Standard*	***HD*** *= High-Density* ***SD*** *= Standard-Density*	***P*** *= Pin Side* ***S*** *= Socket Side*



APPLICATION NOTES

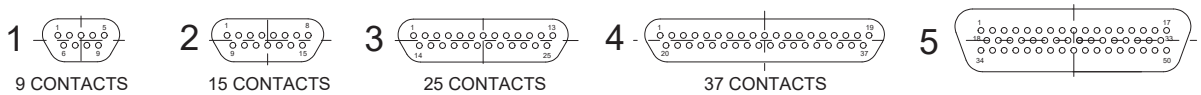
1. Material/Finish:
   Shell: Kovar / nickel plate.
   Contacts, pin: Kovar alloy/gold plated.
   Contacts, socket: copper alloy/gold plated.
   Socket hoods: 300 series CRES/passivated
   Insulator, pin: glass bead
   Insulator, socket: rigid dielectric
   O-Ring: specify.
2. Glenair 280-114 will mate with any QPL MIL-DTL-24308 plug and receptacle of the same size and contact arrangement with opposite contact gender.
3. Part to be marked with Glenair part number, name and/or cage code and date code.
4. Performance:
   DWV - 750 VAC Pin-to-Shell (SD)
   - 500 VAC Pin-to-Shell (HD)
   I.R. - 5,000 megohms min @ 500 VDC
   Hermeticity - <1 x 10^{-7} scc He/sec @ 1 ATM Delta P

Dimensions in Inches (millimeters) are subject to change without notice.

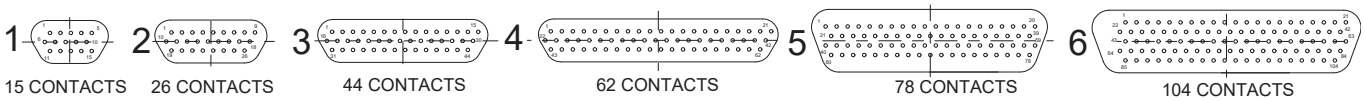
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280-114
MIL-DTL-24308/9 Type Hermetic
D-Subminiature Pin-to-Socket Feedthrough

Glenair®



STANDARD DENSITY CONTACT ARRANGEMENT



HIGH DENSITY CONTACT ARRANGEMENT

TABLE I: CONNECTOR DIMENSIONS

Shell Size	Dim A ± .015 (± 0.4)	Dim B ± .004 (± 0.1)	Dim C ± .004 (± 0.1)	Dim D ± .010 (± 0.3)	Dim E BSC	Dim F BSC	Dim G ± .005 (± 0.1)	Dim H ± .006 (± 0.2)	Dim J ± .005 (± 0.1)	Dim K ± .005 (± 0.1)
1	1.413 (35.9)	.667 (16.9)	.330 (8.4)	.698 (17.7)	1.177 (29.9)	.462 (11.7)	.243 (6.2)	.094 (2.4)	.643 (16.3)	.309 (7.8)
2	1.741 (44.2)	.993 (25.2)	.330 (8.4)	.698 (17.7)	1.499 (38.1)	.462 (11.7)	.243 (6.2)	.094 (2.4)	.971 (24.7)	.309 (7.8)
3	2.288 (58.1)	1.535 (39.0)	.330 (8.4)	.698 (17.7)	2.052 (52.1)	.462 (11.7)	.243 (6.2)	.103 (2.6)	1.511 (38.4)	.309 (7.8)
4	2.929 (74.4)	2.183 (55.4)	.330 (8.4)	.698 (17.7)	2.693 (68.4)	.462 (11.7)	.243 (6.2)	.103 (2.6)	2.159 (54.8)	.309 (7.8)
5	2.835 (72.0)	2.079 (52.8)	.441 (11.2)	.810 (20.6)	2.599 (66.0)	.574 (14.6)	.243 (6.2)	.103 (2.6)	2.064 (52.4)	.421 (10.7)
6	3.190 (81.0)	2.212 (56.2)	.503 (12.8)	.868 (22.0)	2.960 (75.2)	.650 (16.5)	.243 (6.2)	.103 (2.6)	2.189 (55.6)	.485 (12.3)

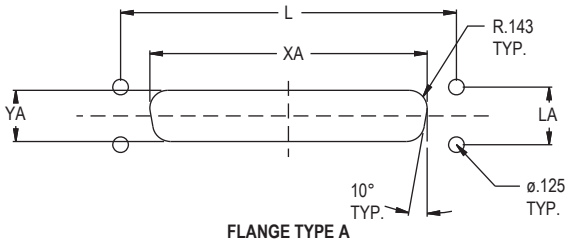
TABLE I: CONNECTOR DIMENSIONS (CONT'D.)

Shell Size	Dim L ± .005 (± 0.1)	Dim M ± .005 (± 0.1)	Dim N BSC	Dim P ± .005 (± 0.1)	Dim R BSC	Dim S ± .010 (± 0.3)	Dim T ± .005 (± 0.1)	Dim U ± .005 (± 0.1)	Dim V ± .005 (± 0.1)
1	.806 (20.5)	.440 (11.2)	.984 (25.0)	1.294 (32.9)	1.629 (41.4)	1.865 (47.4)	.235 (6.0)	1.170 (29.7)	.400 (10.2)
2	1.100 (27.9)	.440 (11.2)	1.312 (33.3)	1.592 (40.4)	1.964 (49.9)	2.200 (55.9)	.235 (6.0)	1.498 (38.0)	.400 (10.2)
3	1.690 (42.9)	.440 (11.2)	1.852 (47.0)	2.176 (55.3)	2.500 (63.5)	2.736 (69.5)	.235 (6.0)	2.038 (51.8)	.400 (10.2)
4	2.377 (60.4)	.440 (11.2)	2.500 (63.5)	2.755 (70.0)	3.149 (80.0)	3.385 (86.0)	.235 (6.0)	2.686 (68.2)	.400 (10.2)
5	2.266 (57.6)	.570 (14.5)	2.406 (61.1)	2.650 (67.3)	3.053 (77.5)	3.289 (83.5)	.235 (6.0)	2.592 (65.8)	.510 (13.0)
6	2.592 (65.8)	.615 (15.6)	2.500 (63.5)	3.181 (80.8)	3.550 (90.2)	3.780 (96.0)	.235 (6.0)	2.790 (70.9)	.560 (14.2)

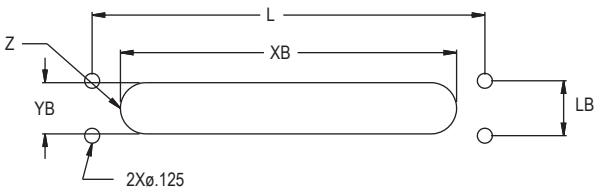
TABLE II: O-RING MATERIAL

Symbol	Material
1	Nitrile
2	Fluorosilicone
3	Silicone
Omit	Viton®

RECOMMENDED PANEL CUTOUT
SEE TABLE II



FLANGE TYPE A



FLANGE TYPE B

TABLE II: PANEL CUT-OUT DIMENSIONS - STYLE A

Shell Sizes	Dim XA	Dim YA	Dim LA	Dim L
1	.744 (18.90)	.410 (10.41)	.462 (11.73)	1.177 (29.90)
2	1.070 (27.18)	.410 (10.41)	.462 (11.73)	1.499 (38.07)
3	1.612 (40.94)	.410 (10.41)	.462 (11.73)	2.052 (52.12)
4	2.261 (57.43)	.410 (10.41)	.462 (11.73)	2.693 (68.40)
5	2.156 (54.76)	.520 (13.21)	.574 (14.58)	2.599 (66.01)
6	2.280 (57.91)	.570 (14.48)	.650 (16.51)	2.960 (75.18)

TABLE II: PANEL CUT-OUT DIMENSIONS - STYLE B

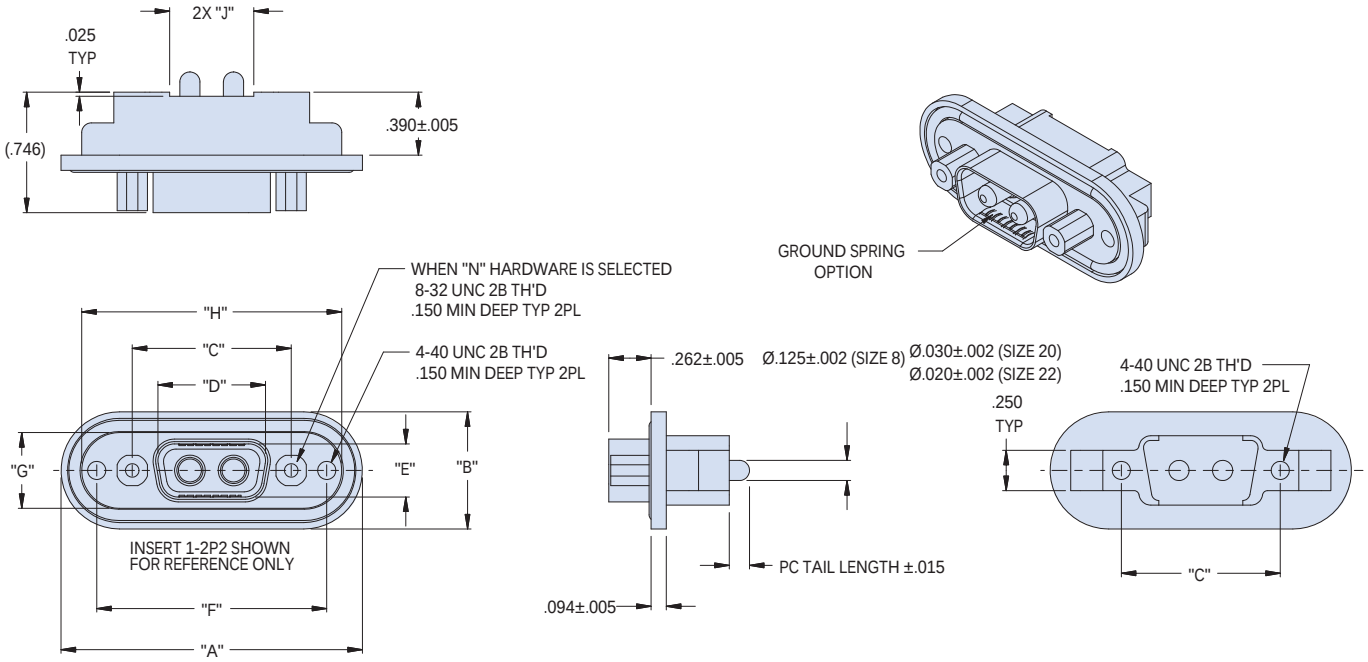
Shell Sizes	Dim XB	Dim YB	Rad. Z	Dim L	Dim LB
1	1.180 (29.97)	.410 (10.41)	.205 (5.21)	1.629 (41.38)	.462 (11.73)
2	1.508 (38.30)	.410 (10.41)	.205 (5.21)	1.964 (49.89)	.462 (11.73)
3	2.048 (52.02)	.410 (10.41)	205 (5.21)	2.500 (63.50)	.462 ()11.73
4	2.696 (68.48)	.410 (10.41)	.205 (5.21)	3.149 (79.98)	.462 (11.73)
5	2.602 (66.09)	.520 (13.21)	.260 (6.60)	3.053 (77.55)	.574 (14.58)
6	2.800 (71.12)	.570 (14.48)	.285 (7.24)	3.550 (90.17)	.650 (16.51)

Dimensions in Inches (millimeters) are subject to change without notice.

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287-500
HiPer-D Advanced M24308/9 Type
CODE RED Lightweight Hermetic, Plug with Straight PC Tails

Part Number Development							
Sample Part Number	**287-500**	**P**	**1-2P2**	**Z1**	**G**	**P**	**A**
Series / Basic Part No.	HiPer-D advanced M24308-Type CODE RED Lightweight Hermetic						
Contact	**P** = Pin						
Shell Size / Contact Arrangement	See Tables						
Shell Finish	**ME** = Electroless Nickel over Aluminum **MT** = NIckel Fluorocarbon over Aluminum **Z1** = Passivated Stainless **ZM** = Electroless Nickel over Stainless **JF** - Yellow Chromate over Cadmium						
Grounding Option	**G** = EMI Grounding **N** = None						
Hardware Options	**N** = None (tapped hole) **P** = 4-40 Female Jack Post **G** = Guide Pin **B** = Guide Bushing						
PC Tail Length	**A** = .125 **B** = .250 **D** = .188						



MATERIALS/FINISHES

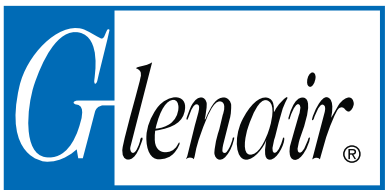
- Shell - see P/N development
- Inserts - Thermoset Epoxy
- Interfacial/peripheral seal - Fluorosilicone
- Contacts - Copper alloy / gold over nickel
- Sealing Compound - Silicone-based polymer

PERFORMANCE

- Dielectric Withstanding Voltage: 1000 Volts
- Insulation Resistance: 5000 Megohms min. @ 500 VDC
- Operating Temperature Range: -65° C to +200° C
- Leak Rate: $1X10^{-7}$ cc/s max helium, 1 atm

Dimensions in Inches (millimeters) are subject to change without notice.

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HiPer-D Contact Arrangements		
Shell Size-Contact Arr.	Contact Size and Qty #20	#22
Standard Density		
1S9	9	
2S15	15	
3S25	25	
4S37	37	
5S50	50	
High Density		
1H15		15
2H26		26
3H44		44
4H62		62
5H78		78
6H104		104

HiPer-D Combo Contact Arrangements		
Shell Size-Contact Arr.	Contact Size and Qty #20	#8
1-2P2		2
1-5P1	4	1
2-3P3		3
2-7P2	5	2
2-11P1	10	1
3-5P5		5
3-9P4	5	4
3-13P3	10	3
3-17P2	15	2
3-21P1	20	1
4-8P8		8
4-13P6	7	6
4-17P5	12	5
4-21PA4	17	4
4-25P3	22	3
4-27P2	25	2
5-24P7	17	7
5-36P4	32	4
5-43P2	41	2
5-47P1	46	1

J

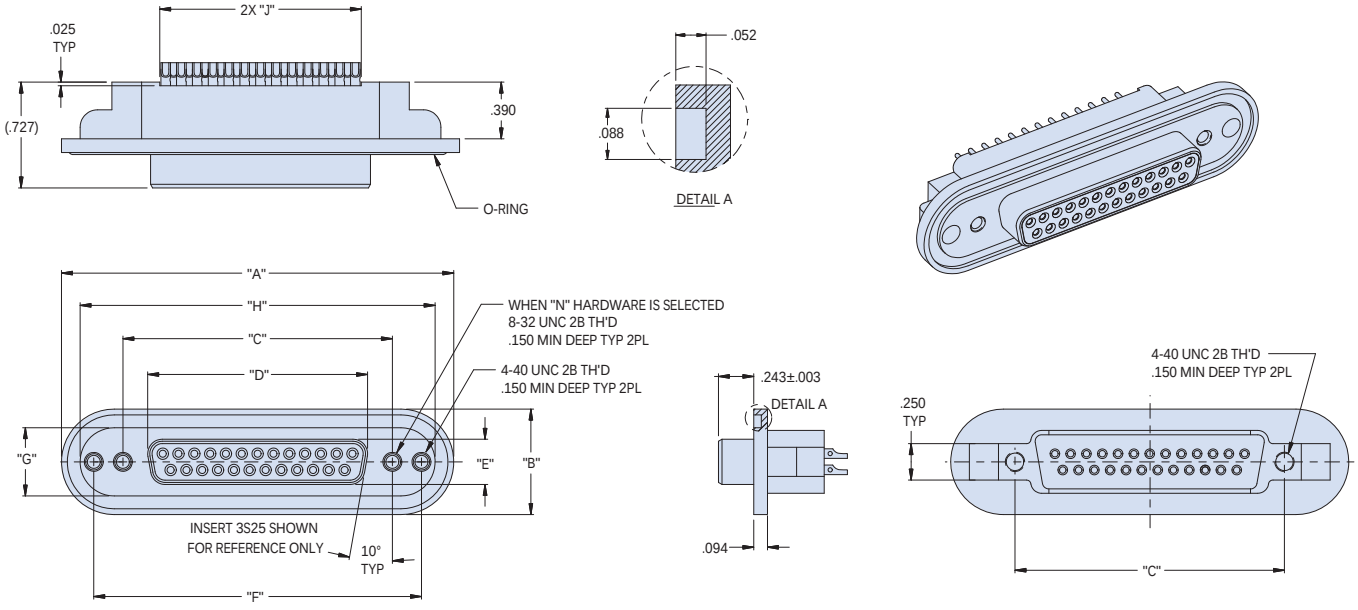
Dimensions																			
Shell Size	Insert Pattern	A ±.015		B ±.015		C ±.005		D ±.005		E ±.005		F ±.005		G ±.015		H ±.015		J ±.015		Contact P/N
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	
1	SD9	1.865	47.4	.725	18.4	.984	25.0	.666	16.9	.329	8.4	1.424	36.2	.469	11.9	1.609	40.9	.520	13.2	M39029/64-369
	HD15																			M39029/58-360
2	SD15	2.200	55.9	.725	18.4	1.312	33.3	.994	25.2	.329	8.4	1.752	44.5	.469	11.9	1.944	49.4	.844	21.4	M39029/64-369
	HD26																			M39029/58-360
3	SD25	2.736	69.5	.725	18.4	1.852	47.0	1.534	39.0	.329	8.4	2.292	58.2	.469	11.9	2.480	63.0	1.386	35.2	M39029/64-369
	HD44																			M39029/58-360
4	SD37	3.385	86.0	.725	18.4	2.500	63.5	2.182	55.4	.329	8.4	2.940	74.7	.469	11.9	3.129	79.5	2.034	51.7	M39029/64-369
	HD62																			M39029/58-360
5	SD50	3.289	83.5	.837	21.3	2.406	61.1	2.079	52.8	.441	11.2	2.846	72.3	.581	14.8	3.033	77.0	1.887	47.9	M39029/64-369
	HD78																			M39029/58-360
6	HD104	3.383	85.9	.899	22.8	2.500	63.5	2.212	56.2	.503	12.8	2.940	74.7	.643	16.3	3.127	79.4	1.990	50.5	M39029/58-360

Dimensions in Inches (millimeters) are subject to change without notice.

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287-587
HiPer-D Advanced M24308/9 Type
CODE RED Lightweight Hermetic, Solder Cup Receptacle, Rear Panel Mount

Part Number Development					
Sample Part Number	**287-587**	**S**	**3S25**	**ME**	**N**
Series / Basic Part No.	HiPer-D advanced M24308-Type CODE RED Lightweight Hermetic				
Contact	**S** = Socket				
Shell Size / Contact Arrangement	See Tables				
Shell Finish	**ME** = Electroless Nickel over Aluminum **MT** = NIckel Fluorocarbon over Aluminum **Z1** = Passivated Stainless **ZM** = Electroless Nickel over Stainless **JF** - Yellow Chromate over Cadmium				
Hardware Options	**N** = None (tapped hole) **P** = 4-40 Female Jack Post **G** = Guide Pin **B** = Guide Bushing				



MATERIALS/FINISHES

- Shell - see P/N development
- Inserts - Thermoset Epoxy
- Contacts - Copper alloy / gold over nickel
- Seals - Fluorosilicone silicone blend
- Hardware - Passivated stainless steel

PERFORMANCE

- Dielectric Withstanding Voltage: 1000 Volts
- Insulation Resistance: 5000 Megohms min. @ 500 VDC
- Operating Temperature Range: -65° C to +200° C
- Leak Rate: $1X10^{-7}$ cc/s max helium, 1 atm

Dimensions in Inches (millimeters) are subject to change without notice.

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HiPer-D Contact Arrangements		
Shell Size-Contact Arr.	Contact Size and Qty	
	#20	#22D
Standard Density		
1S9	9	
2S15	15	
3S25	25	
4S37	37	
5S50	50	
High Density		
1H15		15
2H26		26
3H44		44
4H62		62
5H78		78
6H104		104

Dimensions																			
Shell Size	Insert Pattern	A ±.015		B ±.015		C ±.005		D ±.005		E ±.005		F ±.005		G ±.015		H ±.015		J ±.015	
		In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
1	SD9 / HD15	1.865	47.4	.725	18.4	.984	25.0	.643	16.3	.311	7.9	1.424	36.2	.469	11.9	1.609	40.9	.520	13.2
2	SD15 / HD26	2.200	55.9	.725	18.4	1.312	33.3	.971	24.7	.311	7.9	1.752	44.5	.469	11.9	1.944	49.4	.844	21.4
3	SD25 / HD44	2.736	69.5	.725	18.4	1.852	47.0	1.511	38.4	.311	7.9	2.292	58.2	.469	11.9	2.480	63.0	1.386	35.2
4	SD37 / HD62	3.385	86.0	.725	18.4	2.500	63.5	2.159	54.8	.311	7.9	2.940	74.7	.469	11.9	3.129	79.5	2.034	51.7
5	SD50 / HD78	3.289	83.5	.837	21.3	2.406	61.1	2.064	52.4	.423	10.7	2.846	72.3	.581	14.8	3.033	77.0	1.887	47.9
6	HD104	3.383	85.9	.899	22.8	2.500	63.5	2.189	55.6	.485	12.3	2.940	74.7	.643	16.3	3.127	79.4	1.990	50.5

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GLASS-TO-METAL SEAL

MIL-DTL-83513 TYPE

Micro-D Hermetic Connectors



Glenair MIL-DTL-83513 type Micro-D hermetic connectors are ideal for high-pressure/low-leakage applications where size, weight and vibration resistance are a critical concern. Sophisticated electronics enclosures, vacuum chambers and cryogenic equipment all bene□t from the airtight seal and moisture resistant plating found on Glenair hermetic Micro-D connectors. Solder mount, weld mount and rear panel O-ring shell styles are available to meet a variety of design requirements. Kovar®—an iron nickel alloy—is used in both the shells and contacts, and provides a chemical bond with the glass insulator for maximum hermeticity. Shells are then plated with nickel after the glass insulator is □red to enhance corrosion resistance. Contacts are plated with gold to ensure superior electrical conductivity.

MICRO D

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1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

A Full Range of MIL-DTL-83513 Type Micro-D Hermetic Connectors

Glenair Micro-D Hermetic Connectors are offered with a minimum of 9 sockets, up to a maximum of 100 sockets—in two, three and four row solder cup and pigtail configurations. Fluorosilicone rubber interfacial seals and O-rings ensure positive sealing with plug connectors and panels. Gold plated Kovar® socket contacts boast superior vibration resistance when used in conjunction with Glenair's innovative TwistPin contact system in the plug.

Quick Selection Guide		
Part Number	Description	Page
	MIL-DTL-83513 Type Micro-D Hermetic Connector Introduction	K-2
	Glenair Hermetic Connector Products Space Grade Mod Code	K-3
	MIL-DTL-83513 Type Micro-D Connectors General Information	K-4
	MIL-DTL-83513 Type Micro-D Design Notes and Contact Arrangements	K-5
	MIL-DTL-83513 Type Micro-D PCB Footprints	K-6
	MIL-DTL-83513 Type Micro-D Materials and Finishes and Performance Specifications	K-7
177-140H and 177-704H	Solder Mount Micro-D Hermetic Connector	K-8
177-705H and 177-706H	Rear Panel Mount with O-Ring Micro-D Hermetic Connector	K-10
177-232	Front Mount Socket Shell Micro-D Hermetic Connector, Size 37	K-13
177-859	Front Mount Socket Shell Micro-D Hermetic Connector, Sizes 9 to 21	K-14

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A Full Range of MIL-DTL-83513 Type Micro-D Hermetic Connectors

Product Applications

Glenair MIL-DTL-83513 type Micro-D hermetic connectors are ideal for high-pressure/low-leakage applications where size, weight and vibration resistance are a critical concern. Sophisticated electronics enclosures, vacuum chambers and cryogenic equipment all benefit from the airtight seal and moisture resistant plating found on Glenair hermetic Micro-D connectors. Solder mount, weld mount and rear panel O-ring shell styles are available to meet a variety of design requirements.

seals and O-rings ensure positive sealing with plug connectors and panels.

Gold plated Kovar® socket contacts boast superior vibration resistance when used in conjunction with Glenair's innovative TwistPin contact system in the plug.

Same-Day Inventory

Because Glenair makes all its hermetic connectors in-house, including the machining of shells, molding of interfacial seals and firing of hermetic components, we can offer you outstanding availability on stock products and fast turnaround on special orders.

Catalog contents—including part numbers, materials and dimensions—are accurate to the best of our ability when we go to print. Even so, customers are advised to consult the factory for the latest specifications, particularly to confirm critical dimensions such as connector lengths, threads, and so on. Corrected content is posted immediately to www.glenair.com.

Weld Mount, Solder Mount and Rear Panel Sealing Options

Vibration and Shock Resistant TwistPin Contact System

9 to 100 Sockets in 9 Shell Sizes

Space Grade Special Screening Available

1 x 10^{-6} cc/Helium per Second Leakage Rate

Solder Cup, PC Tail and Pre-Wired Pigtail Termination Options

Machined Kovar® Shells and Contacts with Moisture Resistant Plating



Materials

Kovar®—an iron nickel alloy—is used in both the shells and contacts, and provides a chemical bond with the glass insulator for maximum hermeticity. Shells are then plated with nickel after the glass insulator is fired to enhance corrosion resistance. Contacts are plated with gold to ensure superior electrical conductivity.

Connectors are offered with a minimum of 9 sockets, up to a maximum of 100 sockets—in two, three and four row solder cup and pigtail configurations. Fluorosilicone rubber interfacial

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Glenair Hermetic Connector Products
Space Grade Mod Code

What is outgassing?

Plastic and rubber materials give o gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of di usion. In a spacecraft the gases coming o polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA speci cation EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space ight projects.

What screening level is required?

NASA de nes three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space ight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the nal inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The uorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are su cient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modi cation code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	**Thermal Vacuum Outgassing** 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

K

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MIL-DTL-83513 Type Micro-D Hermetic Connectors
General Information

MICRO-D HERMETIC CONNECTORS

Hermeticity is defined as "the state or condition of being airtight". Sophisticated military electronics enclosures can experience electrical failure from ingress of moisture. System engineers can design the enclosure to withstand exposure to moisture and condensation by using "moisture-hardened" components and conformal coatings, but often the most practical approach is to install hermetically sealed electrical I/O connectors. Glass-to-metal seals provide assurance that, over the life of the enclosure, the accumulated amount of water vapor inside the box will not exceed the amount necessary to form condensation. Other applications for Micro-D hermetic connectors include vacuum chambers, cryogenics, and enclosures filled with inert gas.

Kovar® Alloy

Glenair's hermetic Micro-D shells and contacts are made from a special alloy called Kovar®, an iron-nickel-cobalt alloy consisting of 54% Fe, 29% Ni, and 17% Co. This alloy is covered by SAE specification AMS-I-23011. Kovar has a relatively low coefficient of thermal expansion.

Micro-D Hermetic Plating Options

Unlike regular connectors which are plated as components prior to assembly, hermetic connectors are electroplated after the parts are fired and cleaned of oxides. Typically the contacts are gold-plated and the connector shell is nickel-plated.

Matched Glass-To-Metal Seals

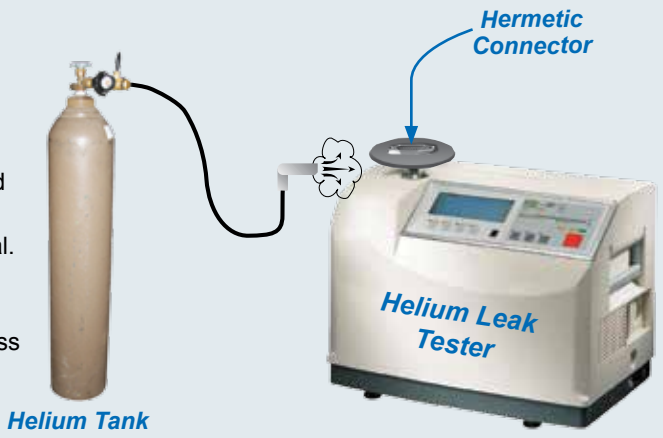
Matched seals rely on a chemical bond between the metal and the glass. Kovar® contacts and shells are first exposed to high temperatures in order to develop an oxide coating. Then, the borosilicate glass and metal components are assembled with fixtures and are fused in a firing furnace at 900° C. A strong chemical bond is created between the metal and glass. Unlike compression seals which rely on different thermal coefficients of expansion between the glass and metal, a matched seal offers better resistance to stress from thermal extremes.

Connector Installation

Hermetic connectors are typically soldered or welded into panels or bulkheads. Laser welding is a good option if the connector is mounted onto Kovar®. If the panel is aluminum alloy or stainless steel, then soldering is recommended. Micro-D's with o-ring seals offer another alternative. O-rings, when installed properly, will provide a very low permeability seal. The seating surface must be free from scratches or imperfections. A 32 finish is acceptable, but a 16 finish is preferred. The o-ring can be coated with a light coat of vacuum grease.

Hermetic Testing

All Micro-D hermetic connectors are 100% tested prior to shipment. A helium leak test is performed to certify the hermetic seal. This test is conducted by inducing a 1 ATM vacuum on one side of the connector. Helium gas is released on the other side, and a mass spectrometer "counts" the number of helium molecules that penetrate the connector seal. Helium leak testing takes advantage of the small size of a helium molecule compared to air or water vapor. Helium is inert, rare in our atmosphere, and is easy to detect with a mass spectrometer.



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MICRO-D HERMETIC CONNECTOR DESIGN NOTES

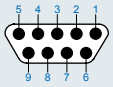
"Why can't I get a hermetic Micro-D with pin contacts instead of sockets?"

The Micro-D TwistPin contact cannot be made from the materials that are required for hermetic contacts. Hermetic contacts are made from ferrous alloys such as Kovar® or Alloy 52. These alloys do not have spring properties. The Micro-D TwistPin contact is made from spring-temper beryllium copper. The Micro-D socket contact is a cylinder and does not provide any spring force, so Micro-D hermetic connectors are always receptacle connectors with socket contacts.

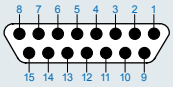
"What about high pressure?" "What is the maximum recommended pressure rating for a hermetic Micro-D?"

Glenair hermetic Micro-D's are built to safely withstand 1000 PSI of hydrostatic pressure in an open face (unmated) condition.

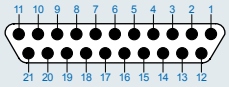
MICRO-D CONTACT ARRANGEMENTS (FACE VIEW SOCKET CONNECTOR)



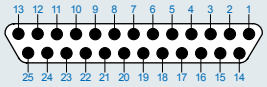
9 Socket



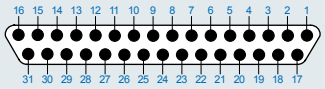
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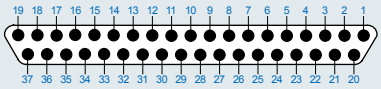
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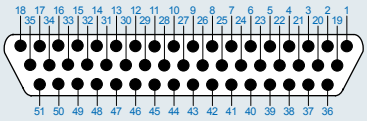
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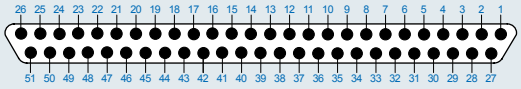
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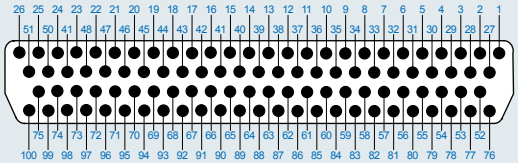
37 Socket



51 Socket (Standard 3 Row)



51 Socket (Special 2 Row)



100 Socket

K

Dimensions in Inches (millimeters) are subject to change without notice.

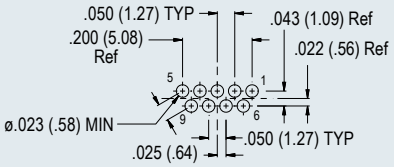
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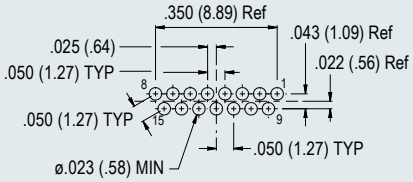
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MIL-DTL-83513 Type
Micro-D Hermetic Connectors
PCB Footprints for PC Tail Connectors

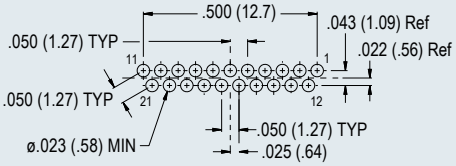
MICRO-D CONTACT ARRANGEMENTS (FACE VIEW SOCKET CONNECTOR)



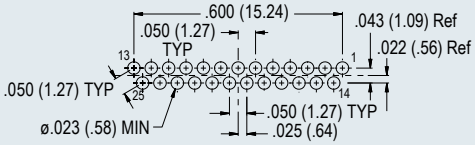
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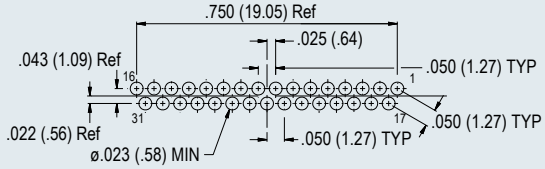
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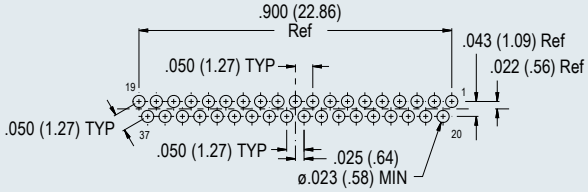
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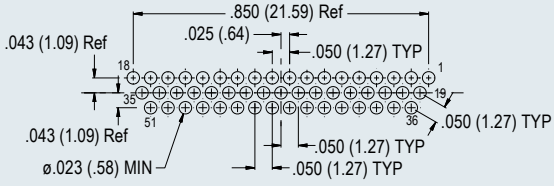
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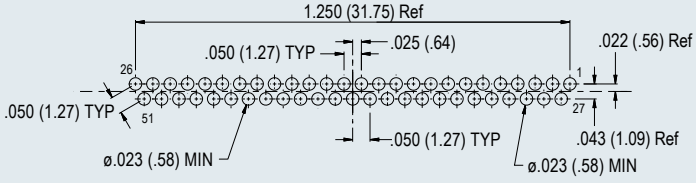
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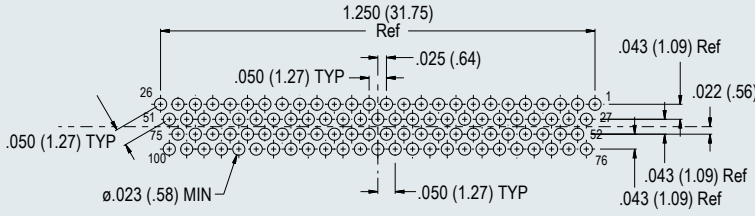
37 Socket



51 Socket (Standard 3 Row)



51 Socket (Special 2 Row)



100 Socket

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MATERIALS AND FINISHES	
Connector Shell	Kovar® Alloy in Accordance With SAE AMS-I-23011 Class 1, Plated with Electrodeposited Nickel In Accordance With SAE-AMS-QQ-N-290 Class 2, 0.0002-0.0003 Inches Thick.
Insulator	Borosilicate Glass
Interfacial Seal	Flourosilicone Rubber, Blue
Socket Contact	Kovar® Alloy in Accordance With SAE AMS-I-23011 Class 1, Gold Plated In Accordance With ASTM B 488 Type II, Class 1.27 (50 microinches minimum) over Nickel Underplate in Accordance With SAE-AMS-QQ-N-290 Class 2.
O-Ring	Flourosilicone Rubber, Blue
Encapsulant	Epoxy

PERFORMANCE SPECIFICATIONS	
Current Rating	1.5 AMP
Dielectric Withstanding Voltage	150 VAC
Working Voltage	100 VDC
Insulation Resistance	5000 Megohms Minimum
Contact Resistance	40-50 Milliohms Maximum
Hermeticity	1 x 10^{-7} Maximum Helium Leak Rate per Second at One Atmosphere
Operating Temperature	-55° C. to +125° C.
Shock	50 g.
Vibration	20 g.
Outgassing	Meets NASA Outgassing Requirements (MOD Code 429)
Mating Force	(10 Ounces) X (# of Contacts)
For additional performance requirements, please refer to MIL-DTL-83513	

HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
585A	1 x 10^{-10} cc Helium per second
585B	1 x 10^{-9} cc Helium per second
585C	1 x 10^{-8} cc Helium per second

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177-140H and 177-704H
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Solder Mount



Solder these 177-140 hermetic Micro-D connectors. Featuring a matched glass-to-metal seal, these socket receptacles are designed for panel mounting.

Kovar® Shells and Contacts comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

Choose 9 to 100 Contacts, with gold-plated contacts and nickel-plated shells. These connectors feature integral female jackposts.

HOW TO ORDER SOLDER CUP AND PC TAIL CONNECTORS

Series	Layout Number of Contacts	Contact Type	Termination Type
177-140H Micro-D Hermetic Socket Receptacle, Solder or Weld Mounting	**9** **15** **21** **25** **31** **37** **51-2** **51** **100**	**S** – Socket	**S** – Solder Cup **P** – PC Tail
Sample Part Number			
177-140H	**15**	**S**	**P**

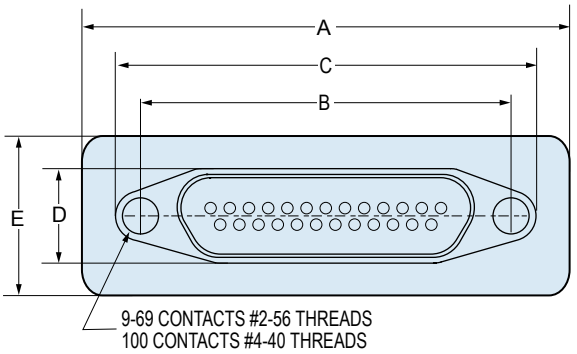
HOW TO ORDER PRE-WIRED CONNECTORS

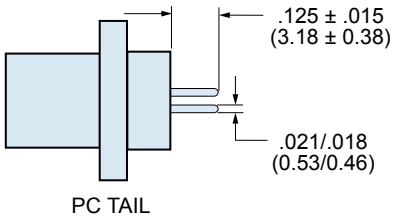
Series	Layout	Contact Type	Wire Gage (AWG)	Wire Type	Wire Color	Wire Length Inches
177-704H	**9** **15** **21** **25** **31** **37** **51-2** **51** **100**	**S** – Socket	**6** – #26 **8** – #28 **0** – #30	**K** – M22759/11 600 Vrms Teflon® (TFE) (Not Available in #30 AWG) **J** – M22759/33 600 Vrms Modified Cross-Linked Tefzel® (ETFE)	**1** – White **2** – Yellow **5** – Color-Coded Stripes Per MIL-STD-681 (#26 gage only) **7** – Ten Color Repeat	**18** Wire Length In Inches. "18" Specifies 18 Inches.
Sample Part Number						
177-704H	**25**	**S**	**6**	**K**	**1**	**– 18**

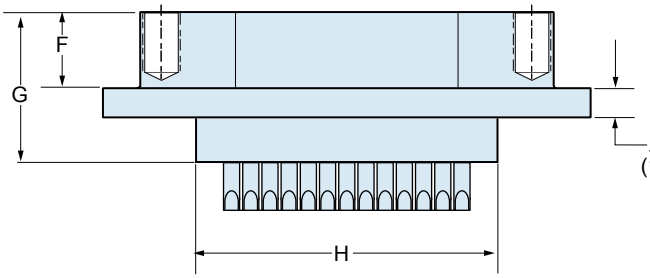
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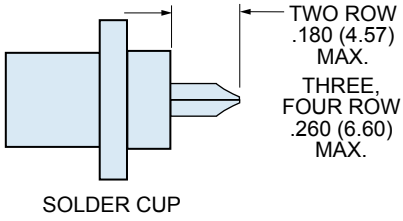
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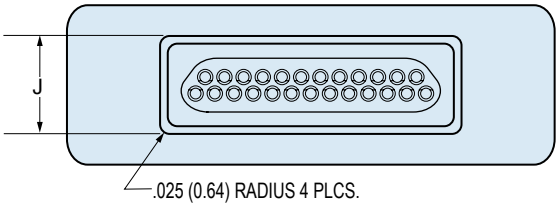
177-140H and 177-704H
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Solder Mount

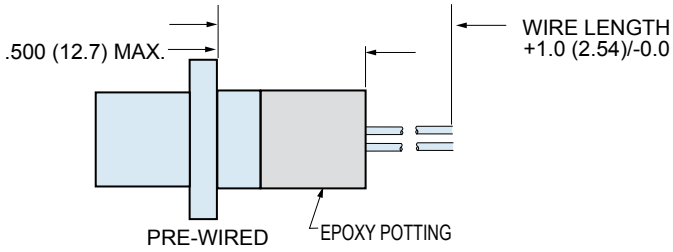












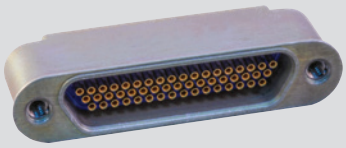
K

DIMENSIONS

Layout	A Max.		B		C MAX.		D Max.		E Max.		F		G Max.		H		J	
	In. ± .005	mm. ± 0.13	In . ± .005	mm. ± 0.13	In . ± .005	mm. ± 0.13	In.	mm.	In.	mm.	In. ± .004	mm. ± 0.10	In.	mm.	In. ± .004	mm. ± 0.10	In. ± .004	mm. ± 0.10
9S	.785	19.94	.565	14.35	.695	14.35	.250	6.35	.310	7.87	.195	4.95	.394	10.01	.398	10.11	.268	6.81
15S	1.030	26.16	.715	18.16	.855	21.71	.250	6.35	.425	10.80	.195	4.95	.394	10.01	.535	13.59	.255	6.48
21S	1.180	29.97	.865	21.97	1.005	25.53	.250	6.35	.425	10.80	.195	4.95	.394	10.01	.750	19.05	.255	6.48
25S	1.280	32.51	.965	24.51	1.105	28.06	.250	6.35	.425	10.80	.195	4.95	.394	10.01	.785	19.94	.255	6.48
31S	1.430	36.32	1.115	28.32	1.255	31.88	.250	6.35	.425	10.80	.195	4.95	.394	10.01	.935	23.75	.255	6.48
37S	1.580	40.13	1.265	32.13	1.425	36.20	.250	6.35	.425	10.80	.195	4.95	.394	10.01	1.085	27.56	.255	6.48
51S 2 row	1.930	49.02	1.615	41.02	1.775	45.09	.310	7.87	.425	10.80	.199	5.05	.394	10.01	1.435	36.45	.250	6.35
51S 3 row	1.530	38.86	1.215	30.86	1.361	34.57	.310	7.87	.468	11.89	.199	5.05	.394	10.01	1.032	33.101	.300	7.62
100S	2.260	57.40	1.800	45.72	2.010	51.05	.330	8.38	.517	13.13	.199	5.05	.394	10.01	1.765	44.8	.355	9.02

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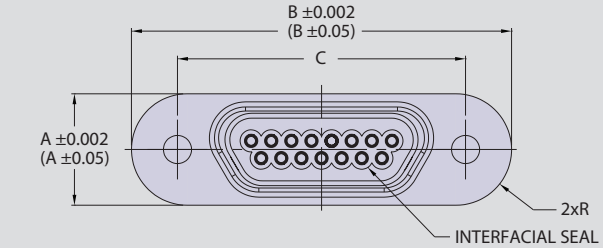
How To Order				
Sample Part Number		**GLI-24042-1**	**-25**	**-SC**
Series	**GLI-24042-1** = Glass Sealed Hermetic Receptacle Weld Mount			
Shell Size	Pin counts **9**, **15**, **21**, **25**, **31**, **37**, **51** per MIL-PRF-83513			
Contact Type	**SP** = socket PC tail termination **SC** = socket solder cup termination			

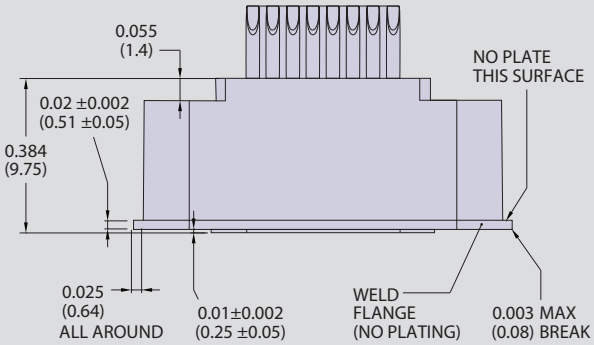
NOTES

1. Type of connector: Hermetic connectors solder cup or PC tail options
2. Material / finish:
   - Shell: kovar alloy / electro-deposited nickel
   - Socket contacts: kovar alloy / gold plate
   - Insulator: full glass / N.A.
   - Interfacial seal: fluorosilicone elastomer / N.A.
3. Performance:
   - Hermeticity: $1x10^{\wedge -7}$ scche/sec @ 1 atmosphere differential.
   - Dielectric withstanding voltage: sea level 150 VAC.
   - Insulator resistance: 5000 megaohms min.
4. Glenair's GLI-24042-1 hermetic connector mates with all standard MIL-DTL-83513 pin connectors.
5. The connector may be back potted.

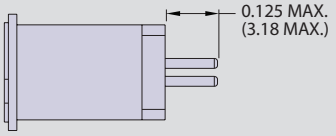
GLI-24042-1 GLASS SEALED HERMETIC RECEPTACLE WELD MOUNT

Dimensions			
No. of Contacts	A	B	C - Basic
9	0.277 (7.04)	0.795 (20.19)	0.565 (14.35)
15	0.277 (7.04)	0.945 (24.00)	0.715 (18.16)
21	0.277 (7.04)	1.095 (27.81)	0.865 (21.97)
25	0.277 (7.04)	1.195 (30.35)	0.965 (24.51)
31	0.277 (7.04)	1.345 (34.16)	1.115 (28.32)
37	0.277 (7.04)	1.495 (37.97)	1.265 (32.13)
51	0.320 (8.13)	1.445 (36.70)	1.215 (30.86)

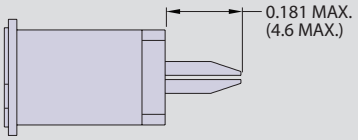




2 CONTACT ROWS
9 - 37 PIN CONFIGURATIONS

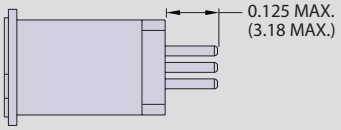


PC TAILS

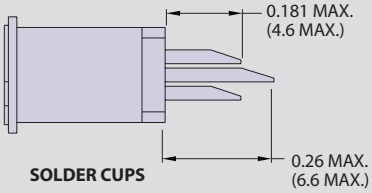


SOLDER CUPS

3 CONTACT ROWS
51 PIN CONFIGURATION



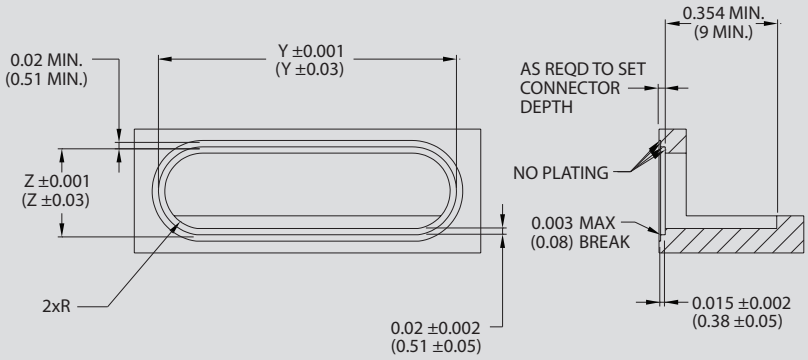
PC TAILS



SOLDER CUPS

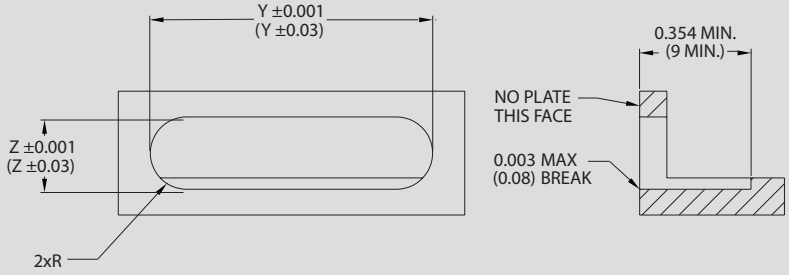
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Dimensions in Inches (millimeters) are subject to change without notice.

GLI-24042-1 WELD CAVITY DETAIL (BUTT WELD)



Panel Cutout Dimensions		
No. of Contacts	Butt Weld	
	Y	Z
9	0.798 (20.27)	0.280 (7.11)
15	0.948 (24.08)	0.280 (7.11)
21	1.098 (27.89)	0.280 (7.11)
25	1.198 (30.43)	0.280 (7.11)
31	1.348 (34.24)	0.280 (7.11)
37	1.498 (38.05)	0.280 (7.11)
51	1.448 (36.78)	0.323 (8.20)

GLI-24042-1 WELD CAVITY DETAIL (LAP WELD)



Panel Cutout Dimensions		
No. of Contacts	Lap Weld	
	Y	Z
9	0.748 (19.00)	0.230 (5.84)
15	0.898 (22.81)	0.230 (5.84)
21	1.048 (26.62)	0.230 (5.84)
25	1.148 (29.16)	0.230 (5.84)
31	1.298 (32.97)	0.230 (5.84)
37	1.448 (36.78)	0.230 (5.84)
51	1.398 (35.51)	0.273 (6.93)

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177-705H and 177-706H
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Rear Panel Mount with O-Ring



Fluorosilicone O-Ring eliminates the cost of soldering the connector to a bulkhead.

Kovar® Shells and Contacts comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

Solder Cup, PC Tail or Pre-Wired and Fully Potted
Suitable for #26 gage wire or smaller, solder cup versions feature gold-plated contacts. Choose PC tails for attachment to flex circuits or rigid boards. Solder cup versions are also available pre-wired and potted.

K

HOW TO ORDER SOLDER CUP AND PC TAIL CONNECTORS

Series	Layout Number of Contacts	Contact Type	Mounting Threads	O-Ring Material
177-705H Micro-D Hermetic Socket Receptacle, Rear Panel Mount with O-Ring, Solder Cup or PC Tail	**9** **15** **21** **25** **31** **37** **51-2** **51** **100**	**SS** – Solder Cup, Socket **SP** – PC Tail, Socket	**U** – #4 - 40 UNC **M** – M3 Metric **A** – #2-56 UNC	**C** = Fluorosilicone,Conductive (Choseal 1298) **E** = Epdm (Ethylene-Propylene) **V** = Viton (Fluorocarbon; Fkm) **N** = Nitrile (Buna-N) **S** = Silicone (ZZ-R-765) **B** = Butyl Rubber (Iir) **K** = Kalrez (FFKM) **Omit** for Standard Fluorosilicone
Sample Part Number				
177-705H	**15**	**SS**	**U**	**-V**

HOW TO ORDER PRE-WIRED CONNECTORS

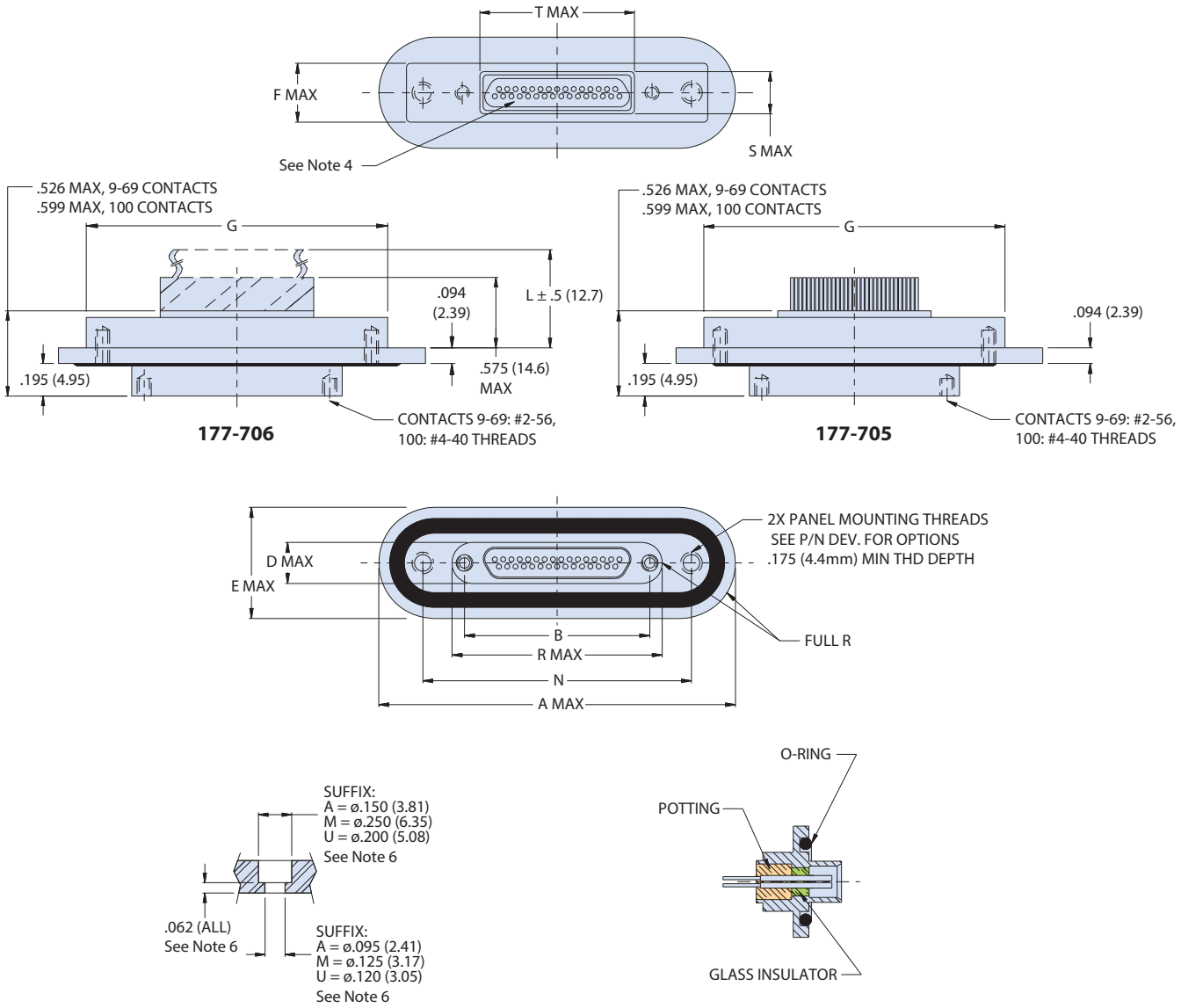
Series	Layout	Contact Type	Wire Gage (AWG)	Wire Type	Wire Color	Wire Length In Inches	Mounting Threads	O-Ring Material
177-706H	**9** **15** **21** **25** **31** **37** **51-2** **51** **100**	**S** – Socket Contacts Pre-Wired	**6** – #26 **8** – #28 **0** – #30	**K** – M22759/11 600 Vrms Teflon (TFE) (Not Available in #30 AWG) **J** – M22759/33 600 Vrms Modified Cross-Linked Tefzel (ETFE)	**1** – White **2** – Yellow **5** – Color-Coded Stripes Per MIL-STD-681 (#26 gage only) **7** – Ten Color Repeat	**18** Wire Length In Inches. "18" Specifies 18 Inches.	**A** - #2-56 UNC **M** - M3 Metric, Omit for #4-40 UNC	**C** = Fluorosilicone, Conductive **E** = EPDM (Ethylene-Propylene) **V** = Viton (Fluorocarbon; FKM) **N** = Nitrile (BUNA-N) **S** = Silicone (ZZ-R-765) **B** = Butyl Rubber (IIR) **K** = Kalrez (FFKM) **Omit** for Standard Fluorosilicone
Sample Part Number								
177-706H	**25**	**S**	**6**	**K**	**1**	**– 18**	**M**	**-V**

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www.glenair.com **E-Mail: sales@glenair.com**

177-705H and 177-706H
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Rear Panel Mount with O-Ring



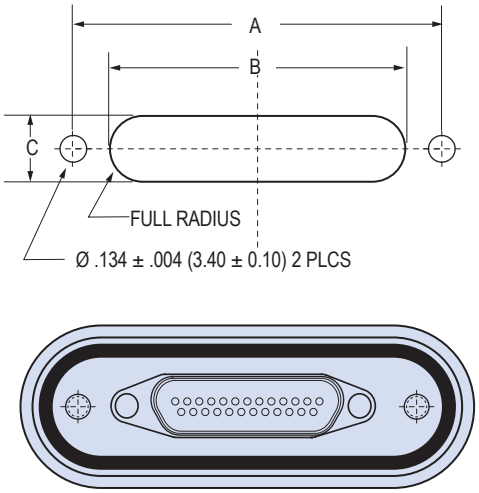
DIMENSIONS										
LAYOUT	A MAX	B	D MAX	E MAX	F MAX	G	N	R MAX	S MAX	T MAX
9	1.488 (37.80)	0.565 (14.35)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.254 (31.85)	1.011 (25.68)	0.728 (18.49)	0.275 (6.99)	0.410 (10.41)
15	1.638 (41.61)	0.715 (18.16)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.414 (35.92)	1.161 (29.49)	0.878 (22.30)	0.275 (6.99)	0.540 (13.72)
21	1.788 (45.42)	0.865 (21.97)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.564 (39.73)	1.311 (33.30)	1.028 (26.11)	0.275 (6.99)	0.710 (18.03)
25	1.888 (47.96)	0.965 (24.51)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.664 (42.27)	1.411 (35.84)	1.128 (28.65)	0.275 (6.99)	0.810 (20.57)
31	2.038 (51.77)	1.115 (28.32)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.814 (46.08)	1.561 (39.65)	1.278 (32.46)	0.275 (6.99)	0.955 (24.26)
37	2.188 (55.58)	1.265 (32.13)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	1.984 (50.39)	1.711 (43.46)	1.428 (36.27)	0.275 (6.99)	1.095 (27.81)
51-2 (2 ROW)	2.538 (64.47)	1.615 (41.02)	0.250 (6.35)	0.675 (17.15)	0.358 (9.09)	2.334 (59.28)	2.061 (52.35)	1.778 (45.16)	0.275 (6.99)	1.650 (41.91)
51 (3 ROW)	2.138 (54.31)	1.215 (30.86)	0.310 (7.87)	0.715 (18.16)	0.398 (10.11)	1.920 (48.77)	1.661 (42.19)	1.378 (35.00)	0.295 (7.49)	1.095 (27.81)
100	2.820 (71.63)	1.800 (45.72)	0.330 (8.38)	0.795 (20.19)	0.555 (14.10)	2.569 (65.25)	2.312 (58.72)	2.002 (50.85)	0.355 (9.02)	1.675 (42.55)

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177-705H and 177-706H
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Rear Panel Mount with O-Ring

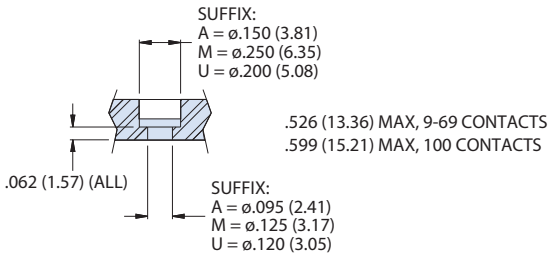
PANEL CUTOUT DIMENSIONS FOR 177-705 AND 177-706



Layout	A		B		C	
	In. ± .003	mm. ± 0.08	In. +.005 / -0.0	mm. + 0.13 / -0.0	In. + .005/ -0.0	mm. + 0.13/ -0.0
9	1.011	25.69	.731	18.56	.252	6.40
15	1.161	29.50	.881	22.37	.252	6.40
21	1.311	33.31	1.031	26.18	.252	6.40
25	1.411	35.85	1.131	28.72	.252	6.40
31	1.561	39.66	1.281	32.53	.252	6.40
37	1.711	43.47	1.431	36.34	.252	6.40
51 2 row	2.061	52.35	1.781	45.24	.252	6.40
51 3 row	1.661	42.19	1.381	35.08	.310	7.87
100	2.312	58.72	2.005	50.93	.330	8.38

NOTES:

For panel thickness greater than .062 (1.57) thick, the mounting holes for -100 must be counter-bored as shown when mating connector has a backshell to prevent interference. Diameters shown are for socket-head cap screws. User to adjust for different screw type.



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1770-3687
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Panel Mount O-ring Seal, Socket-Socket, Bulkhead Feed-thru

O-Ring Mounting eliminates the cost of soldering the connector to a bulkhead.

Kovar® Shells and Contacts comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

HOW TO ORDER

Series	Layout Number of Contacts	O-Ring Material
1770-3687 Micro-D Hermetic Socket Shell, Size 9-100, Panel Mount	**9** **15** **21** **25** **31** **37** **51** **51-2** **67** **69** **100**	**C (****)** = Conductive Elastomer **E** = EPDM (Ethylene-Propylene) **V** = Viton (Fluorocarbon: FKM) **N** = Nitrile (Buna-N) **S** = Silicone (ZZ-R-765) **B** = Butyl Rubber (IIR) **K** = Kalrez (FFKM) Omit for fluorosilicone (STD)
Sample Part Number		
1770-3687	**-15**	**V**

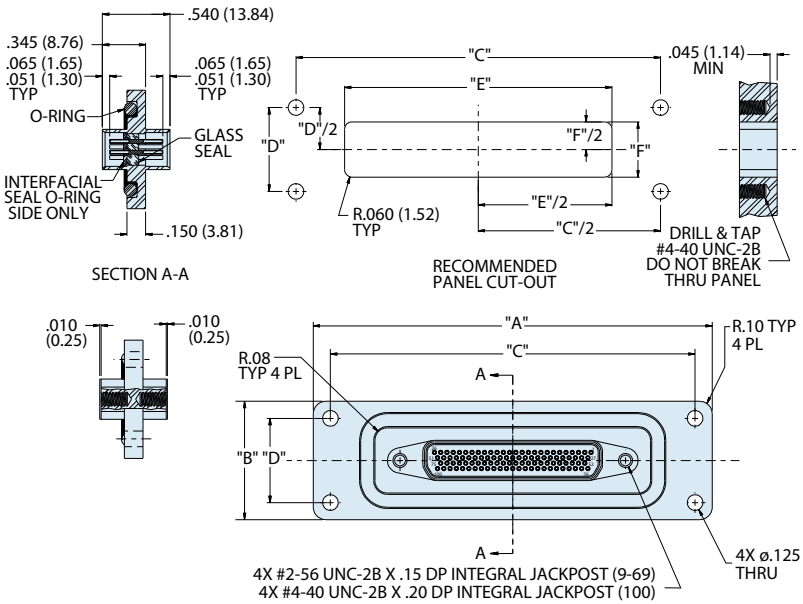
DIMENSIONS

Layout	A ±.015 (0.38)	B ±.015 (0.38)	C ±.010 (0.25)	D ±.010 (0.25)	E ±.005 (0.13)	F ±.005 (0.13)	O-ring Size
9	1.945 (49.40)	.860 (21.84)	1.670 (42.42)	.585 (14.86)	.900 (22.86)	.355 (9.02)	2-119
15	2.035 (51.69)	.860 (21.84)	1.760 (44.70)	.585 (14.86)	1.025 (26.03)	.355 (9.02)	2-120
21	2.235 (56.77)	.860 (21.84)	1.960 (49.78)	.585 (14.86)	1.190 (30.23)	.355 (9.02)	2-122
25	2.340 (59.44)	.860 (21.84)	2.065 (52.45)	.585 (14.86)	1.295 (32.89)	.355 (9.02)	2-123
31	2.425 (61.59)	.860 (21.84)	2.150 (54.61)	.585 (14.86)	1.380 (35.05)	.355 (9.02)	2-124
37	2.635 (66.93)	.860 (21.84)	2.360 (59.94)	.585 (14.86)	1.590 (40.39)	.355 (9.02)	2-126
51	2.550 (64.77)	.945 (24.00)	2.275 (57.79)	.670 (17.02)	1.505 (38.23)	.440 (11.18)	2-126
51-2	2.935 (74.55)	.860 (21.84)	2.660 (67.56)	.585 (14.86)	1.895 (48.13)	.355 (9.02)	2-129
67	3.340 (84.84)	.860 (21.84)	3.060 (77.72)	.585 (14.86)	2.365 (60.07)	.355 (9.02)	2-135
69	2.850 (72.39)	.945 (24.00)	2.575 (65.41)	.670 (17.02)	1.805 (45.85)	.440 (11.18)	2-129
100	3.180 (80.77)	.945 (24.00)	2.910 (73.91)	.670 (17.02)	2.215 (56.26)	.440 (11.18)	2-132

CONDUCTIVE O-RING MATERIAL OPTIONS

Number	Material	Eqp't Shield Req't (TYP)
C1224	Silver in silicone	> 120 dB
C1221	Silver in flurosilicone	> 120 dB
C6502	Nickel-plated alumnum in silicone	> 100 dB
C6503	Nickel-plated aluminum in fluorosilicone	> 100 dB
C1285	Silver-plated aluminum in silicone	90-110 dB
C1287	Silver-plated aluminum in fluorosilicone	90-110 dB
C1215	Silver-plated copper in silicone	105-120 dB
C1217	Silver-plated copper in flurosilicone	105-120 dB
C1298*	Silver-plated aluminum in fluorosilicone	90-110 dB

All numbers are cho-seal compounds
Consult factory for other options
* = Standard o-ring supplied for most aircraft & marine military applications



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1770-5588
MIL-DTL-83513 Type Micro-D Hermetic Connectors
O-ring Seal, Pin-Socket, Bulkhead Feed-thru



O-Ring Mounting eliminates the cost of soldering the connector to a bulkhead.

Kovar® Shells and Contacts comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

HOW TO ORDER

Series	Finish	Shell Size	O-Ring Location	O-Ring Material
1770-5588 Hermetic, O-ring Seal, Pin-Socket, Bulkhead Feedthrough Micro-D	**H** = Nickel	Contact Quantity	**P** = Pin Side **S** = Socket Side	**C (****)** = Conductive Elastomer **E** = EPDM (Ethylene-Propylene) **V** = Viton **N** = Nitrile (Buna-N) **S** = Silicone (ZZ-R-765) **B** = Butyl Rubber (IIR) **K** = Kalrez (FFKM)
Sample Part Number				
1770-5588	**H**	**-37**	**S**	**-V**

DIMENSIONS

Number of Contacts	A Max	B Bsc	C Max	D Max	E Max	F Bsc	G Max	H Max	J Max	K Max	L Max	M ±.005	N ±.005
9	1.488 (37.80)	0.565 (14.35)	0.250 (6.35)	0.728 (18.49)	0.675 (17.15)	1.011 (25.68)	0.400 (10.16)	0.334 (8.48)	0.240 (6.10)	0.184 (4.67)	1.260 (32.00)	0.735 (18.67)	0.260 (6.60)
15	1.638 (41.61)	0.715 (18.16)	0.250 (6.35)	0.878 (22.30)	0.675 (17.15)	1.161 (29.49)	0.550 (13.97)	0.484 (12.29)	0.240 (6.10)	0.184 (4.67)	1.420 (36.07)	0.885 (22.48)	0.260 (6.60)
21	1.788 (45.42)	0.865 (21.97)	0.250 (6.35)	1.078 (27.38)	0.675 (17.15)	1.311 (33.30)	0.700 (17.78)	0.634 (16.10)	0.240 (6.10)	0.184 (4.67)	1.570 (39.88)	1.085 (27.56)	0.260 (6.60)
25	1.888 (47.96)	0.965 (24.51)	0.250 (6.35)	1.128 (28.65)	0.675 (17.15)	1.411 (35.84)	0.800 (20.32)	0.734 (18.64)	0.240 (6.10)	0.184 (4.67)	1.670 (42.42)	1.135 (28.83)	0.260 (6.60)
31	2.038 (51.77)	1.115 (28.32)	0.250 (6.35)	1.278 (32.46)	0.675 (17.15)	1.561 (39.65)	0.950 (24.13)	0.884 (22.45)	0.240 (6.10)	0.184 (4.67)	1.820 (46.23)	1.285 (32.64)	0.260 (6.60)
37	2.188 (55.58)	1.265 (32.13)	0.250 (6.35)	1.428 (36.27)	0.675 (17.15)	1.711 (43.46)	1.100 (27.94)	1.034 (26.26)	0.240 (6.10)	0.184 (4.67)	1.990 (50.55)	1.435 (36.45)	0.260 (6.60)
51	2.138 (54.31)	1.215 (30.86)	0.310 (7.87)	1.378 (35.00)	0.715 (18.16)	1.661 (42.19)	1.050 (26.67)	0.984 (24.99)	0.290 (7.37)	0.224 (5.69)	1.930 (49.02)	1.385 (35.18)	0.320 (8.13)
51-2	2.538 (64.47)	1.615 (41.02)	0.250 (6.35)	1.778 (45.16)	0.675 (17.15)	2.061 (52.35)	1.451 (36.86)	1.384 (35.15)	0.240 (6.10)	0.184 (4.67)	2.345 (59.56)	1.785 (45.34)	0.260 (6.60)
67	2.950 (74.93)	2.015 (51.18)	0.250 (6.35)	2.180 (55.37)	0.675 (17.15)	2.460 (62.48)	1.850 (46.99)	1.784 (45.31)	0.240 (6.10)	0.184 (4.67)	2.710 (68.83)	2.190 (55.63)	0.260 (6.60)
69	2.600 (66.04)	1.515 (38.48)	0.310 (7.87)	1.678 (42.62)	0.715 (18.16)	2.050 (52.07)	1.350 (34.29)	1.284 (32.61)	0.290 (7.37)	0.224 (5.69)	2.230 (56.64)	1.685 (42.80)	0.320 (8.13)
100	2.820 (71.63)	1.800 (45.72)	0.330 (8.38)	2.002 (50.85)	0.795 (20.19)	2.312 (58.72)	1.451 (36.86)	1.384 (35.15)	0.325 (8.25)	0.270 (6.86)	2.575 (65.41)	2.010 (51.05)	0.340 (8.64)

CONDUCTIVE O-RING MATERIAL OPTIONS

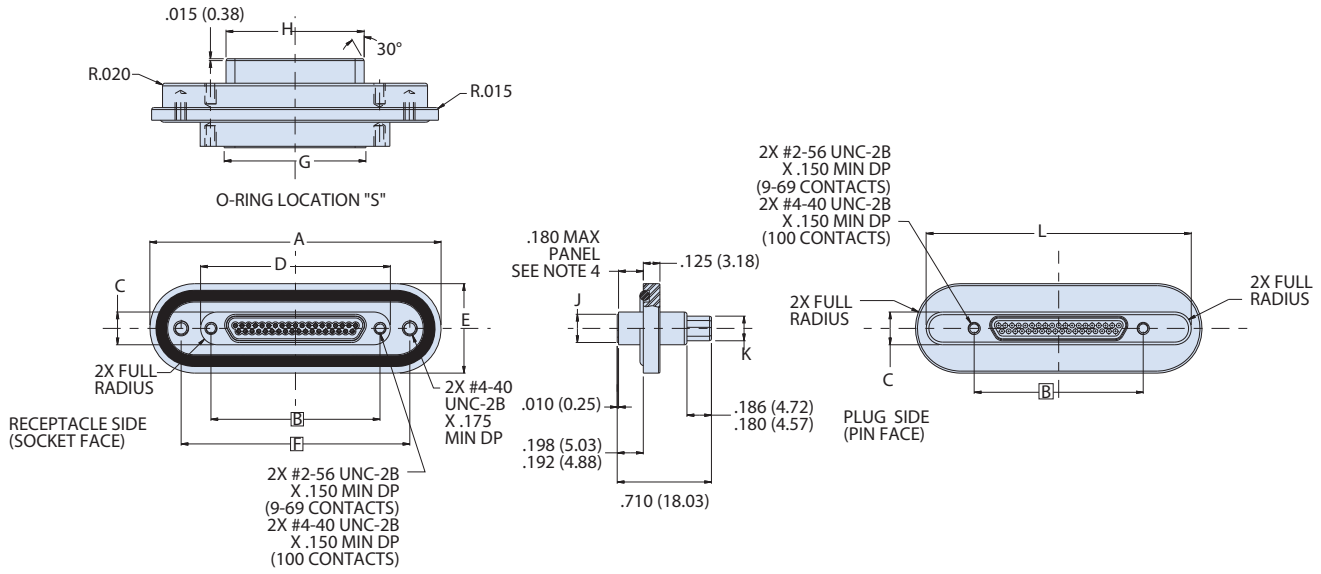
Number	Material	Eqp't Shield Req't (TYP)
C1224	Silver in silicone	> 120 dB
C1221	Silver in flurosilicone	> 120 dB
C6502	Nickel-plated alumnum in silicone	> 100 dB
C6503	Nickel-plated aluminum in fluorosilicone	> 100 dB
C1285	Silver-plated aluminum in silicone	90-110 dB
C1287	Silver-plated aluminum in fluorosilicone	90-110 dB
C1215	Silver-plated copper in silicone	105-120 dB
C1217	Silver-plated copper in flurosilicone	105-120 dB
C1298*	Silver-plated aluminum in fluorosilicone	90-110 dB

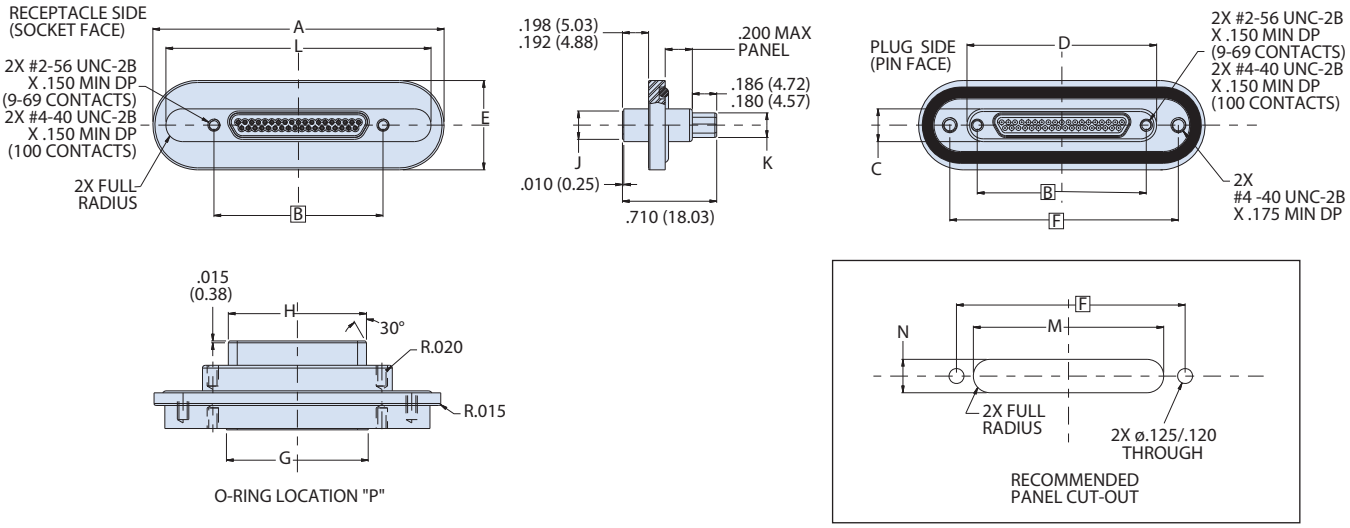
All numbers are cho-seal compounds
Consult factory for other options
* = Standard o-ring supplied for most aircraft & marine military applications

Dimensions in Inches (millimeters) are subject to change without notice.

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1770-5588
MIL-DTL-83513 Type Micro-D Hermetic Connectors
O-ring Seal, Pin-Socket, Bulkhead Feed-thru





K

Notes

1. Glenair 1770-5588 will mate with any QPL MIL-DTL-83513 plug / receptacle of the same size and opposite contact gender
2. Test performance:
   - DWV - 150 vac pin-to-shell
   - I.R. - 5,000 Megohms min @ 500vdc
   - Hermeticity - <1 x 10^{-7} ccHe/sec @ 1 atmosphere delta
3. Temperature range: -55°C to +125°C (-67°F to 257°F)
4. Customer must compensate for accessory hardware clearance (counterbore holes, enlarge cutout, etc) as required

Material/finish

- Shell: Kovar® alloy/electro-deposited nickel
- Socket contacts: Kovar® alloy/ gold plate
- Pin contacts: copper alloy/ gold plate
- Insulator, hermetic: glass beads
- Insulator pin: rigid dielectric
- Interfacial seal: fluorosilicone elastomer
- O-ring: as specified

Dimensions in Inches (millimeters) are subject to change without notice.

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U.S. CAGE Code 06324

Printed in U.S.A.

1770-5600
MIL-DTL-83513 Type Micro-D Hermetic Connectors
Shell Size 9-51 Front Panel Mount



Fluorosilicone O-Ring eliminates the cost of soldering the connector to a bulkhead.

Kovar® Shells and Contacts comply with applicable MIL-DTL-83513 requirements and are 100% intermateable with standard connectors.

How To Order				
Sample Part Number	**1770-5600**	**-21**	**-SS**	**-1**
Series	**1770-5600** Micro-D Hermetic Connectors with Socket Shell, PC Tail or Solder Cup Contacts			
Number of Contacts	See Dimensions Table			
Contact Type	**SS** = Socket Solder Cup **SP** = Socket, PC Tail			
O-Ring Material	**-1** = Viton **-2** = Nitrile **-3** = Fluorosilicone **-4** = Silicone **-5** = Conductive*			

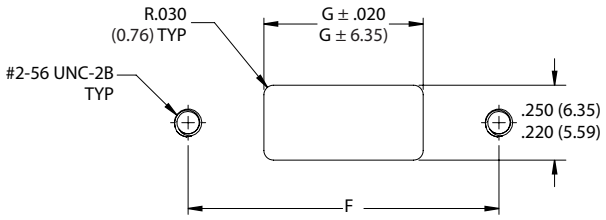
*-5 O-ring material: Silver-plated copper-filled silicone.

Dimensions							
Number of Contacts	**A**	**B**	**C**	**D**	**E**	**F**	**G**
9	1.176 (29.87)	0.565 (14.35)	0.380 (9.65)	0.600 (15.24)	0.776 (19.71)	0.976 (24.79)	0.500 (12.70)
15	1.326 (33.68)	0.715 (18.16)	0.530 (13.46)	0.750 (19.05)	0.926 (23.52)	1.126 (28.60)	0.650 (16.51)
21	1.416 (35.97)	0.865 (21.97)	0.680 (17.27)	0.840 (21.34)	1.016 (25.81)	1.216 (30.89)	0.725 (18.42)
25	1.616 (41.05)	0.965 (24.51)	0.830 (21.08)	1.040 (26.42)	1.216 (30.89)	1.416 (35.97)	0.875 (22.23)
31	1.716 (43.59)	1.115 (28.32)	0.980 (24.89)	1.140 (28.96)	1.316 (33.43)	1.516 (38.51)	1.025 (26.03)
37	1.906 (48.41)	1.265 (32.13)	1.130 (28.70)	1.330 (33.78)	1.506 (38.25)	1.706 (43.33)	1.175 (29.85)
51	2.006 (50.95)	1.215 (30.86)	1.280 (32.51)	1.430 (36.32)	1.606 (40.79)	1.806 (45.87)	1.325 (33.65)

Material/finish
- Shell: kovar alloy/electro-deposited nickel
- Socket contacts: kovar alloy/gold plate
- Interfacial seal: fluorosilicone elastomer
- Hermetic insulator: full glass/N.A.
- O-ring: See How to Order table

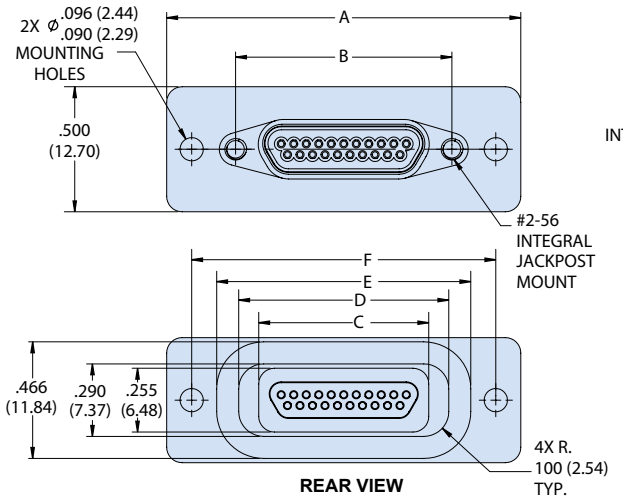
Performance
- Hermeticity: 1 x 10^{-7} sccHe/sec @ 1 atm differential
- Dielectric withstanding voltage: sea level 150 VAC
- Insulation resistance: 5000 megohms max

Notes
- Glenair's 1770-5600 hermetic socket connector mates with all standard MIL-DTL-83513 pin connectors.

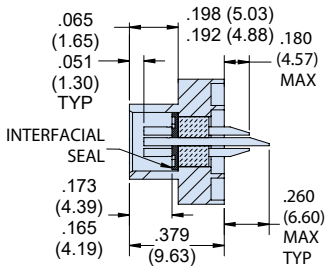


RECOMMENDED PANEL CUT-OUT

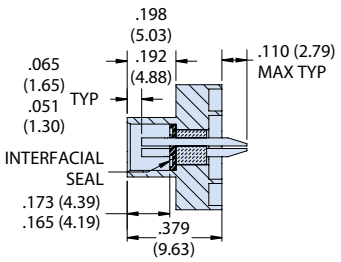
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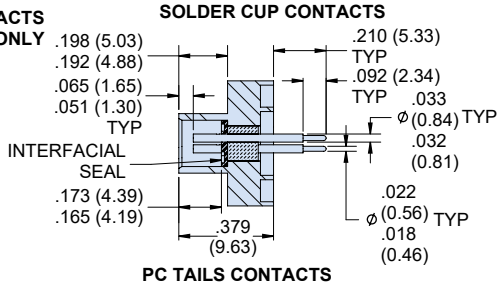
REAR VIEW



SOLDER CUP CONTACTS
FOR 51 CONTACTS ONLY



SOLDER CUP CONTACTS



PC TAILS CONTACTS

H

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Series 79Hermetic Micro-Crimp Mateable Receptacles

Glenair Micro-Crimp mateable hermetic socket receptacles with glass to metal seals are o□ered in 31 insert arrangements from 5 to 102 contacts. Available with O-Ring mount with optional jackpost hardware. Solder cup and pre-wired versions available.

Quick Selection Guide

Part Number	Description	Page
	Series 79 Micro-Crimp Mateable, Hermetic Connectors General Information	L-2
	Series 79 Micro-Crimp Mateable, Recommended Panel Cutouts	L-3
	Series 79 Micro-Crimp Mateable, Insert Arrangements	L-5
	Series 79 Micro-Crimp Mateable, Connectors for Space Flight	L-8
790-066	Hermetic Rear Panel Mount Micro-Crimp Mateable, Receptacle. Pin Faced with Solder Cup and PC Termination Contacts	L-9
790-081	Hermetic Rear Panel Mount Micro-Crimp Mateable, Receptacle. Pin Faced with Pre-wired Terminations	L-13

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Glenair®

The High-Density, High Performance Hermetic Rectangular MICROCRIMP®

Meet the newest member of Glenair's ultraminiature connector family, the Series 79 Micro-Crimp. Enviromental versions of the Micro-Crimp feature crimp, rear-release size #23 contacts on .075 inch (1.9 mm) spacing, as well as size #12 and #16 power contacts in a range of hybrid layouts. Hermetic versions of these high contact density connectors also feature rugged construction for demanding applications and, of course glass–to–metal hermetic sealing for severe environmental and pressure differential operating conditions. Designed for use in vacuum chambers and other pressurized systems, Glenair Micro-Crimp Hermetic Connectors offer outstanding performance in a lightweight microminiature package. The basic mounting configuration, an O-Ring equipped rear panel mount design may be customized for unique application environments. Specials, including weld mount versions are also available

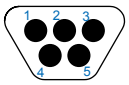
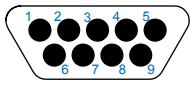
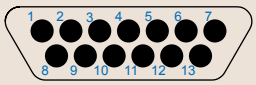
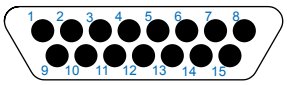
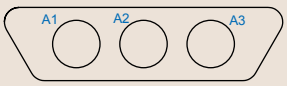
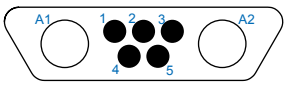
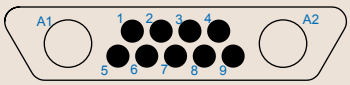
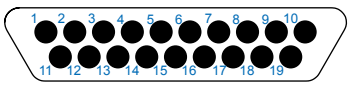
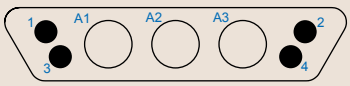
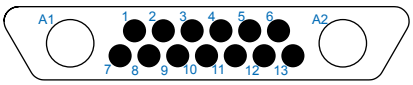
- Pin Receptacles
- Glass to Metal Seals
- 31 insert arrangements, from 5 to 102 contacts
- O-Ring Mount; Jackposts Options
- Solder Cup, PC Tail, and Pre-Wired Connectors

Hermetic Micro-Crimp mateable, solutions available in 31 insert arrangements, from 5 to 102 contacts.



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MICRO-CRIMP INSERT ARRANGEMENTS

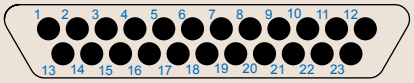
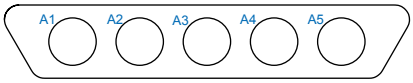
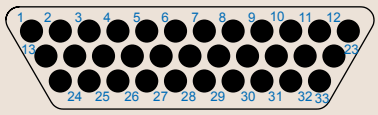
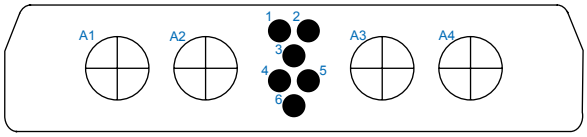
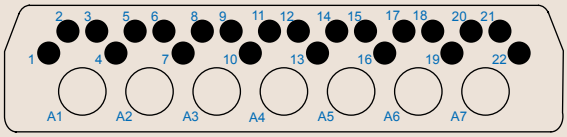
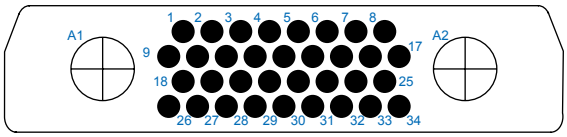
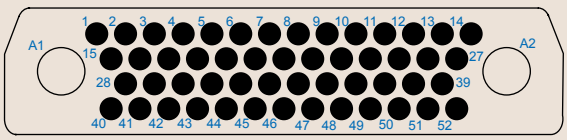
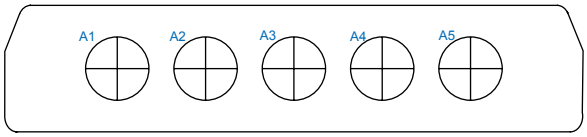
Shell Size	Contact Arrangement	No. of Contacts and Contact Size	Mating Face Pin Connector (Socket Numbers are Reversed)
A	A-5	5 #23 CONTACTS	
B	B-2P2	2 #16 CONTACTS	
B	B-9	9 #23 CONTACTS	
C	C-13	13 #23 CONTACTS	
D	D-15	15 #23 CONTACTS	
D	D-3P3	3 #16 CONTACTS	
D	D-7P2	5 #23 CONTACTS 2 #16 CONTACTS	
E	E-11P2	9 #23 CONTACTS 2 #16 CONTACTS	
E	E-19	19 #23 CONTACTS	
E	E-7P3	4 #23 CONTACTS 3 #16 CONTACTS	
F	F-15P2	13 #23 CONTACTS 2 #16 CONTACTS	

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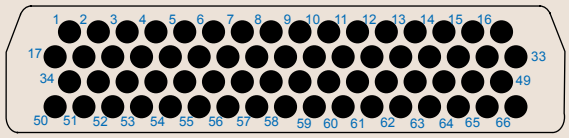
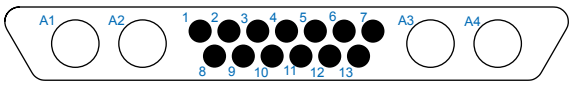
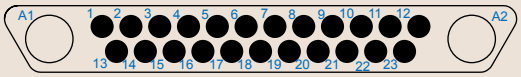
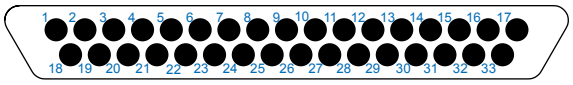
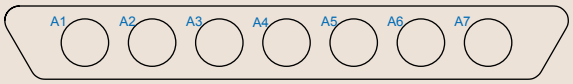
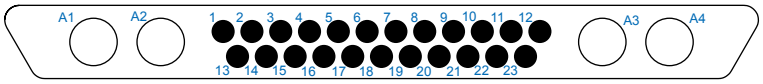
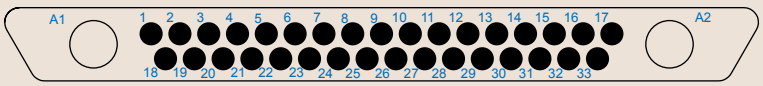
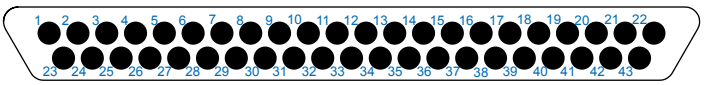
Series 79
Micro-Crimp Mateable, Hermetic Receptacles
Insert Arrangements

MICRO-CRIMP INSERT ARRANGEMENTS

Shell Size	Contact Arrangement	No. of Contacts and Contact Size	Mating Face Pin Connector (Socket Numbers are Reversed)
F	F-23	23 #23 CONTACTS	
F	F-5P5	5 #16 CONTACTS	
G	G-33	33 #23 CONTACTS	
H	H-10P4	6 #23 CONTACTS 4 #12 CONTACTS	
H	H-29P7	22 #23 CONTACTS 7 #16 CONTACTS	
H	H-36P2	34 #23 CONTACTS 2 #12 CONTACTS	
H	H-54P2	52 #23 CONTACTS 2 #16 CONTACTS	
H	H-5P5	5 #12 CONTACTS	

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MICRO-CRIMP INSERT ARRANGEMENTS

Shell Size	Contact Arrangement	No. of Contacts and Contact Size	Mating Face Pin Connector (Socket Numbers are Reversed)
H	H-66	66 #23 CONTACTS	
J	J-17P4	13 #23 CONTACTS 4 #16 CONTACTS	
J	J-25P2	23 #23 CONTACTS 2 #16 CONTACTS	
J	J-33	33 #23 CONTACTS	
J	J-7P7	7 #16 CONTACTS	
K	K-27P4	23 #23 CONTACTS 4 #16 CONTACTS	
K	K-35P2	33 #23 CONTACTS 2 #16 CONTACTS	
K	K-43	43 #23 CONTACTS	

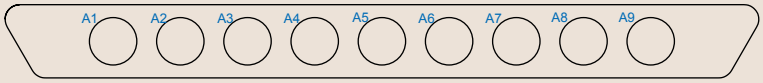
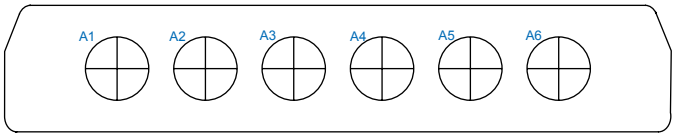
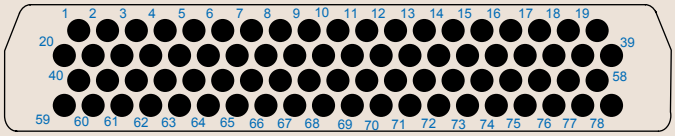
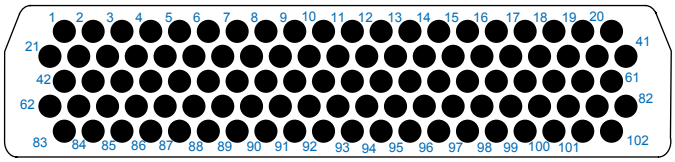
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Series 79
Micro-Crimp Mateable, Hermetic Receptacles
Insert Arrangements

MICRO-CRIMP INSERT ARRANGEMENTS

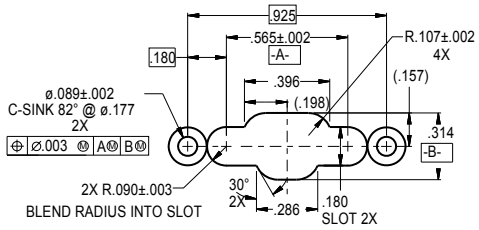
Shell Size	Contact Arrangement	No. of Contacts and Contact Size	Mating Face Pin Connector (Socket Numbers are Reversed)
K	K-9P9	9 #16 CONTACTS	
L	L-6P6	6 #12 CONTACTS	
L	L-78	78 #23 CONTACTS	
M	M-102	102 #23 CONTACTS	

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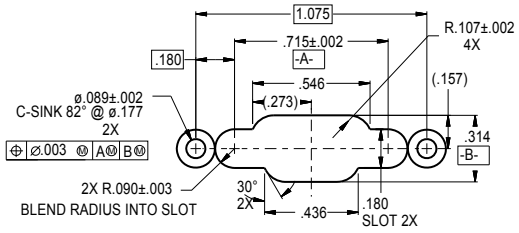
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Series 79 Micro-Crimp Mateable, Recommended Panel Cut-Outs

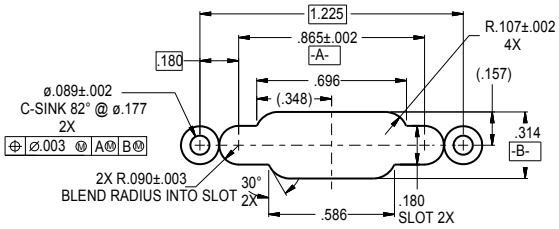
ALL CUTOUTS FOR .063" (.070 MAX) THICK PANEL MOUNTING



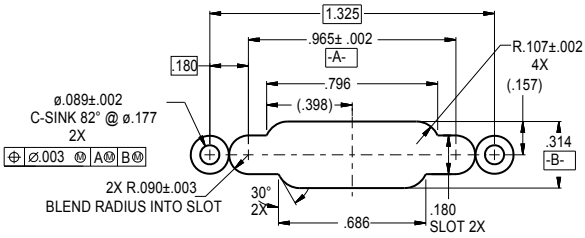
Shell Size A



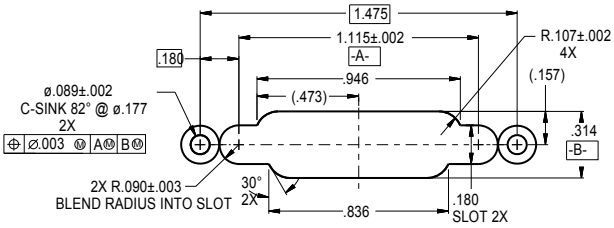
Shell Size B



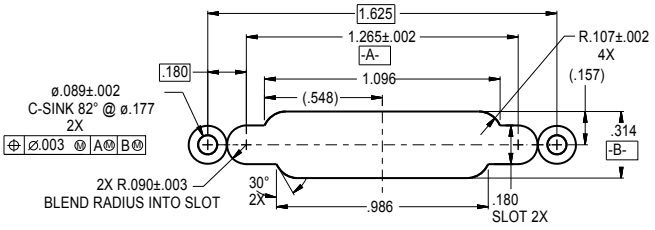
Shell Size C



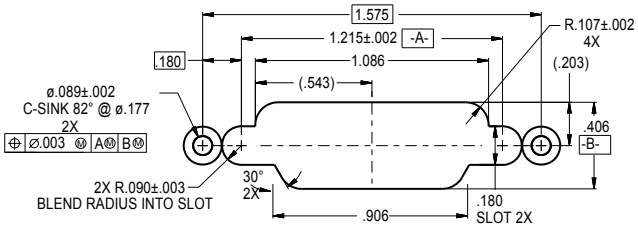
Shell Size D



Shell Size E



Shell Size F

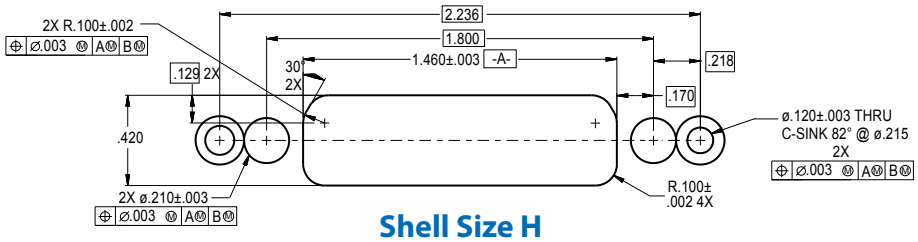


Shell Size G

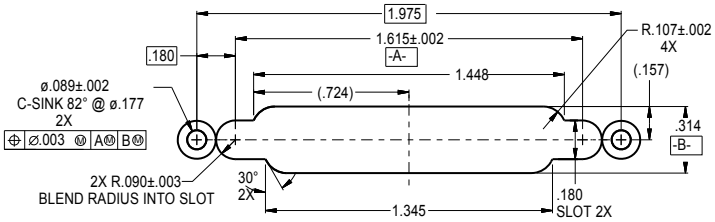
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Series 79 Micro-Crimp Mateable, Recommended Panel Cut-Outs

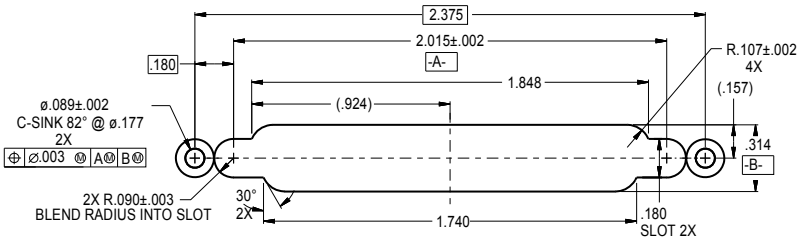
ALL CUTOUTS FOR .063" (.070 MAX) THICK PANEL MOUNTING



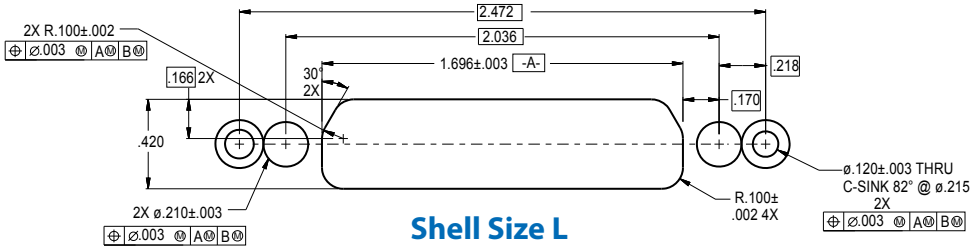
Shell Size H



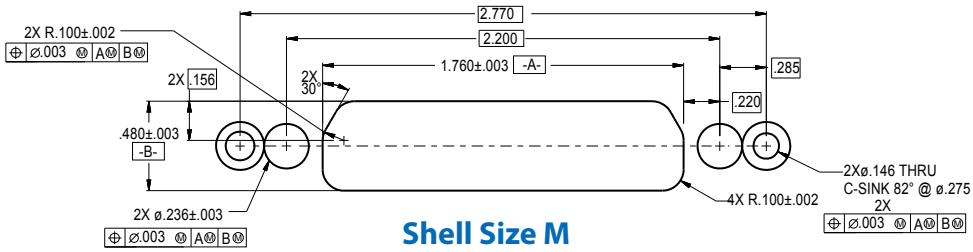
Shell Size J



Shell Size K



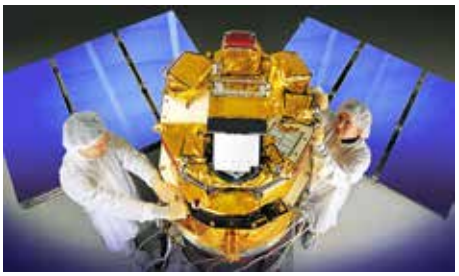
Shell Size L



Shell Size M

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Space Grade Series 79 Micro-Crimp Connectors



Micro-D connectors are a popular choice for space flight. Their small size and reduced weight, combined with excellent shock and vibration performance, has led to their widespread use on space vehicles. The Micro-Crimp connector brings the benefits of a crimp, rear-release contact system to the Glenair Micro-D family. Connectors can be terminated onto complicated, multi-branch wiring harnesses without splicing or soldering.

Five things you should know about Series 79 connectors for space flight

***1 Material Selection:** What materials are approved for space-grade connectors? What materials are prohibited? Does the Series 79 connector contain space-approved materials?*

***2 Outgassing:** What is outgassing, why is it important, and how does it affect connector selection? Is special processing required to meet outgassing requirements?*

***3 Screening:** What is NASA screening and what level of screening is required?*

***4 Magnetic permeability:** Are nonmagnetic connectors required?*

***5 Cryogenic exposure:** Are these connectors suitable for -200° C. exposure?*

HOW TO ORDER SPACE GRADE SERIES 79 CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space flight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term “Screening Level” refers to the final inspection procedure.
Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The fluorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are sufficient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modification code. Add the mod code to the connector part number. Example: 790-066Z1K-9P9PN-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

NASA Screening Level	Special Screening Only		Special Screening Plus Outgassing Processing	
	Interfacial Seal is Installed	Interfacial Seal is Deleted	8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429F	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429D	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part no.)	Mod 432	Mod 186	Mod 186M

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790-066
Series 79 Micro-Crimp Mateable, Rear Panel Mount
Hermetic Receptacle, Pin Face with Solder Cups

Basic Part Number	Shell Size	Contact Type	Mating Hardware Option		
	Table I Page L-11	*C = Pin, PC Tail* *P = Pin, Solder Cup*	*N = No Hardware* *P = Jackpost* *G = Male Guide Pins* *S = Female Guide Sockets* *See Page L-12*		
790-066	Z1	K	- 9P9	C	N

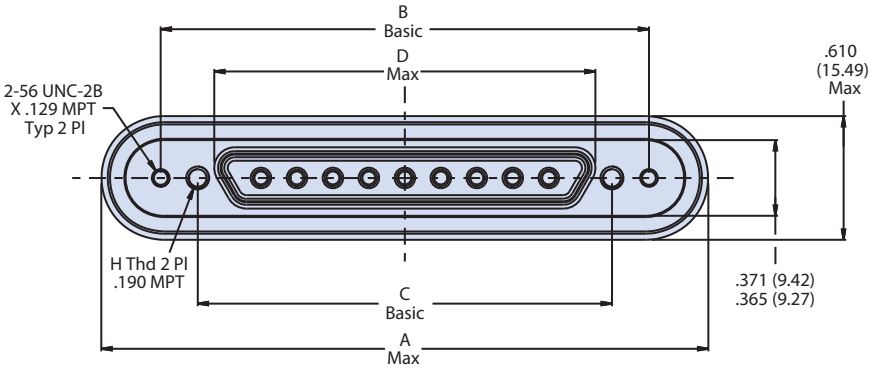
Finish
Z1 = Passivate
ZL = Nickel Plate

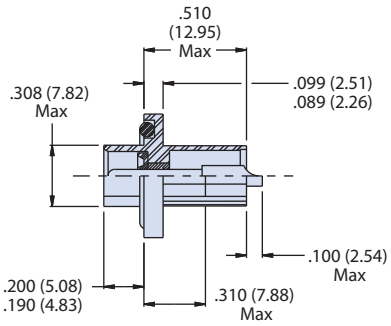
Arrangement
See Page L-3 thru L-6

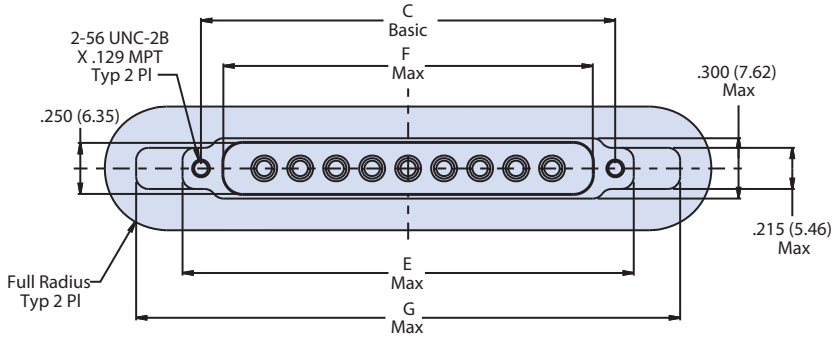
PC Tail Dimensions	
Contact Size	Ø T
23	.022 (.56) .018 (.46)
16	.064 (1.63) .061 (1.55)
12	.095 (2.41) .093 (2.36)

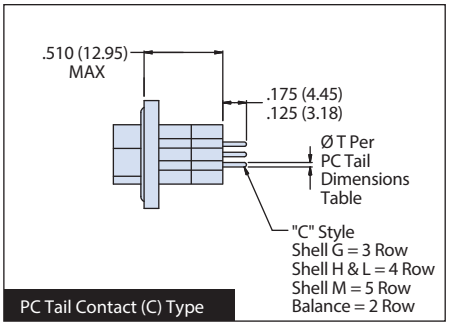
Mounting Hardware	
P Jackpost 	Connector supplies with non-removable jackpost. Shell size "M" has 6-32-UNC thread. Shell sizes "H" and "L" have 4-40 UNC-2B thread. all other sizes have 2-56 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

Shell Size A, B, C, D, E, F, J & K
See Table I For Dimensions









APPLICATION NOTES

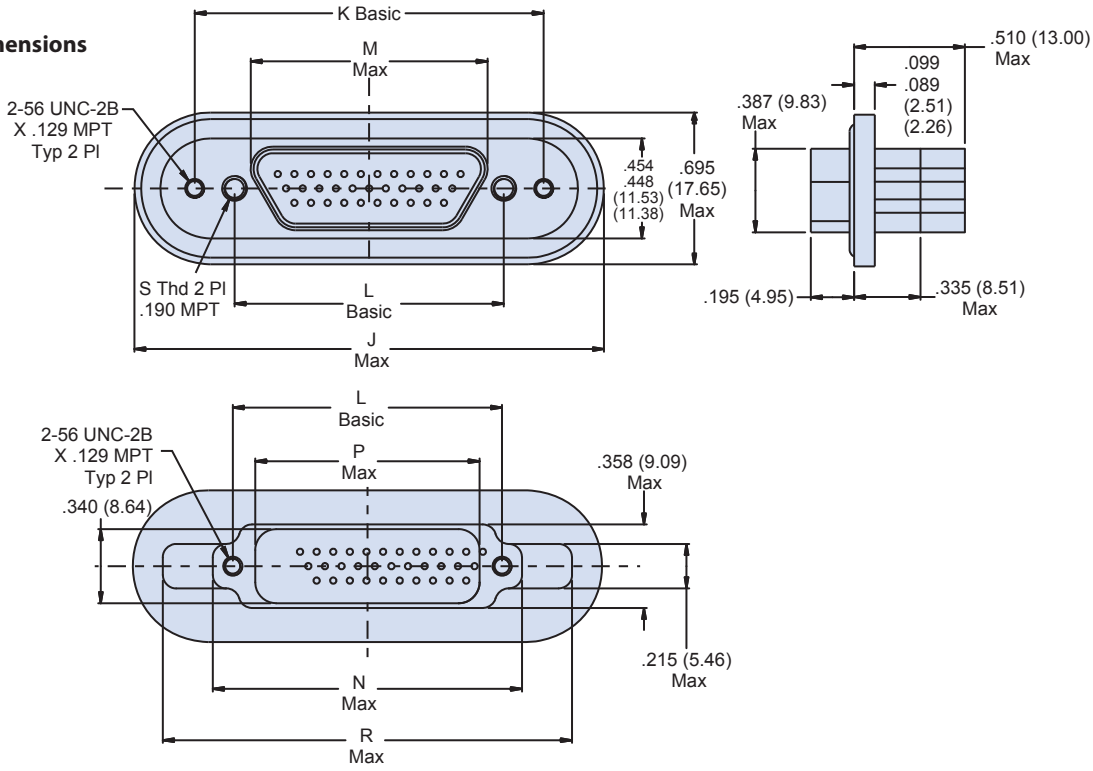
1. Material/Finish:
   Shell* - 300 Series CRES/passivate or
   300 Series CRES/Nickel Plate
   Contacts - Nickel iron alloy/gold plate
   Insulator - Individual glass beads/N.A.
   Seals - Fluorosilicone blend/N.A.
   Mating Hardware - CRES/passivated
   *Consult factory for other shell finishes and O-Ring materials.
2. Metric dimensions (mm) are indicated in parentheses.
3. See Pages L-7 and L-8 for panel cut-out information.
4. Test Criteria:
   Hermeticity - <1 x 10^{-5} scc He/sec @1 ATM Delta
   DWV - #23 pins: 500 VAC pin-to-shell
   #16 pins: 1800 VAC pin-to-shell
   #12 pins: 1800 VAC pin-to-shell
   I.R. - 5,000 megohms minimum @500 VDC
5. Glenair 790-066 will mate with any series 79 plug with socket contacts and same shell and insert, and is designed to utilize 799-016 EMI backshells.

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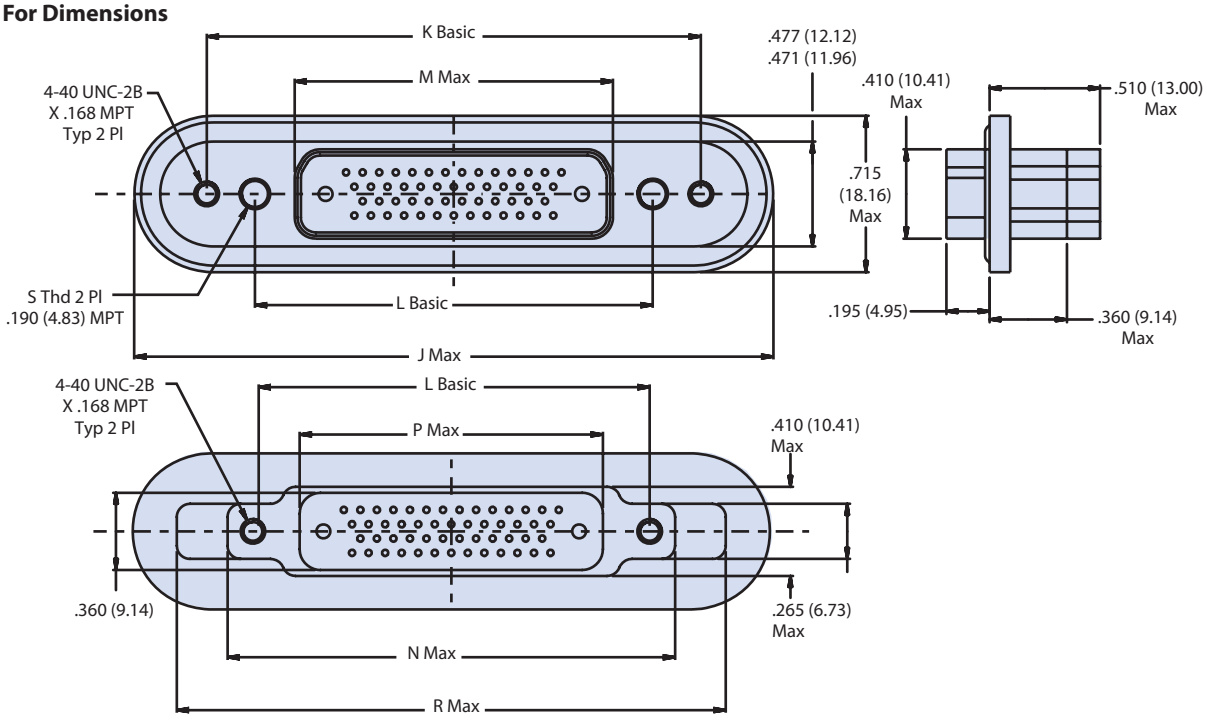
Shell Size G

See Table II For Dimensions



Shell Size H & L

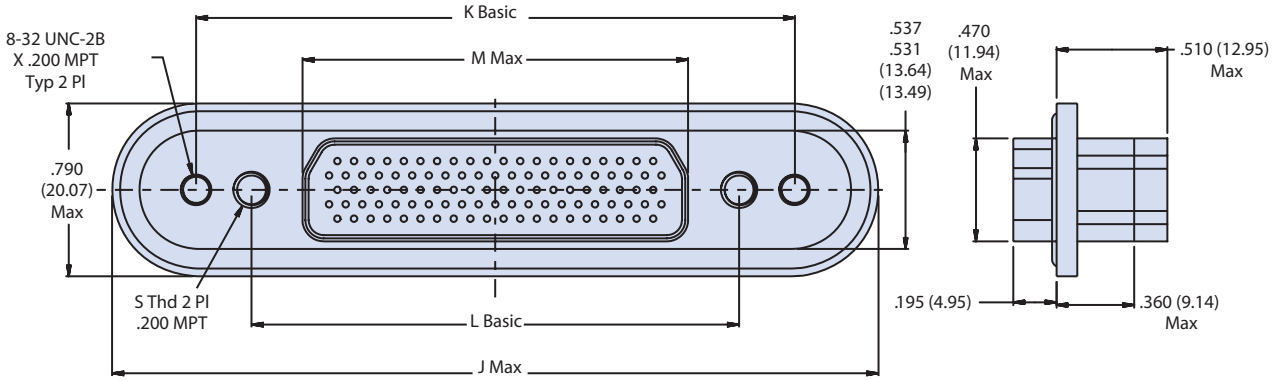
See Table II For Dimensions



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790-066
Series 79 Micro-Crimp Mateable, Rear Panel Mount
Hermetic Receptacle, Pin Face with Solder Cups

Shell Size M (See Table II For Dimensions)



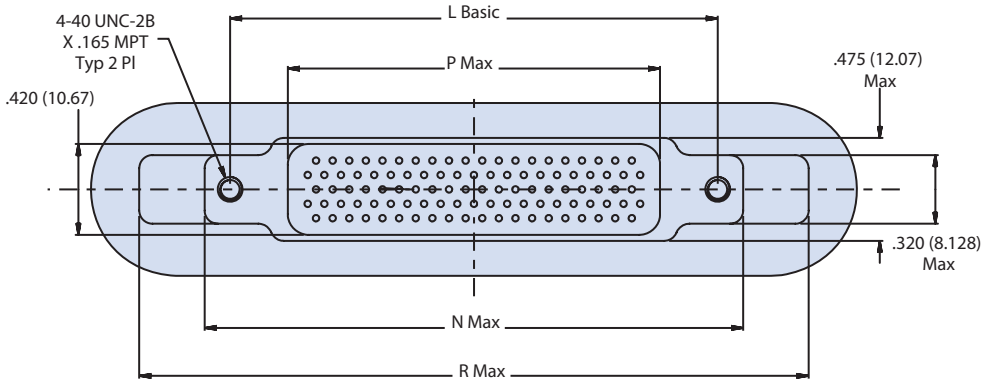


TABLE I: SHELL SIZE A, B, C, D, E, F, J AND K CONNECTOR DIMENSIONS

Shell Size	A OAL	B BASIC	C BASIC	D MAX	E MAX	F MAX	G MAX	H TYP UNC 2-B
A	1.490 (37.85)	.925 (23.50)	.565 (14.35)	.401 (10.19)	.750 (19.05)	.350 (8.89)	1.215 (30.86)	#4-40
B	1.680 (42.67)	1.075 (27.31)	.715 (18.16)	.551 (14.00)	.910 (23.11)	.500 (12.70	1.365 (34.67)	#4-40
C	1.785 (45.34)	1.225 (31.12)	.865 (21.97)	.701 (17.81)	1.060 (26.92)	.650 (16.51)	1.515 (38.48)	#4-40
D	1.975 (50.17)	1.325 (33.66)	.965 (24.51)	.801 (20.35)	1.160 (29.46)	.750 (19.05)	1.615 (41.02)	#4-40
E	2.075 (52.71)	1.475 (37.47)	1.115 (28.32)	.951 (24.16)	1.310 (33.27)	.900 (22.86)	1.765 (44.83)	#4-40
F	2.175 (55.25)	1.625 (41.28)	1.265 (32.13)	1.101 (27.97)	1.460 (37.08)	1.050 (26.67)	1.915 (48.64)	#4-40
J	2.665 (67.69)	1.975 (50.17)	1.615 (41.02)	1.460 (37.08)	1.810 (45.97)	1.405 (35.69)	2.265 (57.53)	#4-40
K	2.960 (75.18)	2.375 (60.33)	2.015 (51.18)	1.860 (47.24)	2.210 (56.13)	1.805 (45.85)	2.665 (67.69)	#4-40

CONTACTS AND WIRE SIZES AVAILABLE

Contact Sizes	Wire Sizes Accomodated
#23	26, 24, 22
#16	20, 18, 16
#12	14, 12

TABLE II: SHELL SIZE G, H, L AND M CONNECTOR DIMENSIONS

Shell Size	J OAL	K BASIC	L BASIC	M MAX	N MAX	P MAX	R MAX	S TYP UNC 2-B
G	2.130 (54.10)	1.575 (40.01)	1.215 (30.86)	1.079 (27.41)	1.410 (35.81)	1.020 (25.91)	1.861 (47.27)	#4-40
H	2.900 (73.66)	2.236 (56.79)	1.800 (45.72)	1.450 (36.83)	2.045 (51.94)	1.385 (35.18)	2.500 (63.50)	#6-32
L	3.100 (78.74)	2.472 (62.79)	2.036 (51.74)	1.686 (42.82)	2.281 (57.94)	1.625 (41.28)	2.736 (69.49)	#6-32
M	3.475 (88.27)	2.770 (70.36)	2.200 (55.88)	1.745 (44.32)	2.485 (63.12)	1.690 (42.93)	3.085 (78.36)	#8-32

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790-081
Series 79 Micro-Crimp Mateable, Rear Panel Mount
Hermetic Receptacle, Pin Face with Pre-Wired Terminations

Glenair®

Basic Part Number
790-081

Shell Size
Table I
Page L-11
Z1

Wire Style
K = M22759/11 (600Vrms, TFE)
J = M22759/33 (600Vrms, ETFE)*
*AWG #18 and larger are furnished per M22759/44
K

Mating Hardware Option
N = No Hardware
P = Jackpost
G = Male Guide Pins
S = Female Guide Sockets
9P9

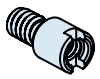
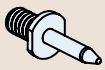
- 1
- K
- N
- 18

Finish
Z1 = Passivate
ZL = Nickel Plate

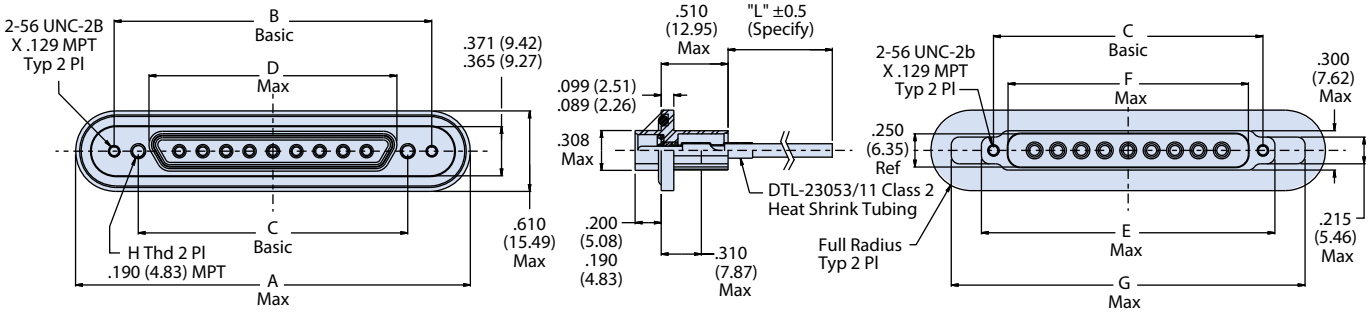
Arrangement
See Page L-3 thru L-6

Wire Color
1 = white
2 = yellow
3 = Stripes
7 = 10 Color Repeat Per MIL STD 681

Wire Length
In Inches
i.e. 18 = 18 inches

Mounting Hardware	
P Jackpost 	Connector supplies with non-removable jackpost. Shell size "M" has 6-32-UNC thread. Shell sizes "H" and "L" have 4-40 UNC-2B thread. all other sizes have 2-56 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

Shell Sizes A, B, C, D, E, F, J, & K
(See Table I For Dimensions)



CONTACTS AND STANDARD WIRE SIZES AVAILABLE**	
Contact Size	Wire Size (AWG)
#23	22
#16	16
#12	12

** Consult factroy for other wire sizes (special)

TABLE I: SHELL SIZE A, B, C, D, E, F, J, AND K DIMENSIONS

Shell Sizes	A Oal	B Bsc	C Bsc	D Max	E Max	F Max	G Max	H Typ Unc 2-B
A	1.490 (37.85)	0.925 (23.50)	0.565 (14.35)	0.401 (10.19)	0.760 (19.30)	0.350 (8.89)	1.215 (30.86)	#4-40
B	1.680 (42.67)	1.075 (27.30)	0.715 (18.16)	0.551 (14.00)	0.910 (23.11)	0.500 (12.70)	1.365 (34.67)	
C	1.785 (45.34)	1.225 (31.12)	0.865 (21.97)	0.701 (17.81)	1.060 (26.92)	0.650 (16.51)	1.515 (38.48)	
D	1.975 (50.17)	1.325 (33.65)	0.965 (24.51)	0.801 (20.35)	1.160 (29.46)	0.750 (19.05)	1.615 (41.02)	
E	2.075 (52.71)	1.475 (37.47)	1.115 (28.32)	0.951 (24.16)	1.310 (33.27)	0.900 (22.86)	1.765 (44.83)	
F	2.175 (55.24)	1.625 (41.28)	1.265 (32.13)	1.101 (27.97)	1.460 (37.08)	1.050 (26.67)	1.915 (48.64)	
J	2.665 (67.69)	1.975 (50.17)	1.615 (41.02)	1.460 (37.08)	1.810 (45.97)	1.405 (35.69)	2.265 (57.53)	
K	2.960 (75.18)	2.375 (60.33)	2.015 (51.18)	1.860 (47.24)	2.210 (56.13)	1.805 (45.85)	2.665 (67.69)	

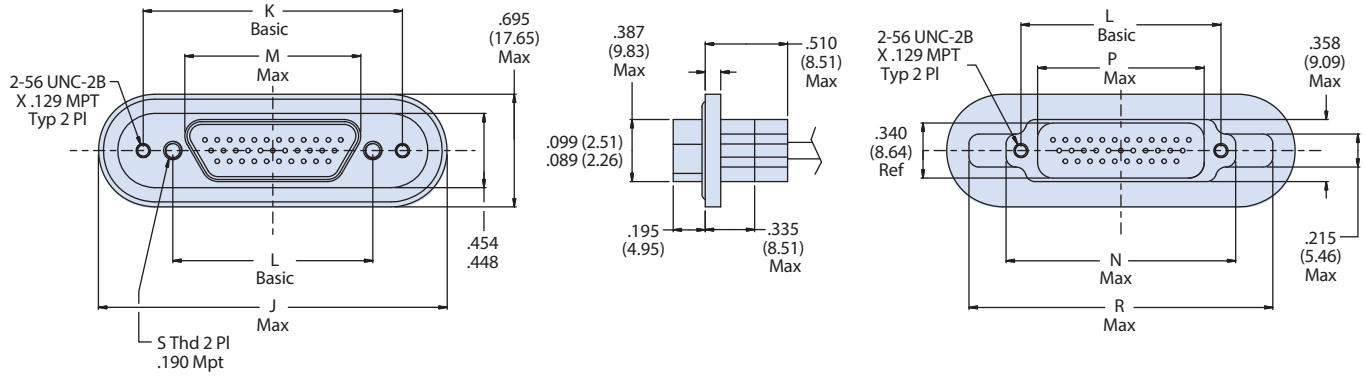
APPLICATION NOTES

1. Material/Finish:
   Shell* - 300 Series CRES/passivate or 300 Series CRES/Nickel Plate
   Contacts - Nickel iron alloy/gold plate
   Insulator - Individual glass beads/N.A.
   Seals - Fluorosilicone blend/N.A.
   Mating Hardware - CRES/passivated
   *Consult factory for other shell finishes and O-Ring materials.
2. Metric dimensions (mm) are indicated in parentheses.
3. See Pages L-7 and L-8 for panel cut-out information.
4. Test Criteria:
   Hermeticity - <1 x 10^{-5} scc He/sec @1 ATM Delta
   DWV - #23 pins: 500 VAC pin-to-shell
   #16 pins: 1800 VAC pin-to-shell
   #12 pins: 1800 VAC pin-to-shell
   I.R. - 5,000 megohms minimum @500 VDC
5. Glenair 790-081 will mate with any series 79 plug with socket contacts and same shell and insert, and is designed to utilize 799-016 EMI backshells.

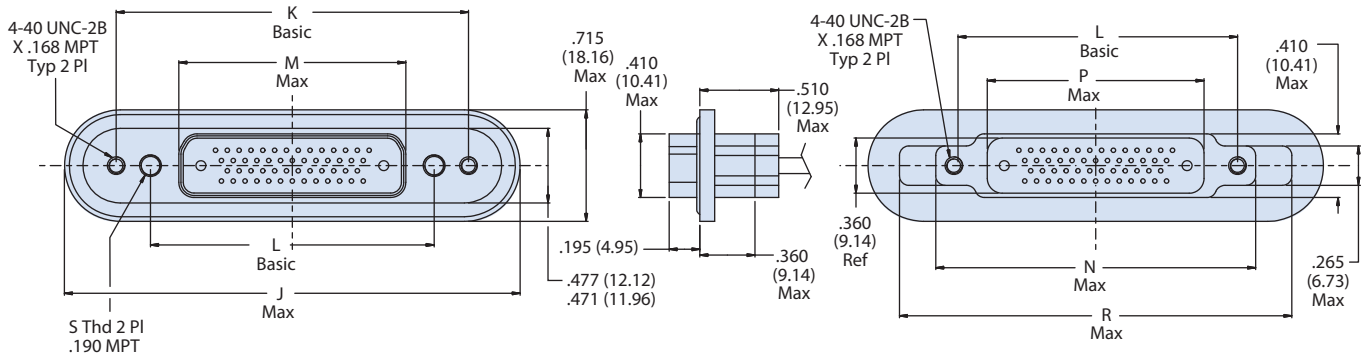
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790-081
Series 79 Micro-Crimp Mateable, Rear Panel Mount
Hermetic Receptacle, Pin Face
with Pre-Wired Terminations

Shell Sizes G (See Table II For Dimensions)



Shell Sizes H and L (See Table II For Dimensions)



Shell Sizes M (See Table II For Dimensions)

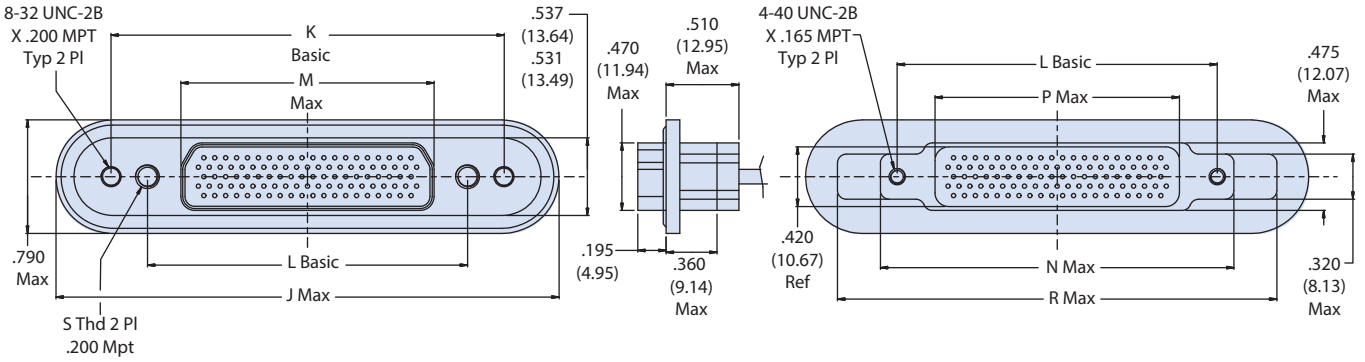


TABLE ii: SHELL SIZE G, H, L AND M DIMENSIONS								
Shell Size	J Oal	K Bsc	L Bsc	M Max	N Max	P Max	R Max	S Typ UNC 2-B
G	2.130 (54.10)	1.575 (40.00)	1.215 (30.86)	1.079 (27.41)	1.410 (35.81)	1.020 (25.91)	1.861 (47.27)	#4-40
H	2.900 (73.66)	2.236 (56.79)	1.800 (45.72)	1.450 (36.83)	2.045 (51.94)	1.385 (35.18)	2.500 (63.50)	#6-32
L	3.100 (78.74)	2.472 (62.79)	2.036 (51.71)	1.686 (42.82)	2.281 (57.94)	1.625 (41.28)	2.736 (69.49)	#6-32
M	3.475 (88.27)	2.770 (70.36)	2.200 (55.88)	1.745 (44.32)	2.485 (63.12)	1.690 (42.93)	3.085 (78.36)	#8-32

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790-090 Rear-Panel Mount Hermetic Feedthrough, Pin-Socket

HOW TO ORDER					
Sample Part Number	**790-090**	**H**	**K**	**9P9**	**N**
Basic Part Number	**790-090** Rear-Panel Mount Hermetic Feedthrough, Pin-Socket				
Class	**H** = Hermetic				
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **J**, **K**, **G**, **H**, **L** and **M**				
Arrangement	Refer to 799-009 for Insert Arr. (No "W" Option for Hermetic)				
Mating Hardware Option	**N** = No Mating Hardware **P** = Jackpost	**G** = Male Guide Pins **S** = Female Guide Sockets			

MATERIAL AND FINISH

- Shell - Kovar Alloy / Nickel Plate
- Contacts, Hermetic - Kovar Alloy / Gold Plate
- Contacts, Sockets - Copper Alloy / Gold Plate
- Insulator, Hermetic - Vitreous Glass
- Insulator, Sockets - Rigid Dielectric
- Seals - Fluorosilicone Blend / None
- Mating Hardware - CRES / Passivated

NOTES

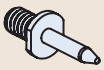
Test Criteria:

- Hermeticity - <1 X 10^-6 Scche/Sec @ 1 Atm. Delta

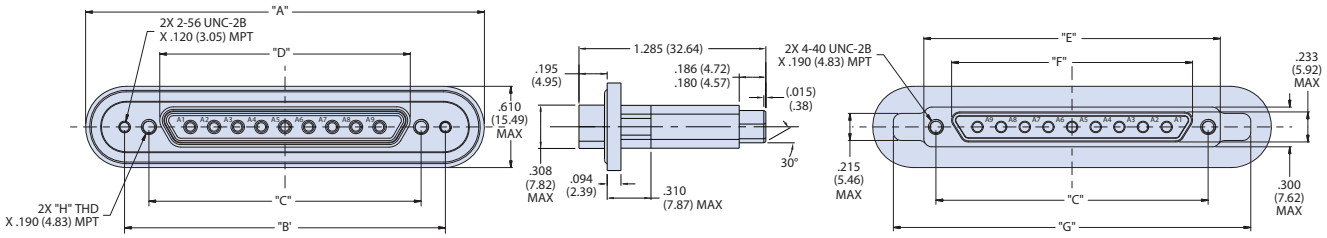
D.W.V.

- #23 Pins: 500 VAC Pin-To-Shell
- #16 Pins: 1800 VAC Pin-To-Shell
- #12 Pins: 1800 VAC Pin-To-Shell
- I.r. - 5,000 Megohms Minimum @ 500 Vdc

- Glenair 790-090 will mate with any Series 79 plug/receptacle with same shell size and insert
- Glenair 790-090 is designed to utilize 799-016 EMI backshells.

Mounting Hardware	
P Jackpost 	Connector supplied with non-removable jackpost. Shell size "M" has 6-32 UNC-2B thread. Shell sizes "H" And "L" have 4-40 UNC-2B thread. All other sizes Have 2-56 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

SHELL SIZE A, B, C, D, E, F, J, AND K DIMENSIONS

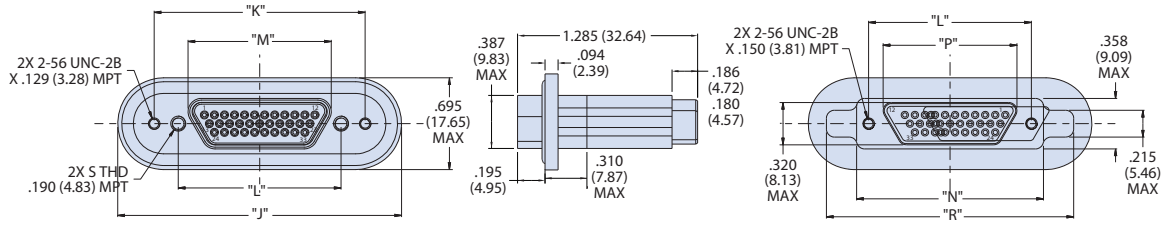


Shell Sizes	A Oal	B Basic	C Basic	D Max	E Max	F Max	G Max	H Typ Unc 2-B
A	1.490 (37.85)	0.925 (23.50)	0.565 (14.35)	0.401 (10.19)	0.760 (19.30)	0.335 (8.51)	1.215 (30.86)	#4-40
B	1.680 (42.67)	1.075 (27.30)	0.715 (18.16)	0.551 (14.00)	0.910 (23.11)	0.485 (12.32)	1.365 (34.67)	
C	1.785 (45.34)	1.225 (31.12)	0.865 (21.97)	0.701 (17.81)	1.060 (26.92)	0.635 (16.13)	1.515 (38.48)	
D	1.975 (50.17)	1.325 (33.65)	0.965 (24.51)	0.801 (20.35)	1.160 (29.46)	0.735 (18.67)	1.615 (41.02)	
E	2.075 (52.71)	1.475 (37.47)	1.115 (28.32)	0.951 (24.16)	1.310 (33.27)	0.885 (22.48)	1.765 (44.83)	
F	2.175 (55.24)	1.625 (41.28)	1.265 (32.13)	1.101 (27.97)	1.460 (37.08)	1.035 (26.29)	1.915 (48.64)	
J	2.665 (67.69)	1.975 (50.17)	1.615 (41.02)	1.460 (37.08)	1.810 (45.97)	1.390 (35.31)	2.265 (57.53)	
K	2.960 (75.18)	2.375 (60.33)	2.015 (51.18)	1.860 (47.24)	2.210 (56.13)	1.795 (45.59)	2.665 (67.69)	

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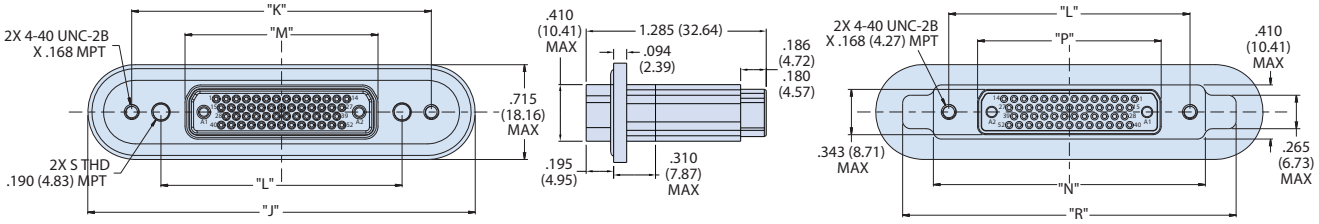
790-090 Rear-Panel Mount Hermetic Feedthrough, Pin-Socket

SHELL SIZE G



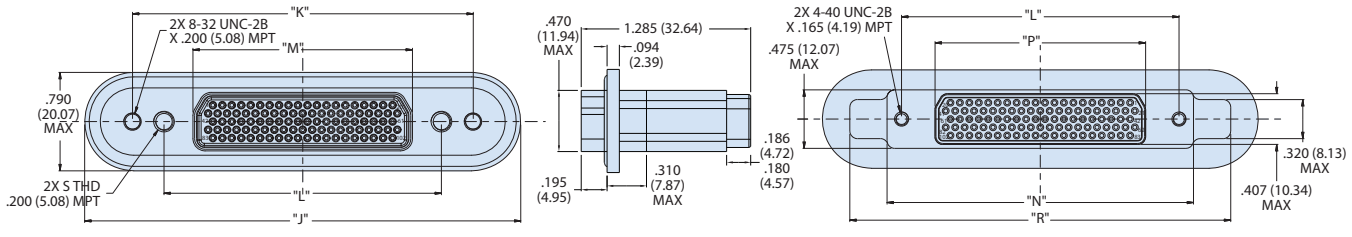
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Typ Unc 2-B
G	2.130 (54.10)	1.575 (40.00)	1.215 (30.86)	1.079 (27.41)	1.410 (35.81)	1.010 (25.65)	1.861 (47.27)	#4-40

SHELL SIZE H & L



Shell Size	J Oal	K Basic	L Basic	Max	N Max	P Max	R Max	S Typ Unc 2-B
H	2.900 (73.66)	2.236 (56.79)	1.800 (45.72)	1.450 (36.83)	2.045 (51.94)	1.385 (35.18)	2.500 (63.50)	#6-32
L	3.100 (78.74)	2.472 (62.79)	2.036 (51.71)	1.686 (42.82)	2.281 (57.94)	1.623 (41.22)	2.736 (69.49)	#6-32

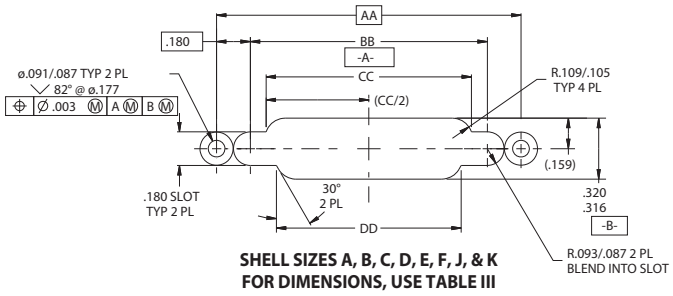
SHELL SIZE M



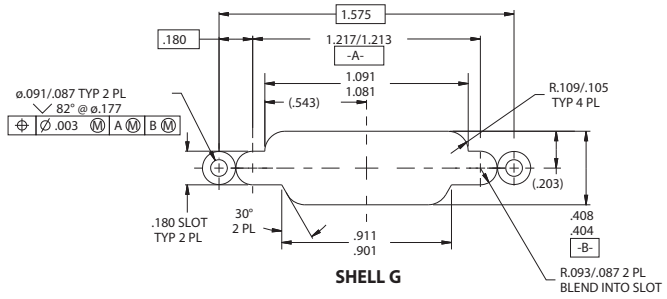
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Typ Unc 2-B
M	3.475 (88.27)	2.770 (70.36)	2.200 (55.88)	1.745 (44.32)	2.485 (63.12)	1.675 (42.55)	3.085 (78.36)	#8-32

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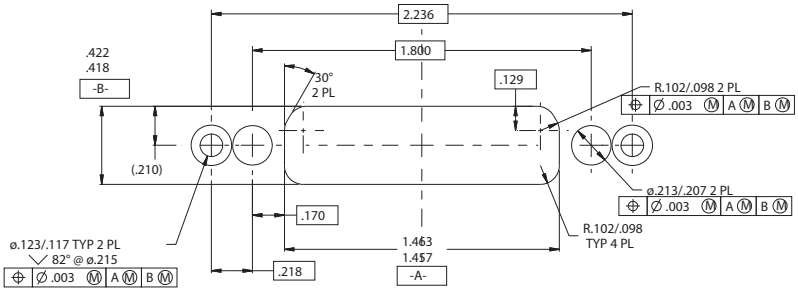
790-090 Rear-Panel Mount Hermetic Feedthrough, Pin-Socket



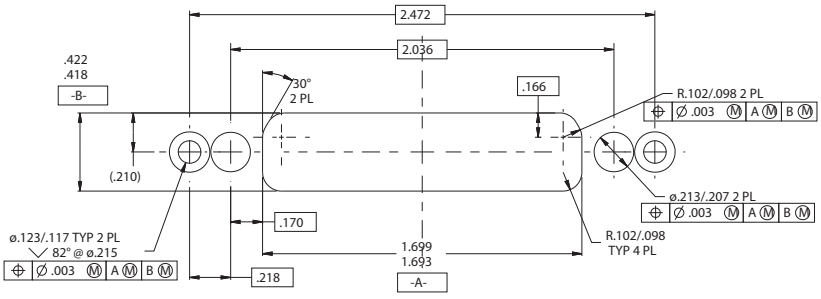
SHELL SIZES A, B, C, D, E, F, J, & K
FOR DIMENSIONS, USE TABLE III



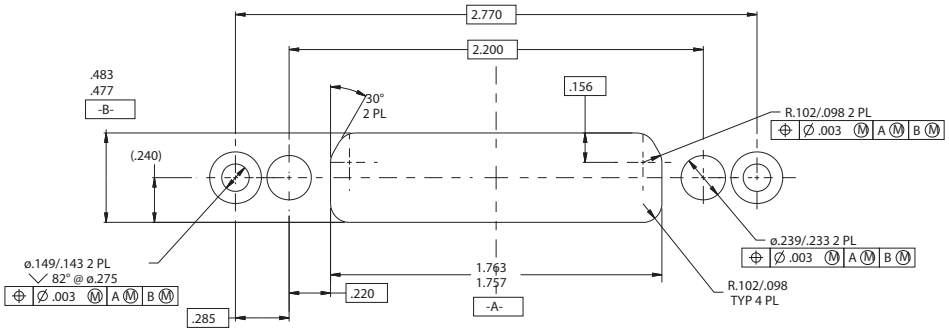
SHELL G



SHELL H



SHELL L



SHELL M

TABLE III				
Shell Size	AA BASIC	BB ±.002	CC ±.005	DD ±.005
A	0.925 (23.50)	0.565 (14.35)	0.396 (10.06)	0.286 (7.26)
B	1.075 (27.30)	0.715 (18.16)	0.546 (13.87)	0.436 (11.07)
C	1.225 (31.12)	0.865 (21.97)	0.696 (17.68)	0.586 (14.88)
D	1.325 (33.65)	0.965 (24.51)	0.796 (20.22)	0.686 (17.42)
E	1.475 (37.47)	1.115 (28.32)	0.946 (24.03)	0.836 (21.23)
F	1.625 (41.28)	1.265 (32.13)	1.096 (27.84)	0.986 (25.04)
J	1.975 (50.17)	1.615 (41.02)	1.448 (36.78)	1.345 (34.16)
K	2.375 (60.33)	2.015 (51.18)	1.848 (46.94)	1.740 (44.20)

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790-091 Rear-Panel Mount Hermetic Receptacles, Pin Face With Solder Cups

HOW TO ORDER

Sample Part Number	790-091	H	D	7P2	C	N

Basic Part Number	**790-091** Rear-Panel Mount Hermetic Receptacles, Pin Face With Solder Cups
Class	**H** = Hermetic
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **J**, **K**, **G**, **H**, **L** and **M**
Arrangement	Refer to 799-009 for Insert Arr. (No "W" Option for Hermetic)
Contact Type	**C** = Pin, P.C. Tail **P** = Pin, Solder Cup
Mating Hardware Option	**N** = No Mating Hardware **G** = Male Guide Pins **P** = Jackpost **S** = Female Guide Sockets

MATERIAL AND FINISH

- Shell - Kovar Alloy / Nickel Plate
- Contacts - Kovar Alloy / Gold Plate
- Insulator - Vitreous Glass
- Seals - Fluorosilicone Blend
- Mating Hardware - CRES / Passivated

NOTES

Test Criteria:

- Hermeticity - <1 x 10^-7 scche/sec @ 1 atm. Delta

D.W.V.

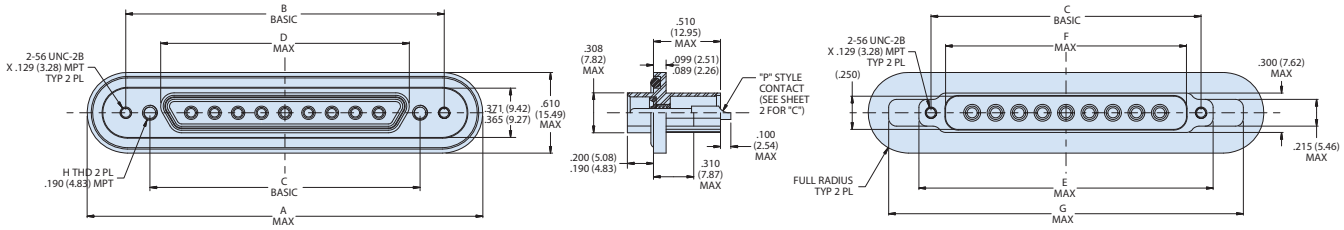
- #23 Pins: 500 VAC pin-to-shell
- #16 Pins: 1800 VAC pin-to-shell
- #12 Pins: 1800 VAC pin-to-shell
- # 8 Pins: 1800 VAC pin-to-shell
- I.R. - 5,000 Megohms minimum @ 500 VDC

- Glenair 790-091 will mate with any Series 79 plug with socket contacts and same shell and insert
- Glenair 790-091 is designed to utilize 799-016 EMI backshells.

Mounting Hardware

P Jackpost 	Connector supplied with non-removable jackpost. Shell size "M" has 6-32 UNC-2B thread. Shell sizes "H" And "L" have 4-40 UNC-2B thread. All other sizes have 2-56 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

SHELL SIZE A, B, C, D, E, F, J, AND K DIMENSIONS



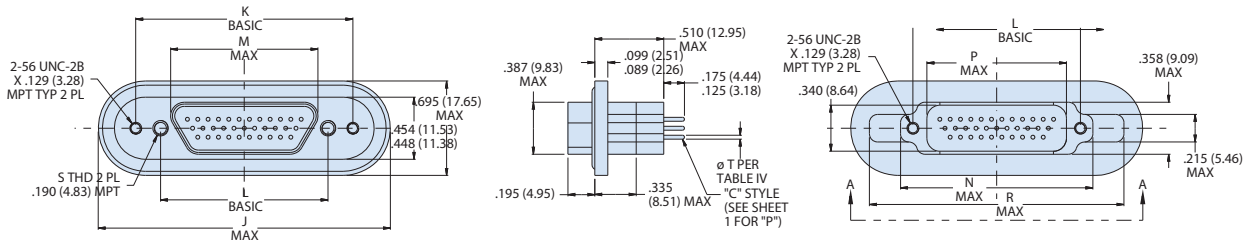
Shell Sizes	A Oal	B Basic	C Basic	D Max	E Max	F Max	G Max	H Typ Unc 2-B
A	1.490 (37.85)	0.925 (23.50)	0.565 (14.35)	0.401 (10.19)	0.760 (19.30)	.350 (8.89)	1.215 (30.86)	#4-40
B	1.680 (42.67)	1.075 (27.30)	0.715 (18.16)	0.551 (14.00)	0.910 (23.11)	.500 (12.70)	1.365 (34.67)	
C	1.785 (45.34)	1.225 (31.12)	0.865 (21.97)	0.701 (17.81)	1.060 (26.92)	.650 (16.51)	1.515 (38.48)	
D	1.975 (50.17)	1.325 (33.65)	0.965 (24.51)	0.801 (20.35)	1.160 (29.46)	.750 (19.05)	1.615 (41.02)	
E	2.075 (52.71)	1.475 (37.47)	1.115 (28.32)	0.951 (24.16)	1.310 (33.27)	.900 (22.86)	1.765 (44.83)	
F	2.175 (55.24)	1.625 (41.28)	1.265 (32.13)	1.101 (27.97)	1.460 (37.08)	1.050 (26.67)	1.915 (48.64)	
J	2.665 (67.69)	1.975 (50.17)	1.615 (41.02)	1.460 (37.08)	1.810 (45.97)	1.405 (35.69)	2.265 (57.53)	
K	2.960 (75.18)	2.375 (60.33)	2.015 (51.18)	1.860 (47.24)	2.210 (56.13)	1.805 (45.85)	2.665 (67.69)	

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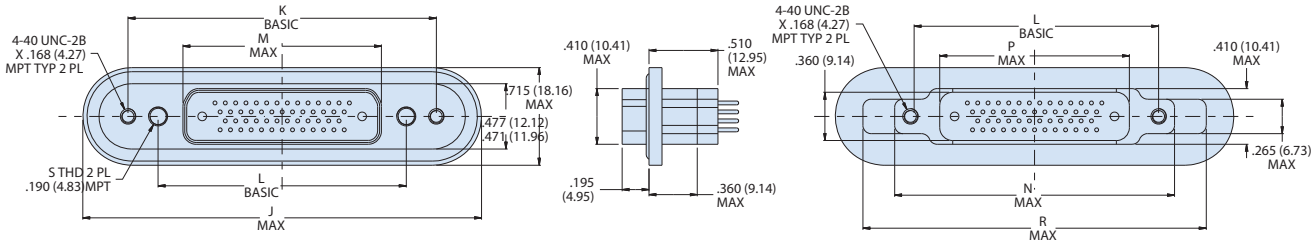
790-091 Rear-Panel Mount Hermetic Receptacles, Pin Face With Solder Cups

SHELL SIZE G



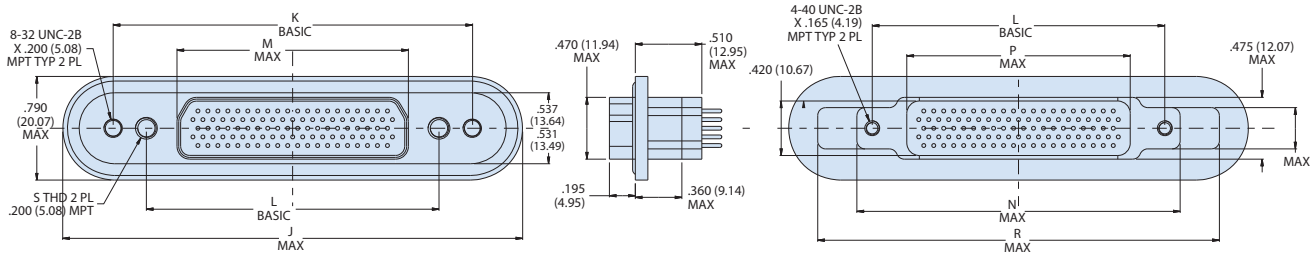
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Typ Unc 2-B
G	2.130 (54.10)	1.575 (40.00)	1.215 (30.86)	1.079 (27.41)	1.410 (35.81)	1.020 (25.91)	1.861 (47.27)	#4-40

SHELL SIZE H & L



Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Typ Unc 2-B
H	2.900 (73.66)	2.236 (56.79)	1.800 (45.72)	1.450 (36.83)	2.045 (51.94)	1.385 (35.18)	2.500 (63.50)	#6-32
L	3.100 (78.74)	2.472 (62.79)	2.036 (51.71)	1.686 (42.82)	2.281 (57.94)	1.625 (41.28)	2.736 (69.49)	#6-32

SHELL SIZE M



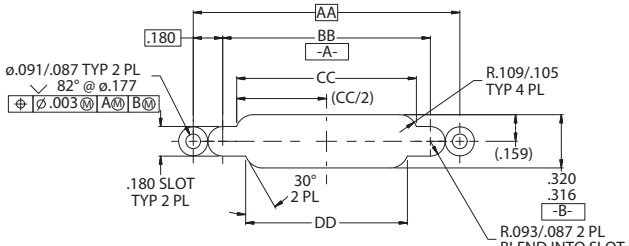
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Typ Unc 2-B
M	3.475 (88.27)	2.770 (70.36)	2.200 (55.88)	1.745 (44.32)	2.485 (63.12)	1.690 (42.93)	3.085 (78.36)	#8-32

TABLE IV

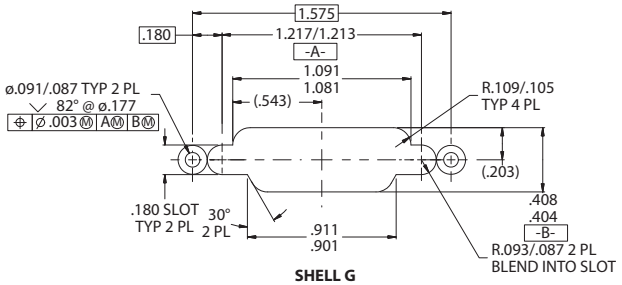
Contact Size	ø T
23	.022 (0.56); .018 (0.46)
16	.064 (1.63); .061 (1.55)
12	.095 (2.41); .093 (2.36)

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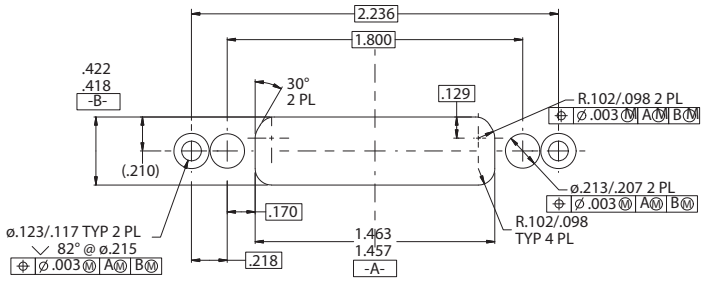
790-091 Rear-Panel Mount Hermetic Receptacles, Pin Face With Solder Cups



SHELL SIZES A, B, C, D, E, F, J, & K
FOR DIMENSIONS, USE TABLE III

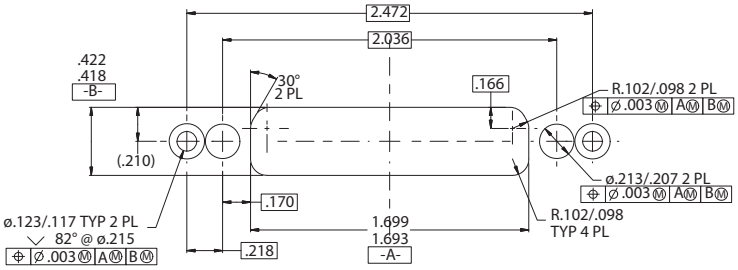


SHELL G

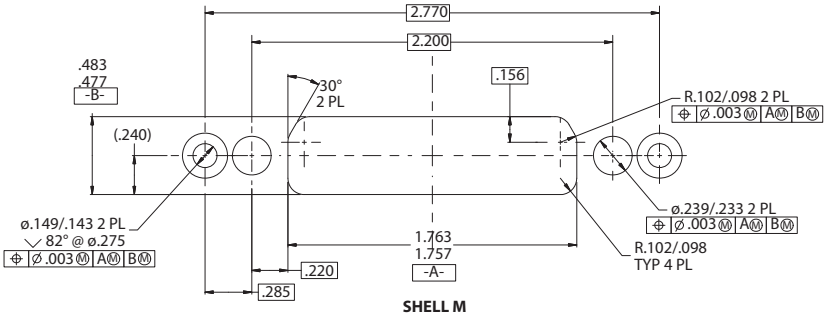


SHELL H

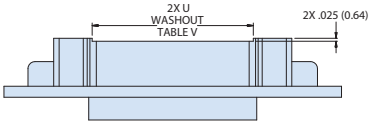
TABLE III				
Shell Size	AA BASIC	BB ±.002	CC ±.005	DD ±.005
A	0.925 (23.50)	0.565 (14.35)	0.396 (10.06)	0.286 (7.26)
B	1.075 (27.30)	0.715 (18.16)	0.546 (13.87)	0.436 (11.07)
C	1.225 (31.12)	0.865 (21.97)	0.696 (17.68)	0.586 (14.88)
D	1.325 (33.65)	0.965 (24.51)	0.796 (20.22)	0.686 (17.42)
E	1.475 (37.47)	1.115 (28.32)	0.946 (24.03)	0.836 (21.23)
F	1.625 (41.28)	1.265 (32.13)	1.096 (27.84)	0.986 (25.04)
J	1.975 (50.17)	1.615 (41.02)	1.448 (36.78)	1.345 (34.16)
K	2.375 (60.33)	2.015 (51.18)	1.848 (46.94)	1.740 (44.20)



SHELL L



SHELL M

TABLE V	
 VIEW A-A STANDARD FOR STYLE "C" (OPTIONAL FOR STYLE "P")	
Shell Size	U ±.030
A	.240 (6.10)
B	.390 (9.91)
C	.540 (13.72)
D	.640 (16.26)
E	.790 (20.07)
F	.940 (23.88)
G	.900 (22.86)
H	1.450 (36.83)
J	1.290 (32.77)
K	1.690 (42.93)
L	1.710 (43.43)
M	1.880 (47.75)

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791-069 Rear-Panel Mount Hermetic Receptacles, Pin Face Scoop-Proof

HOW TO ORDER							
Sample Part Number		**791-069**	**H**	**D**	**7P2**	**C**	**N**
Basic Part Number	**791-069** Rear-Panel Mount Hermetic Receptacles, Pin Face Scoop-Proof						
Class	**H** = Hermetic						
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **J**, **K**, **G**, **H**, **L** and **M**						
Arrangement	Refer to Pages L-3--L-6 for Insert Arr. (No "W" Option for Hermetic)						
Contact Type	**C** = Pin, P.C. Tail	**P** = Pin, Solder Cup					
Mating Hardware Option	**N** = No Mating Hardware **P** = Jackpost	**G** = Male Guide Pins **S** = Female Guide Sockets					

MATERIAL AND FINISH

- Shell - Kovar Alloy / Nickel Plate
- Contacts - Kovar Alloy / Gold Plate
- Insulator - Vitreous Glass
- Rear Spacers (Not Shown) - Rigid Dielectric
- Seals - Fluorosilicone Blend
- Mating Hardware - CRES / Passivated

NOTES

Test Criteria:

- Hermeticity - <1 X 10^-7 sccHe/Sec @ 1 Atm. Delta

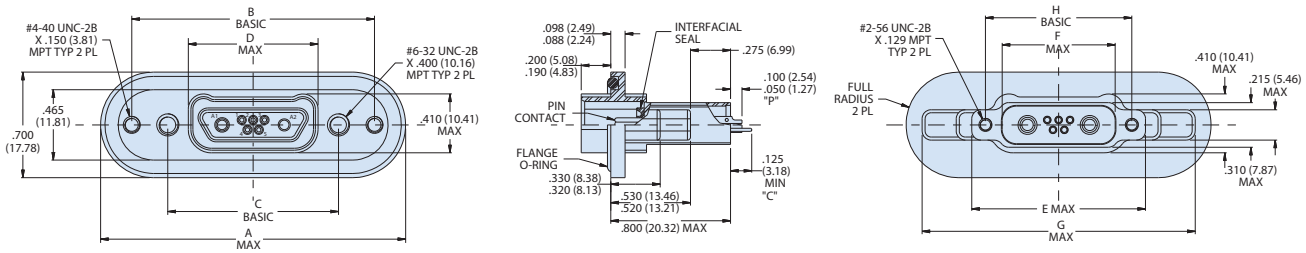
D.W.V.

- #23 Pins: 500 Vac Pin-To-Shell
- #16 Pins: 1800 Vac Pin-To-Shell
- #12 Pins: 1800 Vac Pin-To-Shell
- # 8 Pins: 1800 Vac Pin-To-Shell
- I.R. - 5,000 Megohms Minimum @ 500 VDC

- Glenair 791-069 will mate with any scoop-proof Series 79 plug with socket contacts and same shell and insert.
- Glenair 791-069 is designed to utilize 799-016 EMI backshells.

Mounting Hardware	
P Jackpost 	Connector supplied with non-removable jackpost. Shell size "M" has 8-32 UNC-2B thread. Shell sizes "H" And "L" have 6-32 UNC-2B thread. All other sizes Have 4-40 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

SHELL SIZE A, B, C, D, E, F, J, AND K DIMENSIONS

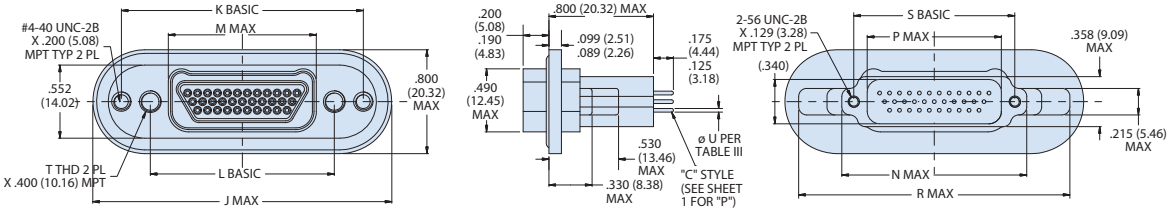


Shell Sizes	A Oal	B Basic	C Basic	D Max	E Max	F Max	G Max	H Max
A	1.750 (44.45)	1.300 (33.02)	0.750 (19.05)	0.490 (12.45)	0.760 (19.30)	0.350 (8.89)	1.500 (38.10)	0.565 (14.35)
B	1.950 (49.53)	1.475 (37.47)	0.900 (22.86)	0.630 (16.00)	0.910 (23.11)	0.500 (12.70)	1.700 (43.18)	0.715 (18.16)
C	2.025 (51.43)	1.600 (40.64)	1.050 (26.67)	0.780 (19.81)	1.060 (26.92)	0.650 (16.51)	1.800 (45.72)	0.865 (21.97)
D	2.125 (53.97)	1.700 (43.18)	1.125 (28.58)	0.860 (21.84)	1.160 (29.46)	0.750 (19.05)	1.900 (48.26)	0.965 (24.51)
E	2.325 (59.06)	1.800 (45.72)	1.275 (32.39)	1.010 (25.65)	1.310 (33.27)	0.900 (22.86)	2.100 (53.34)	1.115 (28.32)
F	2.325 (59.06)	1.925 (48.90)	1.425 (36.20)	1.160 (29.46)	1.460 (37.08)	1.050 (26.67)	2.100 (53.34)	1.265 (32.13)
J	2.915 (74.04)	2.400 (60.96)	1.800 (45.72)	1.530 (38.86)	1.810 (45.97)	1.405 (35.69)	2.650 (67.31)	1.615 (41.02)
K	3.110 (78.99)	2.675 (67.94)	2.175 (55.24)	1.910 (48.51)	2.210 (56.13)	1.805 (45.85)	2.900 (73.66)	2.015 (51.18)

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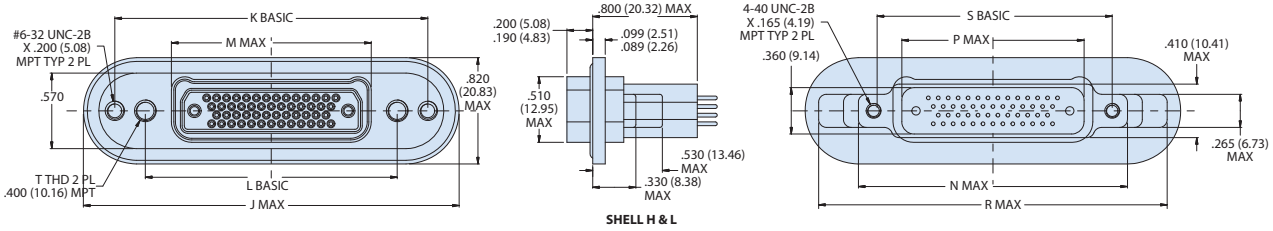
791-069 Rear-Panel Mount Hermetic Receptacles, Pin Face Scoop-Proof

SHELL SIZE G



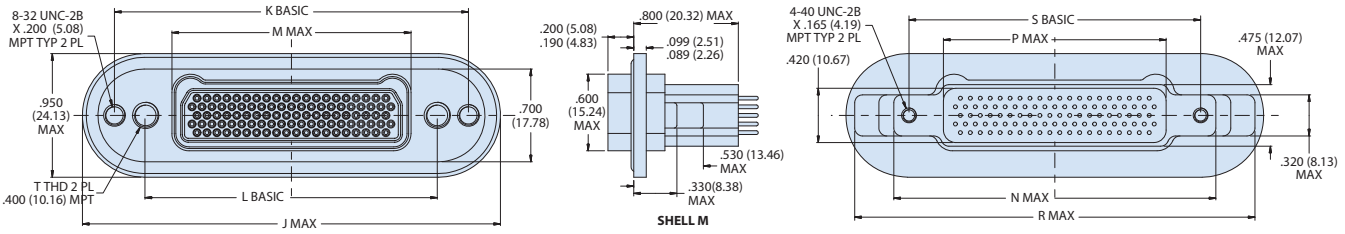
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
G	2.500 (63.50)	2.000 (50.80)	1.388 (35.26)	1.120 (28.45)	1.410 (35.81)	1.020 (25.91)	2.250 (57.15)	1.215 (30.86)	#6-32

SHELL SIZE H & L



Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
H	3.050 (77.47)	2.500 (63.50)	1.900 (48.26)	1.510 (38.35)	2.045 (51.94)	1.385 (35.18)	2.850 (72.39)	1.800 (45.72)	#8-32
L	3.250 (82.55)	2.700 (68.58)	2.136 (54.25)	1.740 (44.20)	2.281 (57.94)	1.625 (41.28)	3.100 (78.74)	2.036 (51.71)	#8-32

SHELL SIZE M



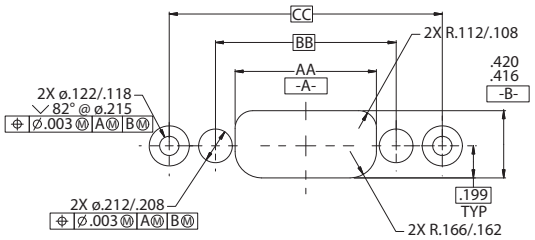
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
M	3.375 (85.73)	2.870 (72.90)	2.200 (55.88)	1.800 (45.72)	2.485 (63.12)	1.690 (42.93)	3.200 (81.28)	2.200 (55.88)	#10-32

TABLE IV

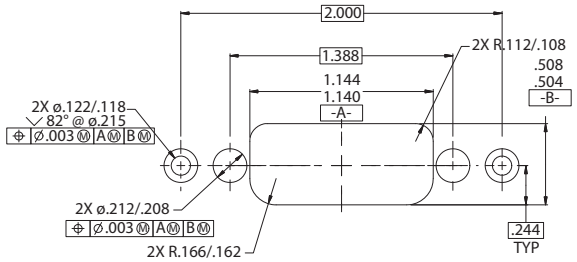
Contact Size	ø T
23	.022 (0.56); .018 (0.46)
16	.064 (1.63); .061 (1.55)
12	.095 (2.41); .093 (2.36)
8	.182 (4.62); .178 (4.52)

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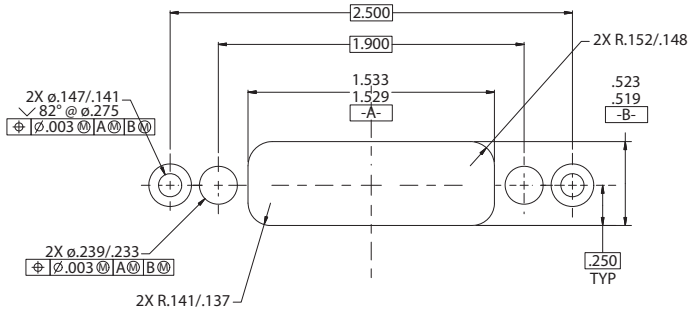
791-069 Rear-Panel Mount Hermetic Receptacles, Pin Face Scoop-Proof



SHELL SIZES A, B, C, D, E, F, J, & K
FOR DIMENSIONS, USE TABLE IV

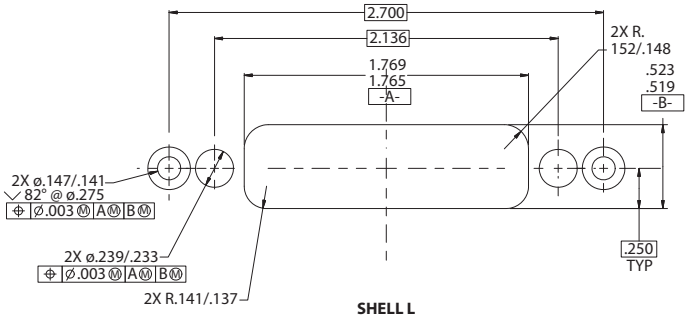


SHELL G

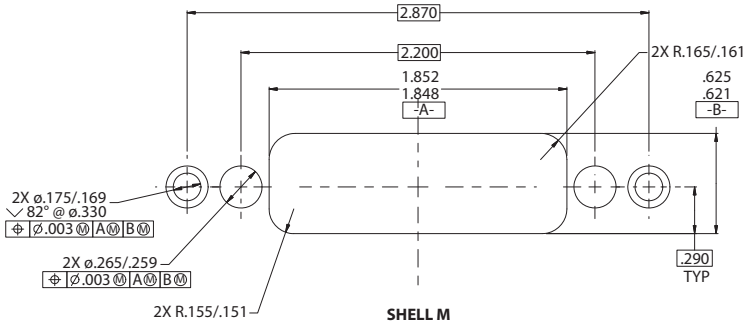


SHELL H

TABLE III			
Shell Size	AA ±.002	BB Basic	CC Basic
A	0.505 (12.83)	0.750 (19.05)	1.300 (33.02)
B	0.655 (16.64)	0.900 (22.86)	1.475 (37.47)
C	0.805 (20.45)	1.050 (26.67)	1.600 (40.64)
D	0.880 (22.35)	1.125 (28.58)	1.700 (43.18)
E	1.030 (26.16)	1.275 (32.39)	1.800 (45.72)
F	1.180 (29.97)	1.425 (36.20)	1.925 (48.90)
J	1.555 (39.50)	1.800 (45.72)	2.400 (60.96)
K	1.930 (49.02)	2.175 (55.24)	2.675 (67.94)



SHELL L



SHELL M

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791-070 Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof

HOW TO ORDER					
Sample Part Number	**791-070**	**H**	**D**	**7P2**	**N**
Basic Part Number	**791-070** Rear-Panel Mount Hermetic Feedthroughs, Pin-Socket Scoop-Proof				
Class	**H** = Hermetic				
Shell Size	**A**, **B**, **C**, **D**, **E**, **F**, **J**, **K**, **G**, **H**, **L** and **M**				
Arrangement	Refer to 799-009 for Insert Arr. (No "W" Option for Hermetic)				
Mating Hardware Option	**N** = No Mating Hardware **P** = Jackpost	**G** = Male Guide Pins **S** = Female Guide Sockets			

MATERIAL AND FINISH

- Shell - Kovar Alloy / Nickel Plate
- Contacts, Hermetic - Kovar Alloy / Gold Plate
- Contacts, Sockets - Copper Alloy / Gold Plate
- Insulator, Hermetic - Vitreous Glass
- Insulator, Socket - Rigid Dielectric
- Seals, O-Ring - Fluorosilicone
- Mating Hardware - CRES / Passivated

NOTES

Test Criteria:

- Hermeticity - <1 X 10^-6 sccHe/Sec @ 1 Atm. Delta

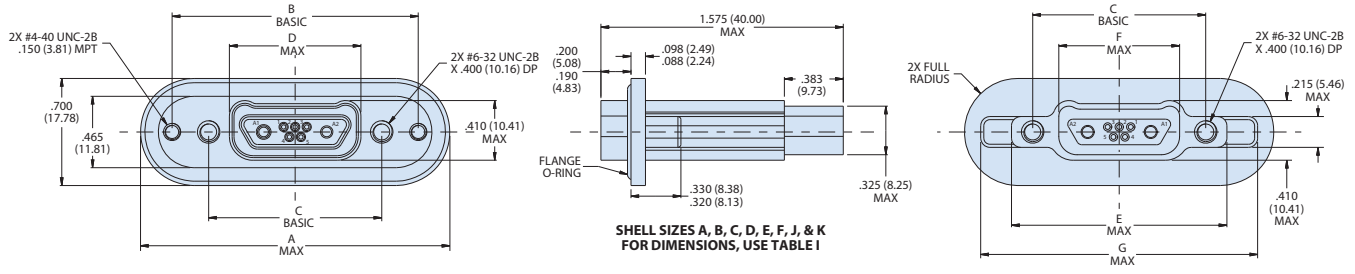
D.W.V.

- #23 Pins: 500 Vac Pin-To-Shell
- #16 Pins: 1800 Vac Pin-To-Shell
- #12 Pins: 1800 Vac Pin-To-Shell
- # 8 Pins: 1800 Vac Pin-To-Shell
- I.R. - 5,000 Megohms Minimum @ 500 VDC

- Glenair 791-070 will mate with any scoop-proof Series 79 plug and receptacle with same shell and insert.

Mounting Hardware	
P Jackpost 	Connector supplied with non-removable jackpost. Shell size "M" has 8-32 UNC-2B thread. Shell sizes "H" And "L" have 6-32 UNC-2B thread. All other sizes Have 4-40 UNC-2B thread.
G Guide Pin 	Connector supplied with non-removable guide pins for blind mate applications. Mates with option "S" guide socket on corresponding plug connector.
S Guide Socket 	Connector supplied with non-removable guide sockets for blind mate applications. Mates with option "G" guide pin on corresponding plug connector.

SHELL SIZE A, B, C, D, E, F, J, AND K DIMENSIONS



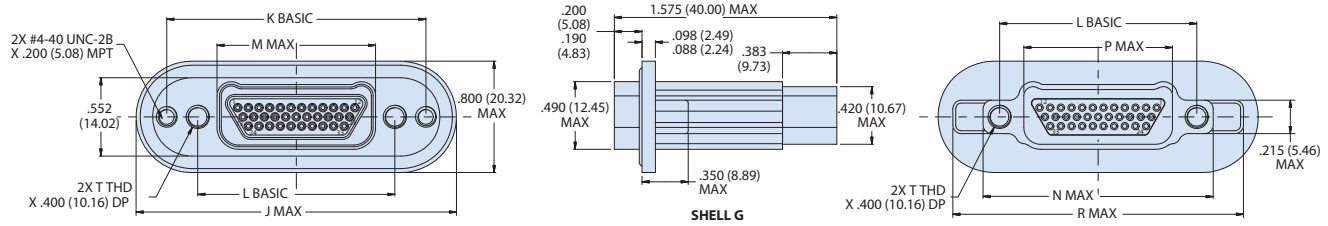
Shell Sizes	A Oal	B Basic	C Basic	D Max	E Max	F Max	G Max
A	1.750 (44.45)	1.300 (33.02)	0.750 (19.05)	0.490 (12.45)	0.565 (14.35)	0.410 (10.41)	1.035 (26.29)
B	1.950 (49.53)	1.475 (37.47)	0.900 (22.86)	0.630 (16.00)	0.715 (18.16)	0.560 (14.22)	1.185 (30.10)
C	2.025 (51.43)	1.600 (40.64)	1.050 (26.67)	0.780 (19.81)	0.865 (21.97)	0.710 (18.03)	1.335 (33.91)
D	2.125 (53.97)	1.700 (43.18)	1.125 (28.58)	0.860 (21.84)	0.965 (24.51)	0.785 (19.94)	1.410 (35.81)
E	2.325 (59.06)	1.800 (45.72)	1.275 (32.39)	1.010 (25.65)	1.115 (28.32)	0.935 (23.75)	1.560 (39.62)
F	2.325 (59.06)	1.925 (48.90)	1.425 (36.20)	1.160 (29.46)	1.265 (32.13)	1.085 (27.56)	1.710 (43.43)
J	2.915 (74.04)	2.400 (60.96)	1.800 (45.72)	1.530 (38.86)	1.615 (41.02)	1.460 (37.08)	2.085 (52.96)
K	3.110 (78.99)	2.675 (67.94)	2.175 (55.24)	1.910 (48.51)	2.015 (51.18)	1.835 (46.61)	2.460 (62.48)

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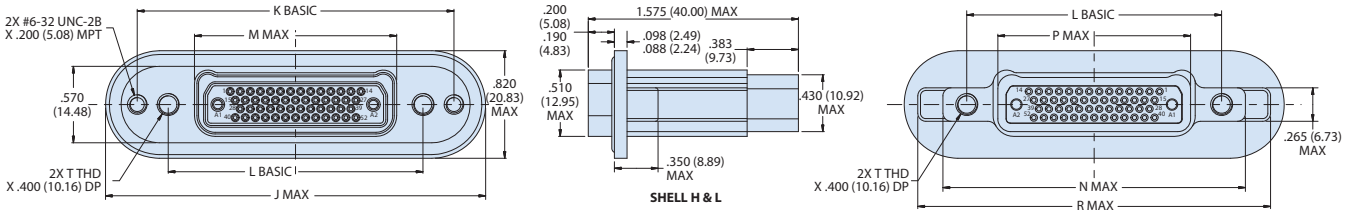
791-070 Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof

SHELL SIZE G



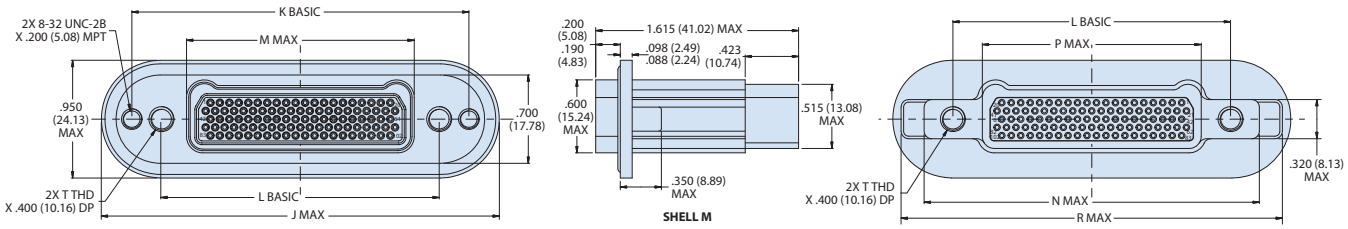
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
G	2.500 (63.50)	2.000 (50.80)	1.388 (35.26)	1.120 (28.45)	1.675 (42.55)	1.060 (26.92)	2.250 (57.15)	1.215 (30.86)	#6-32

SHELL SIZE H & L



Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
H	3.050 (77.47)	2.500 (63.50)	1.900 (48.26)	1.510 (38.35)	2.275 (57.79)	1.442 (36.63)	2.850 (72.39)	1.800 (45.72)	#8-32
L	3.250 (82.55)	2.700 (68.58)	2.136 (54.25)	1.740 (44.20)	2.515 (63.88)	1.678 (42.62)	3.100 (78.74)	2.036 (51.71)	#8-32

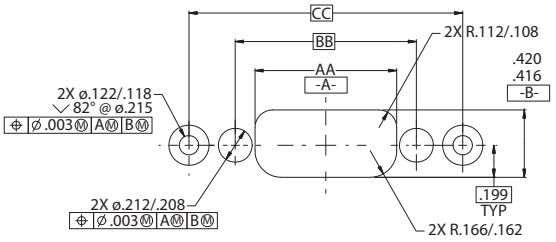
SHELL SIZE M



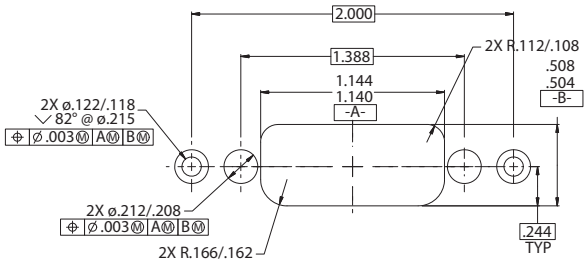
Shell Size	J Oal	K Basic	L Basic	M Max	N Max	P Max	R Max	S Basic	T Typ Unc 2-B
M	3.375 (85.73)	2.870 (72.90)	2.200 (55.88)	1.800 (45.72)	2.580 (65.53)	1.745 (44.32)	3.200 (81.28)	2.200 (55.88)	#10-32

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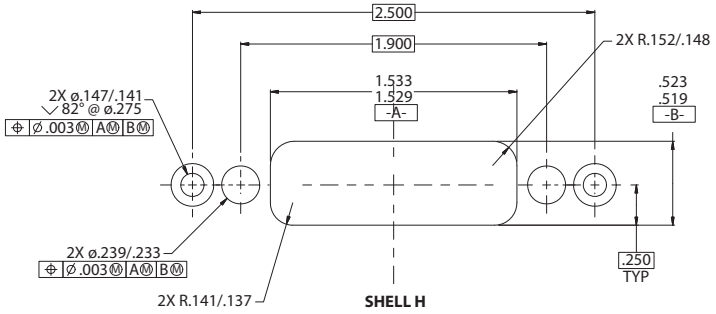
791-070 Rear-Panel Mount Hermetic Feedthrough, Pin - Socket Scoop-Proof



SHELL SIZES A, B, C, D, E, F, J, & K
FOR DIMENSIONS, USE TABLE IV

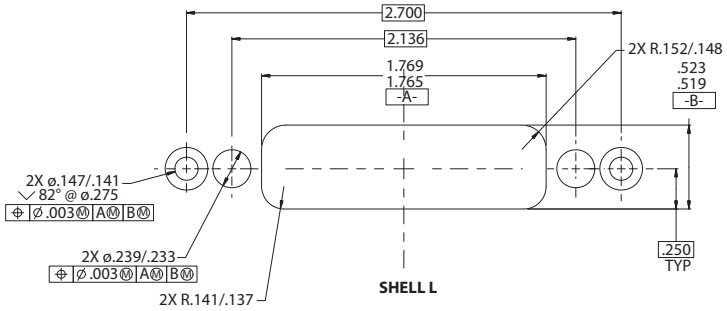


SHELL G

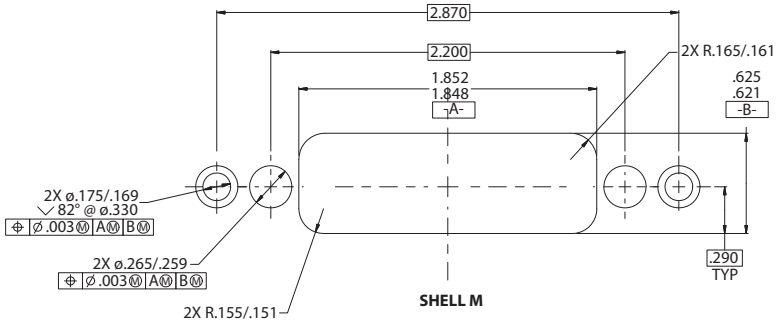


SHELL H

TABLE III			
Shell Size	AA ±.002	BB Basic	CC Basic
A	0.505 (12.83)	0.750 (19.05)	1.300 (33.02)
B	0.655 (16.64)	0.900 (22.86)	1.475 (37.47)
C	0.805 (20.45)	1.050 (26.67)	1.600 (40.64)
D	0.880 (22.35)	1.125 (28.58)	1.700 (43.18)
E	1.030 (26.16)	1.275 (32.39)	1.800 (45.72)
F	1.180 (29.97)	1.425 (36.20)	1.925 (48.90)
J	1.555 (39.50)	1.800 (45.72)	2.400 (60.96)
K	1.930 (49.02)	2.175 (55.24)	2.675 (67.94)



SHELL L



SHELL M

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SERIES 970
HIGH AMPACITY,
HARSH ENVIRONMENT

POWERTRIP™

The power connector for extreme environments–now available in hermetic versions



Protect circuits with Series 970 PowerTrip™ connectors

The George HW Bush, pictured above, is the first US Navy surface ship to use the Series 970 PowerTrip™ connector. Series 970 connectors fill the need for a military-grade harsh environment power connector with improved mechanical, environmental and electrical performance. PowerTrip™ also delivers reduced size and weight compared to lower-density 5015 type power connectors. Available hermetic versions feature triple-start mating threads, high density insert arrangements and advanced EMI protection. The PowerTrip™ connector is ideal for power distribution units, hybrid electric drives, motors, and other high current, high-reliability applications.

Glenair, Inc.
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Protect High-Current Circuits with Glenair's Series 970 PowerTrip™ *Connectors*

The Series 970 PowerTrip™ connector fills the need for a military-grade harsh environment power connector with improved mechanical, environmental and electrical performance. Environmental versions and Hermetic versions share high performance Features such as triple-start mating threads, high ampacity contacts, upgraded material and finish choices and improved EMI protection. PowerTrip™ connector is ideal for power distribution units, hybrid electric drives, motors, and other high current applications. The louverband socket contact (plug side) and enhanced durability pin contacts (hermetic receptacle side) deliver low resistance and higher ampacity.

Quick Selection Guide

Part Number	Description	Page
	Series 970 PowerTrip™ Hermetic Connectors Introduction	M-2
	Glenair Hermetic Connector Products Special Leak Rate Mod Code	M-5
970-007	Jam Nut Mount PowerTrip™ Bulkhead Feedthrough Receptacle How to Order	M-6
970-012	Square Flange Mount PowerTrip™ Bulkhead Feedthrough Receptacle How to Order	M-8

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Glenair®

Series 970 PowerTrip™ *Connectors:* Superior Contacts, Mating Interface, and Backshell Attachment than Standard MS Type Power Connectors

The Series 970 connector is a high ampacity, harsh environment connector capable of meeting the demanding requirements of modern defense and aerospace systems.

Series 970 PowerTrip™ hermetic receptacles feature 316L stainless steel shells and compression glass insulators. Solder cup contacts are nickel-iron alloy and are non-removable. Coupling threads are triple-start ACME type. Contacts are silver plated high conductivity copper alloy, or choose gold-plated contacts. Fluorosilicone rubber face seal on pin connector. Stainless steel shells are passivated, or choose nickel plating for improved shell-to-shell conductivity and EMI protection. Hermeticity is 1 X 10^{-7} cc/sec maximum helium leak rate with one atmosphere pressure differential.



- **Compression Glass Seal**
- **1 X 10^{-7} cc/sec He leak rate**
- **Both Pin and Socket Versions**
- **Stainless Steel Shell**

PRODUCT FACTS
2000 VAC Sea Level DWV Rating
-65°C to +200°C Operating Temperature
6 Feet Water Immersion, 48 Hours
65 dB min. Attenuation, up to 10GHz
2000 Cycles Mating Durability
MIL-S 901 Grade A High-Impact Shock
43 g Random Vibration

- ***Fast, easy connector mating with triple-start ACME thread. 360° turn for full mating***
- ***5 polarizing keys***
- ***Reduced size and weight***
- ***Louverband sockets for improved ampacity and longer life***
- ***High conductivity copper alloy contacts***
- ***Crimp, rear release contact system***
- ***Splined backshell interface for improved EMI protection***
- ***Ratcheting coupling nut for secure mating***
- ***-65° C to +200° C***
- ***Size 8, 4 and 1/0 contact sizes***

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Louverband Contacts
High ampacity contacts with up to 44 points of contact for improved wear and lower voltage drop.

Triple-Start Coupling
Rugged ACME threads resist cross-threading and allow fast mating.

Ratchet Mechanism
Ratcheting anti-decoupling mechanism prevents coupling ring backo when subjected to vibration.



Louverband Contact

SPECIFICATIONS	
Current Rating	Up to 225 A.
Dielectric Withstanding Voltage	2000 VAC
Insulation Resistance	5000 megohms minimum
Operating Temperature	-65° C. to +200° C.
Shock	300 g.
Vibration	37 g.
Shielding Effectiveness	65 dB minimum from 1GHz to 10GHz.
Durability	2000 mating cycles

MATERIALS AND FINISHES	
Shells, Jam Nuts	Aluminum alloy, stainless steel or marine bronze
Contacts	High conductivity copper alloy, gold or silver-plated
Insulators	Glass-reinforced epoxy
Contact Retention Clip	Beryllium copper alloy
Seal, O-rings, Grommet	Fluorosilicone rubber
Spring	Nickel-plated beryllium copper

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About LouverBand Contacts

LouverBand contacts outperform conventional contacts in the areas of durability (2000 cycles), lower mating force, and resistance.

LouverBand socket contacts consist of two parts: a copper alloy contact body (*Fig. 1*) and a beryllium copper band (*Fig. 2*). The spring is seated into the contact body (*fig. 3*). LouverBand contacts o□er signi□cant advantages over other contact designs. Each louver functions as an independent leaf spring. The multiple louvers in each spring distribute current more evenly, lowering the voltage drop compared to conventional contacts. A multi-spring louverband contact also reduces hotspots. Conventional contacts, such as the split-tine contact shown in (*figure 4)*, are known to have relatively few points of contact at the microscopic level.

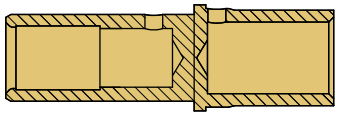


Figure 1
Socket Contact Body

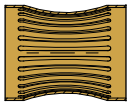


Figure 2
LouverBand Spring

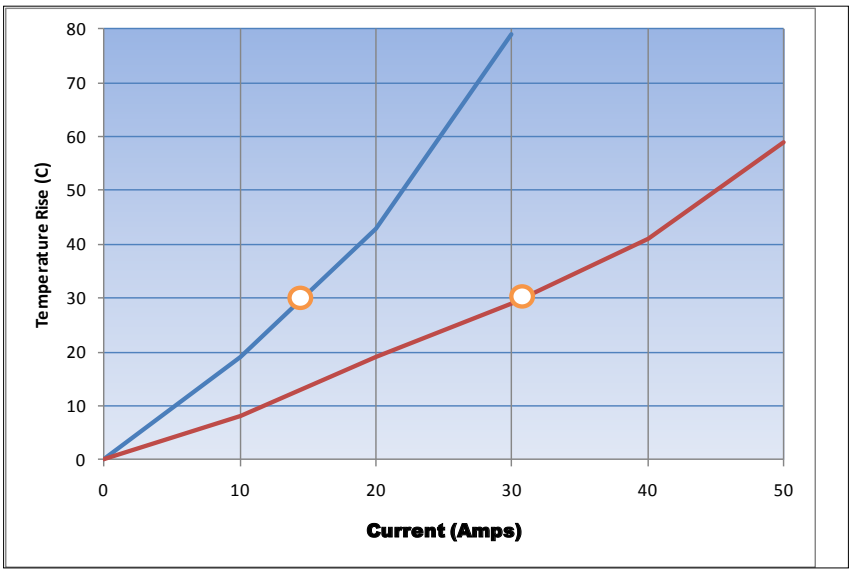




Figure 3
Assembled Contact

Connector current ratings are usually determined by establishing the equilibrium current resulting in a 30° C temperature rise (T-rise) above ambient. Louverband contacts typically exhibit much higher current ratings than conventional split-tine contacts. However, this higher current rating can exceed the de-rated current-carrying capacity of the wire. So why not use a conventional contact as long as the contact current rating exceeds the amount of current in the circuit? Louverband contacts are much less susceptible to damage from superheating caused by momentary current overloads. AC induction motors can cause transient currents ten times greater than the steady state current. These transient currents have a duration of only a few milliseconds. Contacts with relatively few points of contact are susceptible to melting when exposed to transient currents. The contact interface becomes welded, and de-mating the connectors breaks the weld, damaging the interface and eventually leading to high resistance, corrosion and even catastrophic failure.



Figure 4
Split-tine Contact on the Left, LouverBand Contact on the Right

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What is outgassing?

Plastic and rubber materials give off gaseous molecules. For example, the smell inside a new car is caused by polymer outgassing. Heat and vacuum increase the rate of diffusion. In a spacecraft the gases coming off polymers can contaminate optical surfaces and instruments. The result is degraded performance.

How is outgassing measured?

The space industry has adopted a standardized test procedure, ***ASTM E 595***, to evaluate out-gassing properties of polymers. Small samples of material are heated to 125° C. at a vacuum of 5 X 10^{-5} torr for 24 hours. Then the sample is weighed to calculate the ***Total Mass Loss*** (TML). The TML cannot exceed 1.00% of the total initial mass. During the test, outgassed matter condenses on a cooled collector plate. The quantity of outgassed matter is caluclated to determine the ***Collected Volatile Condensable Material*** (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

What is NASA screening?

NASA specification EEE-INST-002 provides instructions on selecting, screening and qualifying parts for use on NASA GSFC space flight projects.

What screening level is required?

NASA defines three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability. Level 3 equates to standard lot acceptance inspection. Levels 1 and 2 call for additional testing.

HOW TO ORDER SPACE GRADE CONNECTORS

Step 1: Find a Standard Part Number

Electroless nickel plated shells are preferred for space flight. Cadmium plating is prohibited.

Step 2: Select a NASA Screening Level

The term "Screening Level" refers to the final inspection procedure.

Level 1 for mission-critical highest reliability
Level 2 for high reliability
Level 3 for standard reliability

Step 3: Choose Outgassing Processing

A detailed explanation of outgassing is on the following pages. The fluorosilicone rubber seals commonly used on aerospace-grade connectors such as MIL-DTL-38999 and Series 79 connectors, along with certain bonding agents and inks, do not meet NASA outgassing requirements unless the connector is specially processed. Glenair outgassing tests have shown oven baking or thermal vacuum outgassing processing are sufficient to reduce outgassing levels to NASA standards. Oven baking is more economical than thermal vacuum outgassing.

Step 4: Select the Mod 429 Code that Matches the Desired Level of Screening and Outgassing

Use the following table to choose the right modification code. Add the mod code to the connector part number. Example: 790-024PC-13ML-***429C***

NASA SCREENING LEVELS AND MODIFICATION CODES

NASA Screening Level	Special Screening Only	Special Screening Plus Outgassing Processing	
		8 Hour Oven Bake 400° F.	Thermal Vacuum Outgassing 24 hrs. 125° C.
Level 1 Highest Reliability	Mod 429B	Mod 429J	Mod 429C
Level 2 High Reliability	Mod 429	Mod 429K	Mod 429A
Level 3 Standard Reliability	(Use standard part number)	Mod 186	Mod 186M

M

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Glenair®

970-007
PowerTrip™ Hermetic Bulkhead Feedthrough
Receptacle with Jam Nut Mounting
How to Order Information

Series 970 Hermetic Feed-Thru Bulkhead



Series 970 PowerTrip™ hermetic feed-thru bulkhead receptacles have pin contacts on one side and socket contacts on the other side. Attach mating plug connectors to both sides. Compression glass hermetic seal. 100% tested to meet helium leak rate of 1 x 10^{-7} cc/second at 15 psi pressure differential. Pin contact end is iron alloy, socket end is copper alloy with beryllium copper louverband spring. Coupling threads are triple-start ACME type. Contacts are factory-installed and are non-removable. Standard contacts are silver plated, or choose gold-plated contacts for improved corrosion protection in space or petrochemical environments. Fluorosilicone O-ring and face seal provide water resistant sealing. Jam nut rear panel mounting, for panel thicknesses from 1/16 -inch (1.58mm) to ½ inch (12.7mm). 200 PSI maximum pressure rating, bi-directional.

HOW TO ORDER

Sample Part Number

970-007	Z1	24-5	P	1	-1
Series	**Shell Material and Finish**	**Shell Size - Insert Arrangement**	**Contact Type**	**Contact Plating**	**Key Position**

970-007
Series 970 Feed-Thru Bulkhead Receptacle, Jam Nut Mounting

Stainless Steel Shell

Z1
Passivated SST

ZL
Electrodeposited Nickel over SST

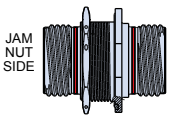
Contact Arr.	Contact Size and Qty				
	#16	#12	#8	#4	#1/0
18-2			2		
18-4		2	2		
20-3			3		
20-5		2	3		
20-7	4		3		
20-4			4		
24-5			5		
24-2				2	
24-6		4		2	
24-3				3	
24-A6		3		3	
28-4				4	
28-9	5			4	
32-5				5	
32-2					2
32-4				2	2
32-3					3
32-6		3			3
36-4					4
40-5					5

P
Pin Contacts on Jam Nut Side

S
Socket Contacts on Jam Nut Side

PP
Pins on Both Sides

SS*
Sockets on Both Sides
*Indicated dimensions will increase by .600”



1
Silver Plated Contacts (Size 8, 4, 0 only)

2
Gold Plated Contacts

-1
Position 1

-2
Position 2

-3
Position 3

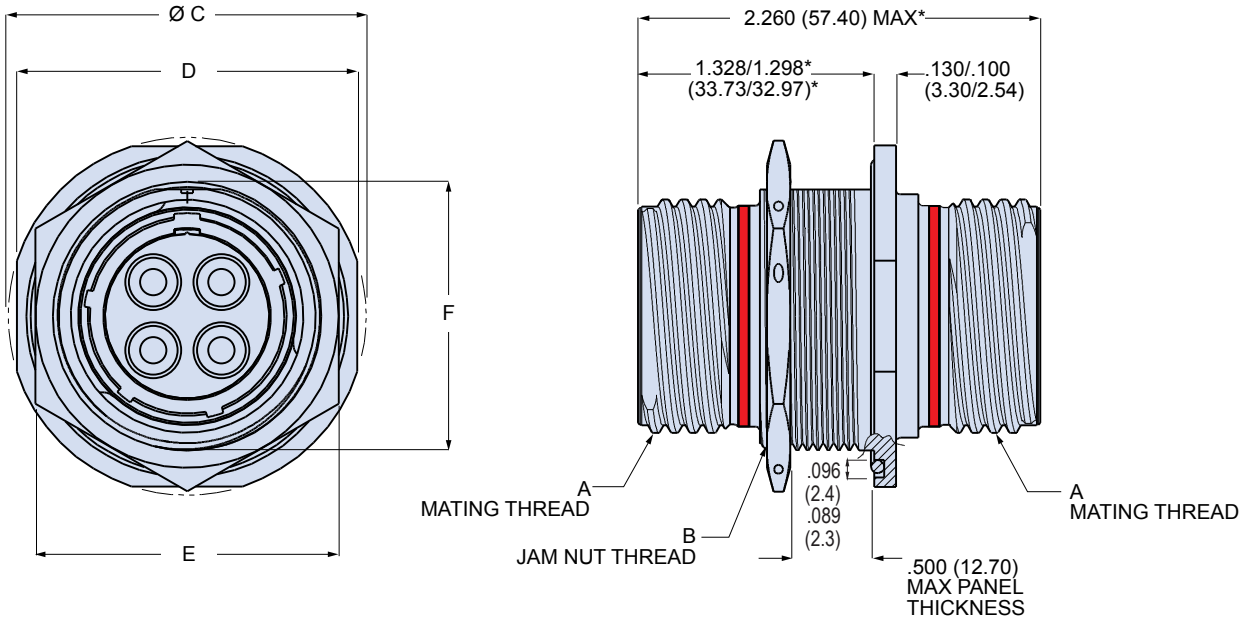
-4
Position 4

-5
Position 5

-6
Position 6

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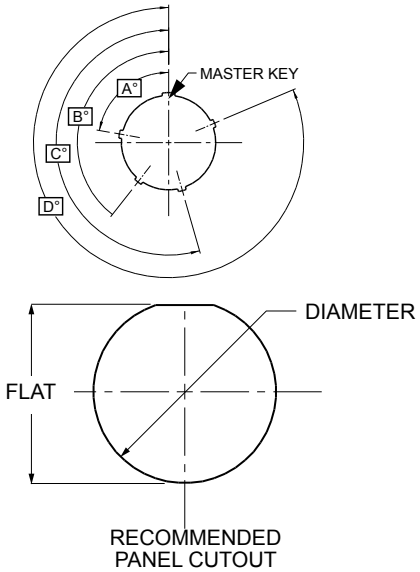
970-007 Feed-Thru Receptacle Connector Dimensions



DIMENSIONS										
Shell Size	A Mating Thd.	B Jam Nut Thd.	ø C		D		E		F	
			In.	mm.	In.	mm.	In.	mm.	In.	mm.
18	1.125-.1P-.3L-TS-2A	1.250-18 UNEF-2A	1.733	44.02	1.639	41.63	1.438	36.53	1.212	31.06
20	1.250-.1P-.3L-TS-2A	1.4375-18 UNEF-2A	1.921	48.79	1.827	46.41	1.625	41.28	1.399	35.81
24	1.500-.1P-.3L-TS-2A	1.625-18 UNEF-2A	2.108	53.54	2.014	51.16	1.822	46.28	1.587	43.76
28	1.750-.1P-.3L-TS-2A	1.9375-16 UN-2A	2.425	61.60	2.327	59.11	2.188	55.58	1.899	48.51
32	2.000-.1P-.3L-TS-2A	2.125-16 UN-2A	2.607	66.24	2.513	63.86	2.375	60.33	2.084	53.00
36	2.250-.1P-.3L-TS-2A	2.375-16 UN-2A	2.857	72.57	2.763	70.18	2.625	66.68	2.323	59.00
40	2.500-.1P-.3L-TS-2A	2.875-16 UN-2A	3.107	78.92	3.013	76.53	2.875	73.03	2.548	64.72

M

KEY POSITIONS				
Position	A°	B°	C°	D°
1	80	142	196	293
2	135	170	200	310
3	49	169	200	244
4	66	140	200	257
5	62	145	180	280
6	79	153	197	272

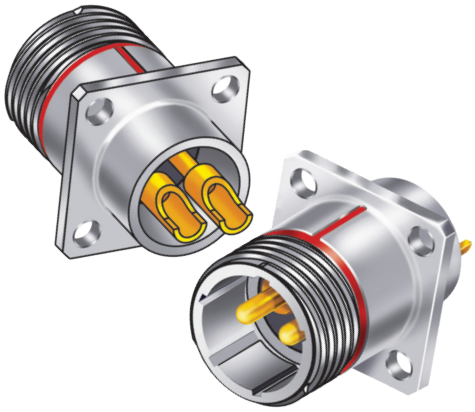


PANEL CUTOUT				
	Diameter		Flat	
	In.	mm.	In.	mm.
Shell Size	-.000 +.010	-.00 +0.25	-.000 +.010	-.00 +0.25
18	1.254	31.85	1.217	30.91
20	1.441	36.60	1.404	35.66
24	1.629	41.38	1.592	40.64
28	1.941	49.30	1.904	48.36
32	2.129	54.08	2.092	53.14
36	2.379	60.43	2.328	59.13
40	2.629	66.78	2.553	64.85

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970-012
PowerTrip™ Hermetic Bulkhead Feedthrough
Receptacle with Square Flange Mounting
How to Order Information



970-012 Hermetic Receptacles

Series 970 PowerTrip™ hermetic receptacles feature 316L stainless steel shells and compression glass insulators. Solder cup contacts are nickel-iron alloy and are non-removable. Socket contacts have copper alloy louverband spring for multiple points of electrical contact. Coupling threads are triple-start ACME type. Iron-nickel alloy contacts are silver plated for higher conductivity or gold plated for improved corrosion protection in space or petrochemical environments. Fluorosilicone rubber face seal on pin connector. Stainless steel shells are passivated, or choose nickel plating for improved shell-to-shell conductivity and EMI protection. Hermeticity is 1 X 10^{-7} cc/sec maximum helium leak rate at one atmosphere pressure differential.

HOW TO ORDER

Sample Part Number

970-012	Z1	32-5	P1	N	-1
Series	**Shell Material and Finish**	**Shell Size - Insert Arrangement**	**Contact Type and Plating**	**Mounting Hole Option**	**Key Position**

970-012
Series 970 Receptacle, Square Flange Panel Mounting

If Required, uses Flange Gasket 930-014-** (Not Included)

Stainless Steel Shell

Z1
Passivated SST

ZL
Electrodeposited Nickel over SST

Contact Arr.	Contact Size and Qty				
	#16	#12	#8	#4	#1/0
18-2			2		
18-4		2	2		
20-3			3		
20-4			4		
20-5		2	3		
20-7	4		3		
24-2				2	
24-3				3	
24-5			5		
24-6		4		2	
24-A6		3		3	
28-4				4	
28-9	5			4	
32-2					2
32-3					3
32-4				2	2
32-5				5	
32-6		3			3
36-4					4
40-5					5

P1
Pin Contacts, Silver Plating

P2
Pin Contacts, Gold Plating

S1
Socket Contacts, Silver Plating

S2
Socket Contacts, Gold Plating

N
Thru-Hole

-1
Position 1

-2
Position 2

-3
Position 3

-4
Position 4

-5
Position 5

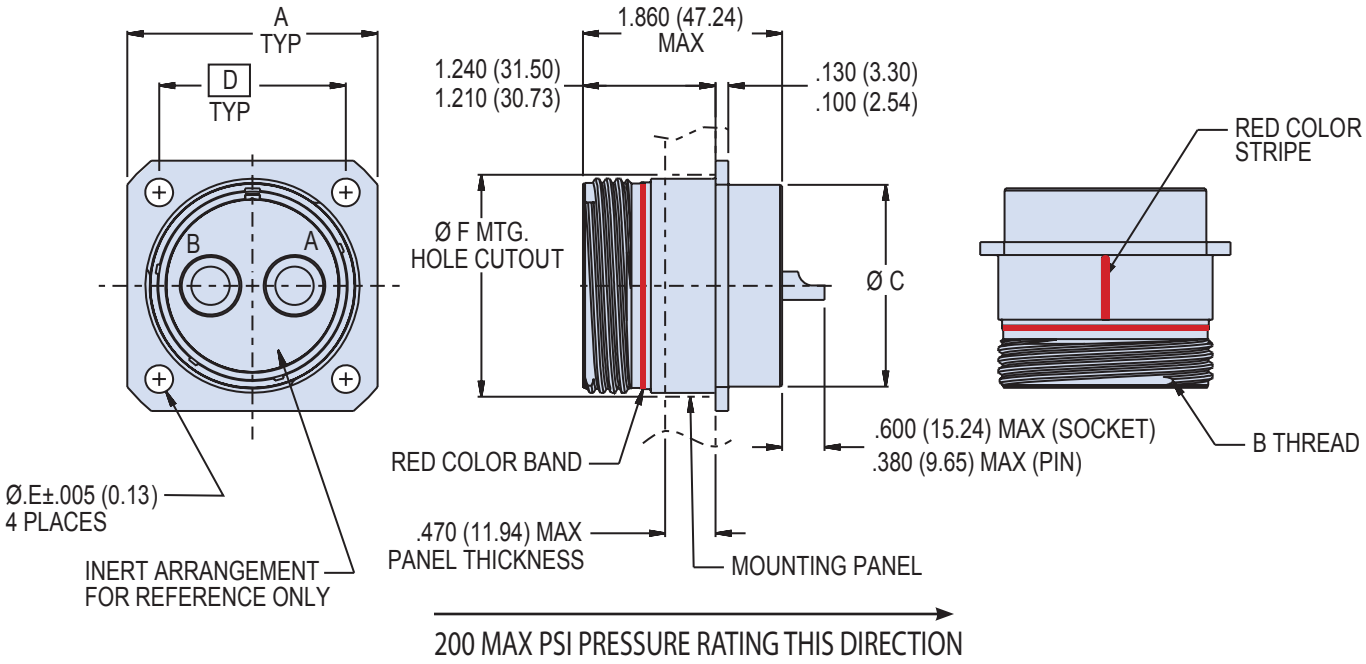
-6
Position 6

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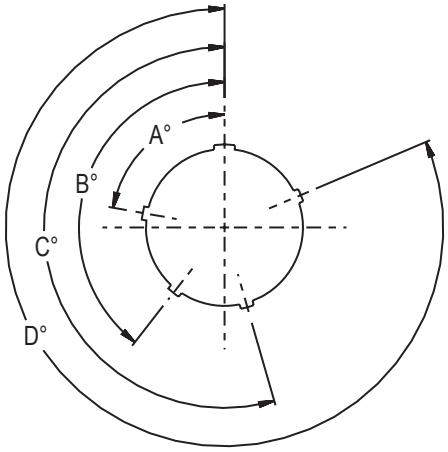
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www.glenair.com
E-Mail: sales@glenair.com

Rev. 06.29.23

970-012 Hermetic Receptacle Connector Dimensions



DIMENSIONS												
Shell Size	ø A		B Mating Thd.	ø C		D BSC		ø E Thru		ø F Mtg. Hole	
	In.	mm.		In.	mm.	In.	mm.	In.	mm.	In.	mm.
18	1.383	35.13	1.125-.1P-.3L-TS-2A	.972	24.69	1.015	25.78	.146	3.70	1.187	30.15
20	1.508	38.30	1.250-.1P-.3L-TS-2A	1.116	28.35	1.140	28.96			1.374	34.90
24	1.718	43.64	1.500-.1P-.3L-TS-2A	1.300	33.02	1.281	32.54			1.562	39.67
28	2.138	54.31	1.750-.1P-.3L-TS-2A	1.604	40.74	1.568	39.83	.170	4.30	1.874	47.60
32	2.328	59.13	2.000-.1P-.3L-TS-2A	1.875	47.63	1.734	44.04			2.062	52.37
36	2.578	65.48	2.250-.1P-.3L-TS-2A	2.093	53.16	1.984	50.39			2.302	58.47
40	2.828	71.83	2.500-.1P-.3L-TS-2A	2.310	58.67	2.234	56.74			2.562	65.07



KEY POSITIONS				
Position	A°	B°	C°	D°
1	80	142	196	293
2	135	170	200	310
3	49	169	200	244
4	66	140	200	257
5	62	145	180	280
6	79	153	197	272

MAX CURRENT RATING	
Contact Size	Max Current
16	10
12	17
8	33
4	60
1/0	125

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SPECIAL
CONNECTORS

GLENAIR SPECIAL

Hermetic Connectors With Durable Glass–to–Metal Sealing



Glenair excels in the rapid prototyping and development of custom hermetic connectors from initial concept to finished parts, our factory is fully self-sufficient and can produce highly reliable, rugged interconnects machined from stainless steel, Inconel®, or kovar®. Our expertise extends to the design of high density interconnects to resolve gas, moisture, and particle ingress problems. And most importantly, at Glenair we are happy to consider your limited quantity and prototype requirements. Unlike other manufacturers, Glenair is well positioned to service both low-quantity custom orders as well as high volume production requirements. Basic mounting configurations, a weld-mount or O-Ring mount design may be customized for unique application requirements.

GLASS-SEALED
Hermetic
CONNECTORS

Glenair®

Glenair, Inc.
1211 Air Way
Glendale, CA
91201-2497
818-247-6000
sales@glenair.com
www.glenair.com

Special Hermetic Connectors

Sometimes a standard part just won't do. For these situations Glenair welcomes your custom requirements. Whatever the need, we can propose a solution and back it up with rapid design and prototyping. Glenair special hermetic connectors are made from the same passivated stainless steel or ferrous steel shells, with glass insulators fused to the connector shell, and contacts meeting a leak rate of 1 X 10-7 cc/Helium per second. Innovative designs to meet every need are available from Glenair and, as always, **no minimums** are required.

Quick Selection Guide

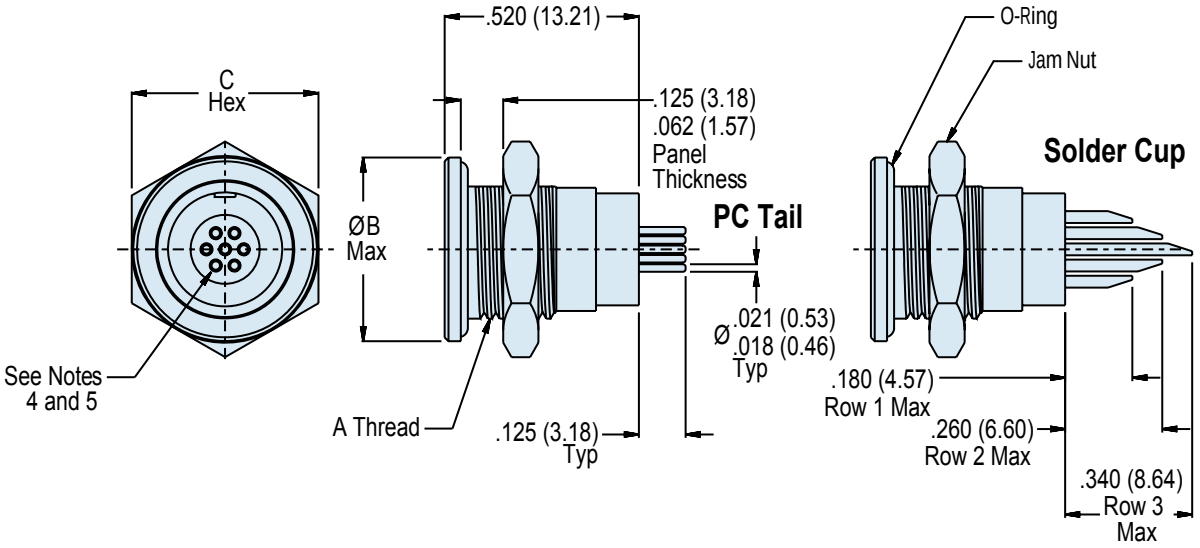
Part Number	Description	Page
237-263	Special Micro Circular Quick Disconnect Receptacle, Rear Panel Jam Nut Mount	N-2
2570-1290	Hermetic Single–Pin Feedthrough - Hi Temp, Hi Pressure	N-4

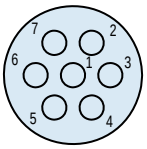
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237-263
Special Micro Circular Quick Disconnect Receptacle
Hermetic • Rear panel Jam Nut Mount, Socket PC Tail or Solder Cup



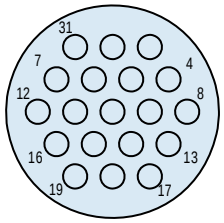
Product Series		Hermetic	
237-263	H	7	SP
	Shell Size: *7 or 19*		Contact Style: *SP = Socket, PC Tail; SS = Socket, Solder Cup*





7 Contact
Socket Front View

FIGURE 1



19 Contact
Socket Front View

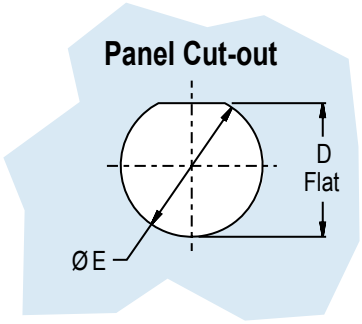
* Additional shell materials available, including titanium and Inconel®. Consult factory for ordering information.

Dimensions in Inches (millimeters) are subject to change without notice.

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TABLE I: CONNECTOR DIMENSIONS					
Shell Size	A Thread Class 2A	B Dia	C Hex	D Flat	E Dia ± .005 (0.13)
7	.3750-32 UNEF	.565 (14.35)	.565 (14.35)	.360 (9.14) .357 (9.07)	.380 (11.1)
19	.5000-28 UNEF	.735 (18.67)	.735 (18.67)	.485 (12.32) .483 (12.27)	.505 (12.7)

HERMETIC LEAK RATE MOD CODES	
Designator	Required Leak Rate
–585A	1 x 10^{-10} cc Helium per second
–585B	1 x 10^{-9} cc Helium per second
–585C	1 x 10^{-8} cc Helium per second



APPLICATION NOTES

1. Material/Finish:
   Shell, Jam Nut - Stainless steel/Passivated.
   Insulators - Full glass/N.A.
   O-Ring - Fluorosilicone/N.A.
   Contacts - Iron-nickel alloy/Gold plate.
2. Assembly is identified with manufacturer's name, cage code, part number and date code, space permitting.
3. Glenair 237-263 receptacle connector is designed to mate with Glenair quick disconnect micro circular plug, part number 257-985 having the same shell size and insert arrangement.
4. Insert arrangement is in accordance with Figure One.
5. Insert arrangement is shown for reference only.
6. Perfomance:
   Hermeticity - <1X10^{-6} SccHe/sec @ 1 atmosphere differential.
   D.W.V. - 150 VAC at sea level.
   I.R. - 5000 MegaOhms minimum.
7. Metric dimensions (mm) are in parentheses.

Dimensions in Inches (millimeters) are subject to change without notice.

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GLI-HE-7087
Hermetic Feedthrough Receptacle Connector

GLI-HE-7087 - 02 Z1 - 12-5 Z -1

- **Basic Number**: GLI-HE-7087
- **Material / Finish**: *Z1* = Stainless Steel / Passivated; *ZL* = Stainless Steel / Nickel Plated
- **Contact Type**: *C* = Pin - Pin; *Z* = Solder Cup - Solder Cup
- **Connector Style**: *02* = Box Mount; *07* = Jam Nut; *04* = Weld Mount
- **Insert Arrangement**: See table
- **Panel Accomodation**: *-1* - 0.06" (Min) - 0.28" (Max); *-2* - 0.28" (Min) - 0.55" (Max); *-3* - 0.55" (Min) - 0.98" (Max)

Table I: Hermetic Leak Rate Mode Codes

Designator	Required Leak Rate
-585A	1 x 10^{-10} cc Helium per second
-585B	1 x 10^{-9} cc Helium per second
-585C	1 x 10^{-8} cc Helium per second

Table II: Contact Style



Z = Solder Cup - Solder Cup



C = Pin - Pin

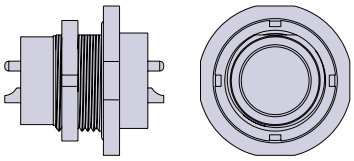
Table III: DWV Rating

Contact Size	Test Voltage
23	750 VAC
20HD	1000 VAC
20, 16, 12, 8	1800 VAC

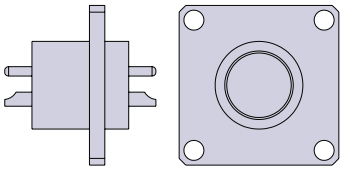
Application Notes

1. To be identified with manufacturer's name, part number and date code, space permitting.
2. Performance:
   - Hermeticity - <1 x 10-7 cc/Sec @ 1 Atm.differential.
   - Dielectric Withstanding Voltage - See Table III.
   - Insulation Resistance - 5000 Megohms min @ 500VDC.
3. Material/Finish:
   - Shell:
     - » Stainless steel / passivated; see P/N dev
     - » Stainless steel / nickel plated; see P/N dev
   - Contacts: nickel iron alloy/ gold plated
   - Insulator: vitreous glass
   - Seal: fluorosilicone elastomer

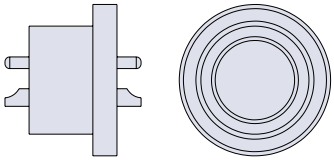
Table IV: Connector Style



07 = Jam Nut Panel Mount



02 = Box Panel Mount



04 = Weld Panel Mount

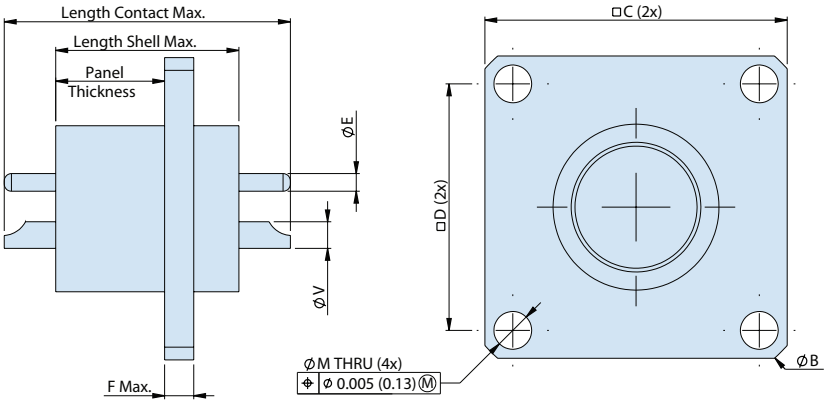
Dimensions in Inches (millimeters) are subject to change without notice.

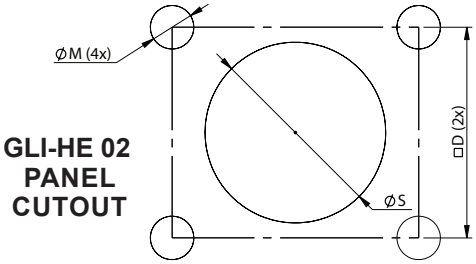
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GLI-HE-7087
Hermetic Feedthrough Receptacle Connector





GLI-HE 02 PANEL CUTOUT

00 - Front Panel Mount Square Flange Receptacle with Accessory Mounting Threads						
Shell Size	"Ø B" Flange	"C" Square Typ Flange Flats	"D" Square Bsc Mounting Holes	"F" Max Flange	"Ø M" Thru Mtg Holes	"Ø S" Thru
5	1.06 (26.9)	0.785 (19.9)	0.597 (15.2)	0.1 (2.5)	0.096 / 0.091 (2.44 / 2.31)	0.328 (8.3)
6	1.15 (29.2)	0.85 (21.6)	0.66 (16.8)	0.1 (2.5)	0.096 / 0.091 (2.44 / 2.31)	0.39 (9.9)
7	1.23 (31.2)	0.913 (23.2)	0.723 (18.4)	0.1 (2.5)	0.096 / 0.091 (2.44 / 2.31)	0.453 (11.5)
8	1.33 (33.8)	0.975 (24.8)	0.785 (19.9)	0.1 (2.5)	0.096 / 0.091 (2.44 / 2.31)	0.515 (13.1)
9	1.41 (35.8)	1.04 (26.4)	0.848 (21.5)	0.1 (2.5)	0.130 / 0.126 (3.30 / 3.20)	0.578 (14.7)
10	1.5 (38.1)	1.099 (27.9)	0.909 (23.1)	0.1 (2.5)	0.130 / 0.126 (3.30 / 3.20)	0.64 (16.3)
11	1.59 (40.4)	1.163 (29.5)	0.973 (24.7)	0.1 (2.5)	0.130 / 0.126 (3.30 / 3.20)	0.703 (17.9)
13	1.75 (44.5)	1.288 (32.7)	1.058 (26.9)	0.1 (2.5)	0.130 / 0.126 (3.30 / 3.20)	0.828 (21.0)
16	2 (50.8)	1.475 (37.5)	1.255 (31.9)	0.1 (2.5)	0.130 / 0.126 (3.30 / 3.20)	1.015 (25.8)
17	2.094 (53.2)	1.537 (39.0)	1.327 (33.7)	0.125 (3.2)	0.130 / 0.126 (3.30 / 3.20)	1.078 (27.4)
19	2.27 (57.7)	1.663 (42.2)	1.452 (36.9)	0.125 (3.2)	0.130 / 0.126 (3.30 / 3.20)	1.203 (30.6)
21	2.44 (62.0)	1.787 (45.4)	1.576 (40.0)	0.125 (3.2)	0.130 / 0.126 (3.30 / 3.20)	1.328 (33.7)

PC Tail Diameter	
Contact Size	ØE
#23	0.018/0.022 (0.46/0.56)
#20	0.024/0.028 (0.61/0.64)
#16	0.060/0.064 (1.52/1.63)
#12	0.092/0.096 (2.34/2.44)
#8	0.215/0.217 (5.46/5.51)

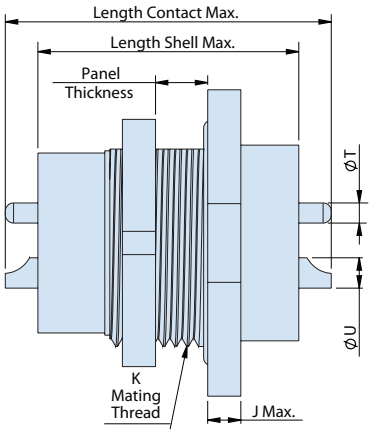
Solder Cup Diameter	
Contact Size	ØV
#23	1.14/1.19 (0.045/0.047)
#20	1.83/1.68 (0.072/0.066)
#16	2.46/2.62 (0.097/0.103)
#12	3.48/3.63 (0.137/0.143)
#8	6.63/6.71 (0.261/0.264)

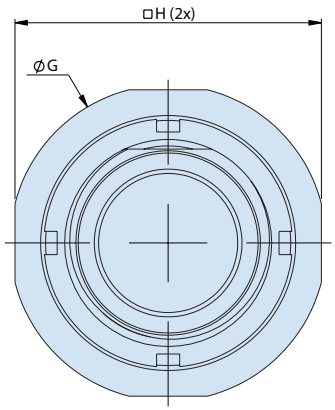
PC Tail Diameter						
Panel Thickness	Shell Length Max (all sizes)	Contact Lengths Max				
		Size #23	Size #20	Size #16	Size #12	Size #8
- 1 0.06 - 0.28 (1.5 - 7)	0.71 (18)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)
- 2 0.28 - 0.55 (7 - 14)	0.98 (25)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)
- 3 0.55 - 0.98 (14 - 25)	1.42 (36)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)

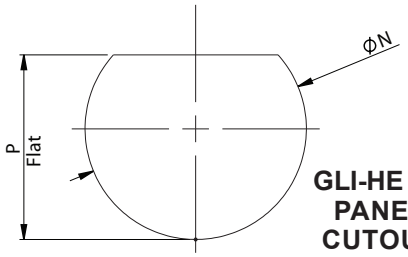
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GLI-HE-7087
Hermetic Feedthrough Receptacle Connector







GLI-HE 07 PANEL CUTOUT

07 - Jam Nut Panel Mount Flange Receptacle						
SHELL SIZE	Ø G FLANGE	H SQUARE FLANGE FLATS	J MAX FLANGE	K THREAD MATING	Ø N MOUNTING HOLE	P MOUNTING FLAT
5	0.730 (18.54)	0.700 (17.78)	0.100 (2.54)	0.3750-28 UN-2A	0.385 (9.78)	0.354 (8.99)
6	0.760 (19.30)	0.730 (18.54)	0.100 (2.54)	0.4375-28 UNEF-2A	0.448 (11.38)	0.414 (10.52)
7	0.880 (22.35)	0.850 (21.59)	0.100 (2.54)	0.5625-28 UN-2A	0.572 (14.53)	0.540 (13.72)
8	0.925 (23.50)	0.895 (22.73)	0.100 (2.54)	0.5625-28 UN-2A	0.572 (14.53)	0.540 (13.72)
9	0.955 (24.26)	0.925 (23.50)	0.100 (2.54)	0.6250-28 UN-2A	0.635 (16.13)	0.600 (15.24)
10	1.060 (26.92)	1.035 (26.29)	0.100 (2.54)	0.6875-28 UN-2A	0.698 (17.73)	0.662 (16.81)
11	1.120 (28.45)	1.090 (27.69)	0.100 (2.54)	0.7500-28 UN-2A	0.760 (19.30)	0.724 (18.39)
13	1.203 (30.56)	1.173 (29.79)	0.100 (2.54)	0.8750-28 UN-2A	0.885 (22.48)	0.849 (21.56)
16	1.389 (35.28)	1.359 (34.52)	0.100 (2.54)	1.0625-28 UN-2A	1.072 (27.23)	1.026 (26.06)
17	1.450 (36.83)	1.420 (36.07)	0.128 (3.25)	1.1250-28 UN-2A	1.135 (28.83)	1.100 (27.94)
19	1.580 (40.13)	1.550 (39.37)	0.128 (3.25)	1.2500-28 UN-2A	1.260 (32.00)	1.231 (31.27)
21	1.705 (43.31)	1.675 (42.55)	0.128 (3.25)	1.3750-28 UN-2A	1.385 (35.18)	1.350 (34.29)

PC Tail Diameter	
Contact Size	ØT
#23	0.018/0.022 (0.46/0.56)
#20	0.024/0.028 (0.61/0.64)
#16	0.060/0.064 (1.52/1.63)
#12	0.092/0.096 (2.34/2.44)
#8	0.215/0.217 (5.46/5.51)

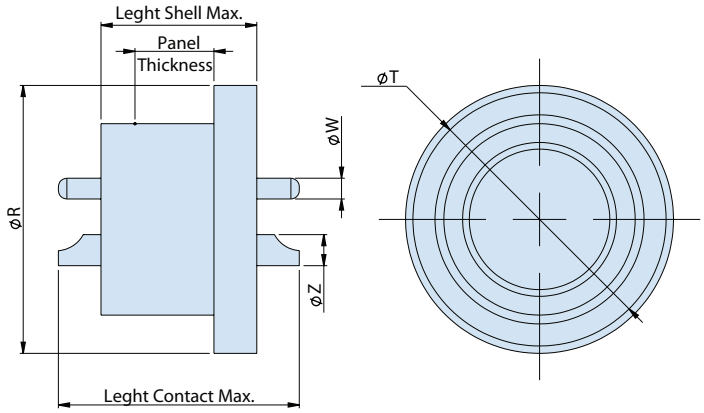
Solder Cup Diameter	
Contact Size	ØU
#23	0.045/0.047 (1.14/1.19)
#20	0.072/0.066 (1.83/1.68)
#16	0.097/0.103 (2.46/2.62)
#12	0.137/0.143 (3.48/3.63)
#8	0.261/0.264 (6.63/6.71)

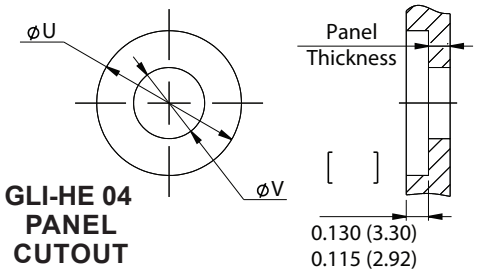
PC Tail Diameter						
Panel Thickness	Shell Length Max all sizes)	Contact Lengths Max				
		Size #23	Size #20	Size #16	Size #12	Size #8
- 1 0.06 - 0.28 (1.5 - 7)	0.87 (22)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)
- 2 0.28 - 0.55 (7 - 14)	1.18 (30)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)
- 3 0.55 - 0.98 (14 - 25)	1.57 (40)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)

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GLI-HE-7087
Hermetic Feedthrough Receptacle Connector





GLI-HE 04 PANEL CUTOUT

04 - Weld Panel Mount Flange Receptacle Feedthrough				
	SHELL DIMENSIONS		04 - PANEL CUT-OUT	
SHELL SIZE	Ø R	Ø T	Ø U	Ø V
5	0.600 (15.24)	0.555 (14.10)	0.606 (15.39)	0.180 (4.57)
6	0.665 (16.89)	0.620 (15.75)	0.671 (17.04)	0.240 (6.10)
7	0.730 (18.54)	0.685 (17.40)	0.736 (18.69)	0.330 (8.38)
8	0.788 (20.02)	0.745 (18.92)	0.794 (20.17)	0.390 (9.91)
9	0.912 (23.16)	0.869 (22.07)	0.918 (23.32)	0.455 (11.56)
10	0.975 (24.76)	0.933 (23.70)	0.981 (24.92)	0.520 (13.21)
13	1.162 (29.51)	1.119 (28.42)	1.168 (29.67)	0.610 (15.49)
16	1.288 (32.72)	1.245 (31.62)	1.294 (32.87)	0.775 (19.68)
17	1.360 (34.54)	1.315 (33.40)	1.366 (34.70)	0.825 (20.96)
21	1.625 (41.28)	1.580 (40.13)	1.631 (41.43)	1.080 (27.43)

PC Tail Diameter	
Contact Size	ØW
#23	0.018/0.022 (0.46/0.56)
#20	0.024/0.028 (0.61/0.64)
#16	0.060/0.064 (1.52/1.63)
#12	0.092/0.096 (2.34/2.44)
#8	0.215/0.217 (5.46/5.51)

Solder Cup Diameter	
Contact Size	ØZ
#23	0.045/0.047 (1.14/1.19)
#20	0.072/0.066 (1.83/1.68)
#16	0.097/0.103 (2.46/2.62)
#12	0.137/0.143 (3.48/3.63)
#8	0.261/0.264 (6.63/6.71)

PC Tail Diameter						
Panel Thickness	Shell Length Max (all sizes)	Contact Lengths Max				
		Size #23	Size #20	Size #16	Size #12	Size #8
- 1 0.06 - 0.28 (1.5 - 7)	0.71 (18)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)	1.06 (27)
- 2 0.28 - 0.55 (7 - 14)	0.98 (25)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)	1.34 (34)
- 3 0.55 - 0.98 (14 - 25)	1.42 (36)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)	1.77 (45)

Dimensions in Inches (millimeters) are subject to change without notice.

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GLI-HE-7087
Hermetic Feedthrough Receptacle Connector

Insert Arrangements					
Insert Arr.	Contact Size and Quantity				
	23	20HD	16	12	8
5-3	3				
6-4	4				
6-6	6				
6-7	7				
7-10	10				
8-13	13				
9-19	19				
10-26	26				
11-31	31				
13-37	37				
16-55	55				
17-85	85				
19-100	100				
21-130	130				

Insert Arrangements					
Insert Arr.	Contact Size and Quantity				
	23	20	16	12	8
6-23		3			
7-25		5			
8-28		8			
9-210		10			
13-220		20			
16-235		35			
17-241		41			
19-255		56			
21-269		69			
6-1			1		
8-2			2		
9-4			4		
10-5			5		
13-7			7		
16-12			12		
17-14			14		
19-19			19		
21-22			22		

Insert Arrangements					
Insert Arr.	Contact Size and Quantity				
	23	20	16	12	8
7-1				1	
10-2				2	
13-2				2	
13-3				3	
16-5				5	
17-7				7	
21-12				12	
8-1					1
16-2					2
17-3					3
19-4					4
21-5					5

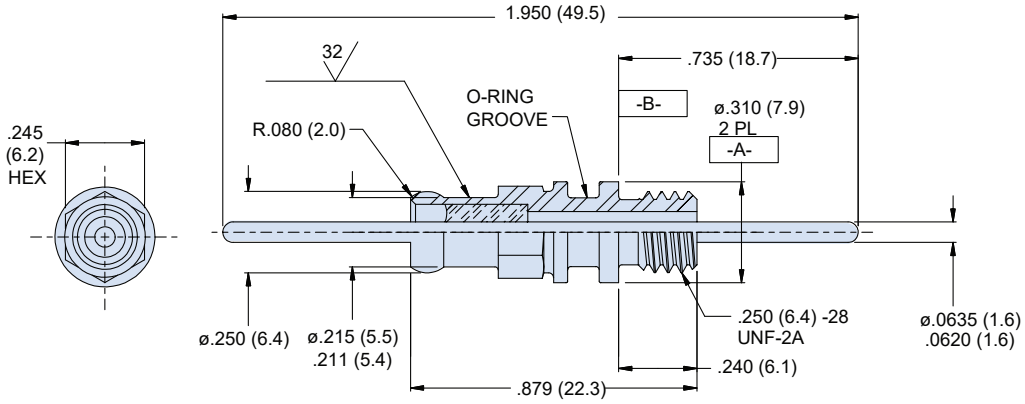
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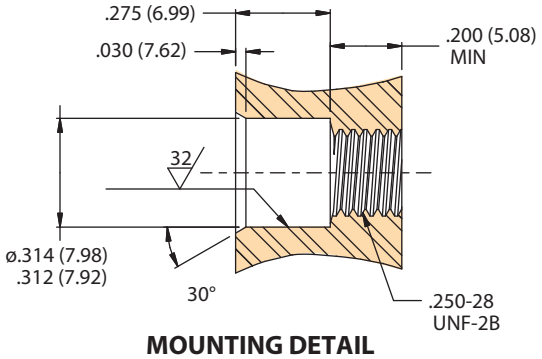
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2570-1290
Single Pin High Temperature High Pressure (HTHP)
Hermetic • Single-Pin Feedthrough



Product Series	O-Ring Option Omit for None (See Table I)
2570-1290	- V





MOUNTING DETAIL

TABLE I: O-RING OPTION	
O-Ring Size AS568 2-008	O-Ring Material 90 Shore
E	Ethylene-Propylene
K	FFKM (Kalrez®)
V	FKM (Viton™)

APPLICATION NOTES

1. Use O-ring size 2-008
2. Material / Finish:
   Body - Inconel® X-750 / none
   Pin - Inconel® X-750 / gold plate .00005 min. thick
   Insulator - vitreous glass / n/a
   O-Ring - Per Table I / N/A
3. Performance Tests:
   Hermeticity - <1 X $10^{\wedge -8}$ sccHe/sec @ 1 ATM diff
   D.W.V. - 1000 VDC pin to shell without breakdown
   I.R. - 5000 megohms min @ 500 VDC (ambient)
   500 megohms min @ 500 VDC (300° F)

Dimensions in Inches (millimeters) are subject to change without notice.

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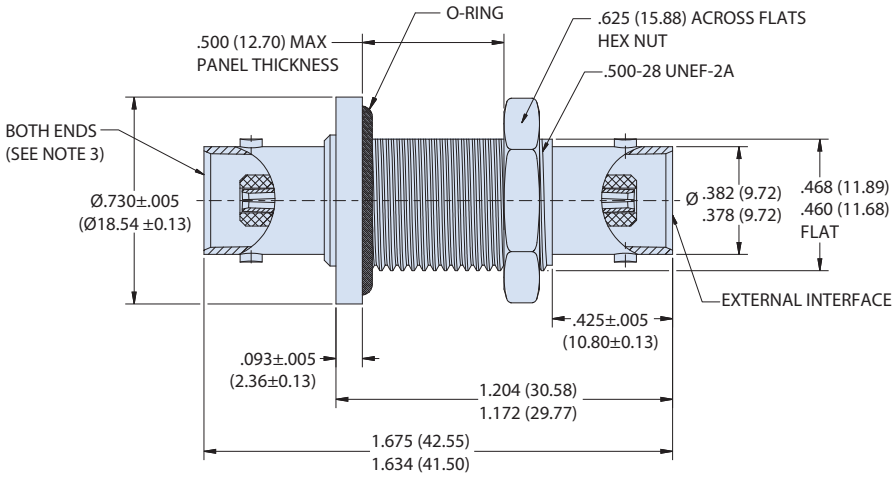
GRF05-0002
50 Ohm BNC Series Socket Connector
Hermetic • Bulkhead Feedthrough

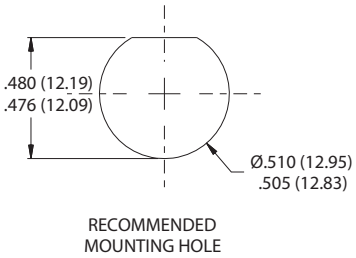


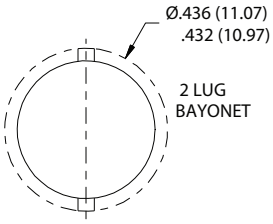
Product Series

GRF05-0002 **Z1**

Finish
Z1 = Passivated
ZL = Nickel Plate







APPLICATION NOTES

1. Connector interface is IAW MIL-STD-348, series BNC, socket contact, 2-lug bayonet coupling
2. Specifications
   - Frequency range: DC to 4 Ghz
   - Insertion loss: -.157 dB min
   - VSWR: 1.25 max
   - Hermeticity: $<1x10^{-7}$ cc/sec of helium at one atmosphere Delta P
   - Insulation resistance: greater than 5000 MegOhms
   - DWV: 1500 VAC between center contact and outer body
   - Operating temperature: -65°C to 165°C
3. Material/Finish:
   - Body, jam nut: cres/see part number development
   - Center pin contact (glass sealed section): kovar/gold plated
   - center socket contact (mating ends): copper alloy/gold plated
   - insulator:
     fused vitreous glass/N.A.
     PTFE/N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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GRF05-0004
Triax Adapter - TRB, TRT Series Connector
Hermetic • Bulkhead Feedthrough

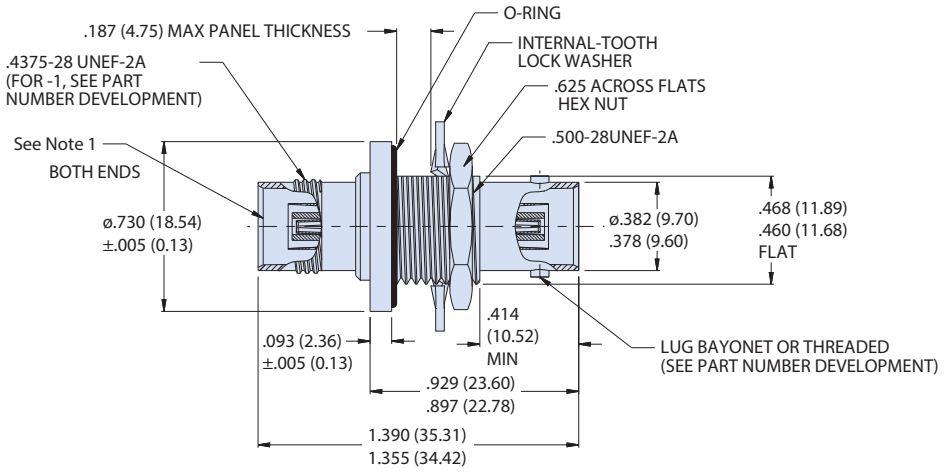


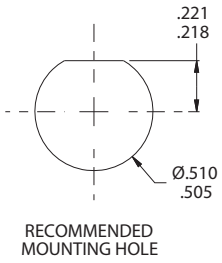
Product Series

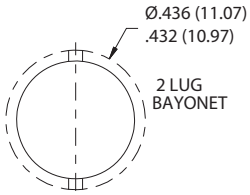
GRF05-0004 | **-1** | **Z1**

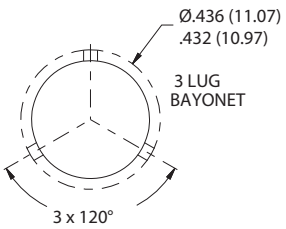
Finish
Z1 = Passivated
ZL = Nickel Plate
Z3 = Silver Plate

Keying (Both Ends)
-1 = .4375-28 UNEF-2A Thd
-2 = 2 Lug Bayonet
-3 = 3 Lug Bayonet









N

APPLICATION NOTES

1. Connector interface is IAW MIL-STD-348, series BNC, socket contact, 2-lug bayonet coupling
2. Specifications
   - Frequency range: DC to 4 Ghz
   - Insertion loss: -.157 dB min
   - VSWR: 1.25 max
   - Hermeticity: $<1x10^{-7}$ cc/sec of helium at one atmosphere Delta P
   - Insulation resistance: greater than 5000 MegOhms
   - DWV: 1500 VAC between center contact and outer body
   - Operating temperature: -65°C to 165°C
3. Material/Finish:
   - Body, jam nut: cres/see part number development
   - Center pin contact (glass sealed section): kovar/gold plated
   - center socket contact (mating ends): copper alloy/gold plated
   - insulator:
     fused vitreous glass/N.A.
     PTFE/N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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Rev. 06.13.22

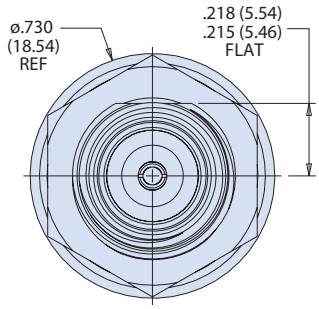
GRF05-0005
50 Ohm TNC Coax Connector
Hermetic • Bulkhead Feedthrough

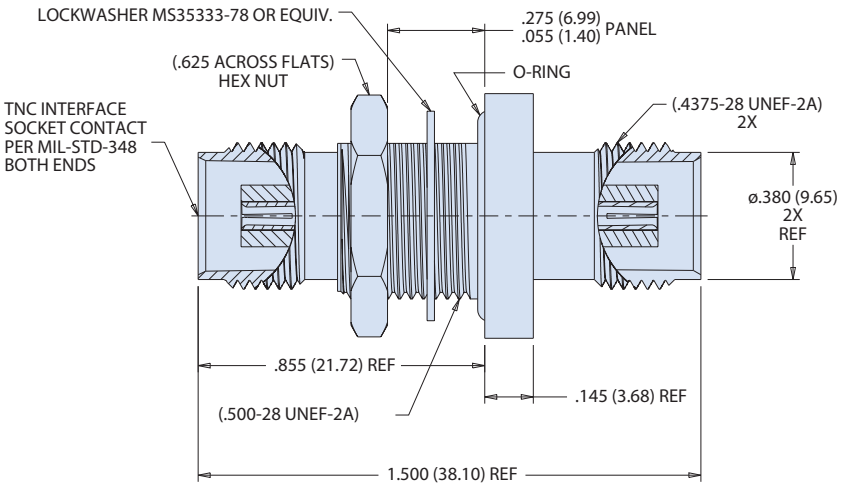


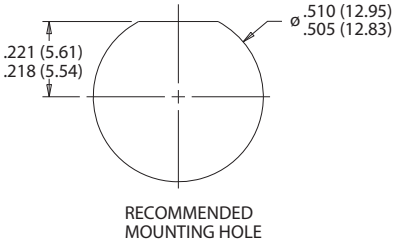
Product Series

GRF05-0005 - Z1

Finish
Z1 = Passivated
ZL = Nickel Plate







N

APPLICATION NOTES

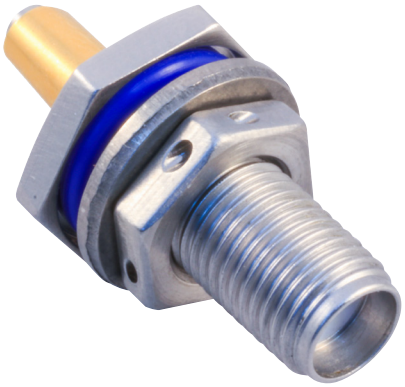
1. Performance (per applicable MIL-PRF-5539/34:
- Frequency range: DC to 11 GHz
- Insertion loss: .5db max
- VSWR: 1.4:1 max, 0.5 to 11 GHz
- IR: 5000 megaOhms min
- DWV: 1500 VAC between center contact and outer body
- Operating temperature: -65°C to 165°C
- Hemeticity: < 1 x 10^{-7} cc/sec of helium at 1 atm. delta pressure

2. Material/Finish:
- Body, jam nut: CRES/ see part number development
- Center pin: Alloy 52/gold plated
- Socket contact: BeCu/gold plated
- O-ring: fluorosilicone
- Insulator: fused vitreous glass, PTFE

Dimensions in Inches (millimeters) are subject to change without notice.

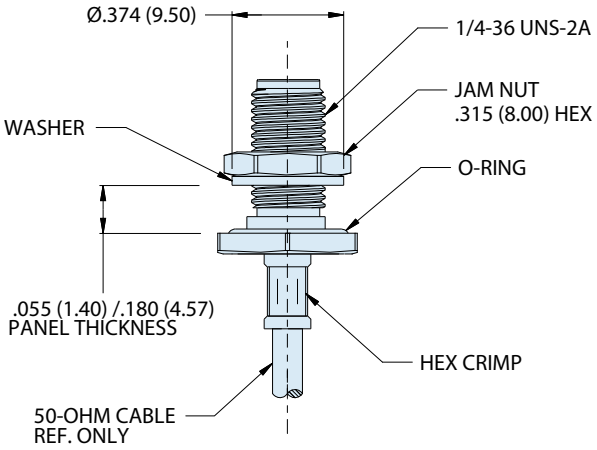
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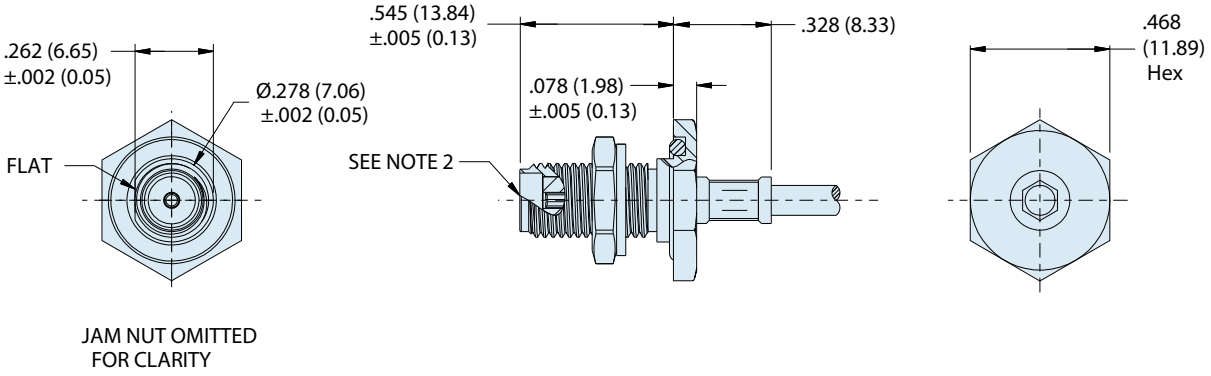
GRF01-0007
50 Ohm SMA Coax Connector
Hermetic • Jam-Nut Mount



Product Series

GRF01-0007





N

APPLICATION NOTES

1. PERFORMANCE:
   - Temperature range: -65°c to +125°C
   - Hermeticity: $< 1 \times 10^{-7}$ cc/sec of helium at one atmosphere Delta P.
   - Impedance: 50 ohms nom.
   - Frequency range: DC-10 Ghz
   - VSWR: 1.20:1 DC to 3 Ghz
   - Insertion loss: .2 dB, DC to 3 Ghz
   - DWV: 1000 VRMS at sea level
   - IR: 5000 megohms minimum, room temperature
2. Connector interface per MIL-STD-348, Series SMA, socket contact
3. Material/Finish:
   - Shell: stainless steel 304L / passivated
   - Mounting nut, washer: stainless steel 303 / passivated
   - Hermetic seal contact: alloy 52 / gold plated
   - Front socket and rear contacts: copper alloy / gold Plated
   - Insulator: PTFE / N.A.
   - Fused vitreous glass / N.A.
   - O-ring: fluorosilicone per MIL-DTL-25988 or equivalent / N.A.

Dimensions in Inches (millimeters) are subject to change without notice.

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GRF01-0003
Code Red, 50 Ohm SMA/F-SMA-F Coax Connector
Lightweight Hermetic • Bulkhead Feedthrough

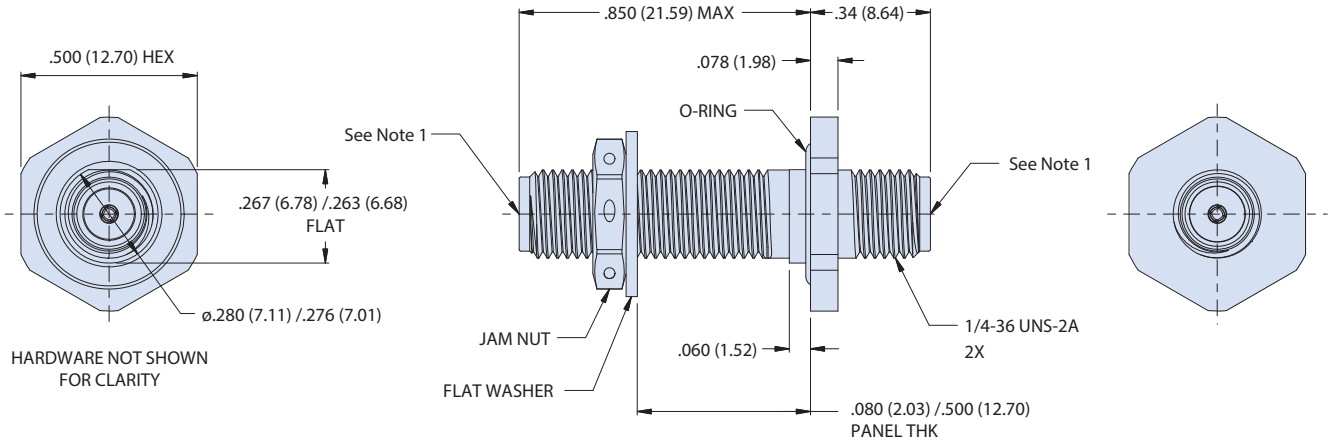


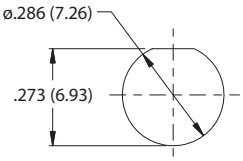
HERMETIC CODE RED CONNECTORS

Product Series

GRF01-0003 **Z1**

Material/Finish
Z1 = Stainless Steel / Passivated
ZL = Stainless Steel / Nickel Plate
BM = Copper Alloy / Nickel





RECOMMENDED PANEL CUTOUT

N

APPLICATION NOTES

1. Adapter interfaces PER MIL-STD-348, SMA, socket contact

Material / Finish
- Shells and plate: see part number development
- Insulators: high grade rigid dielectric / N.A.
- O-ring & seals: fluorosilicone / N.A.
- Contacts: copper alloy / gold over nickel
- Sealing compound: polymer encapsulant

Performance
- Meets applicable mechanical and environmental requirements per MIL-PRF-39012/92
- Nominal Impedance: 50 Ohms
- Frequency range: 0 to 12 GHz
- Voltage rating: 335 Vac, sea level; 85 Vac, 70K feet
- Operating temperature: -65°C to 150°C
- Leak Rate: 1 x 10e -7 ccHe/s max 1 ATM

Dimensions in Inches (millimeters) are subject to change without notice.

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2570-2473
4 Pin Hermetic Penetrator
5000 PSI Rated

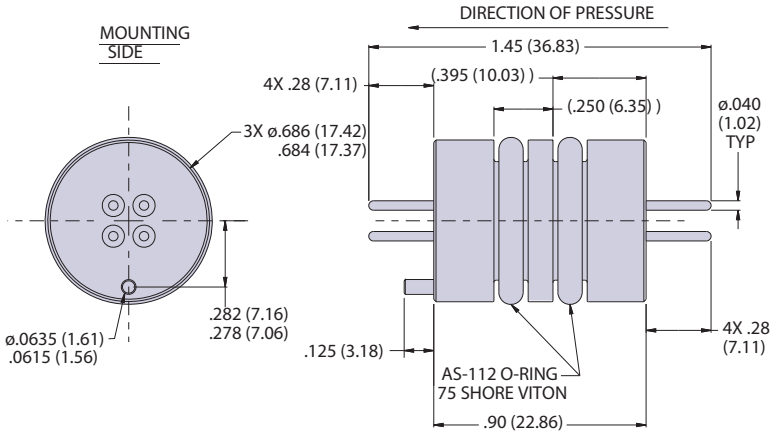
Product Series

2570-2473 - PP

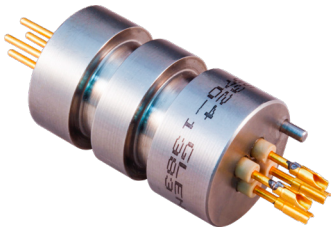
PP= Pins on Both Sides
CP = Solder Cups on Mounting Side
CC = Solder Cups on Both Sides

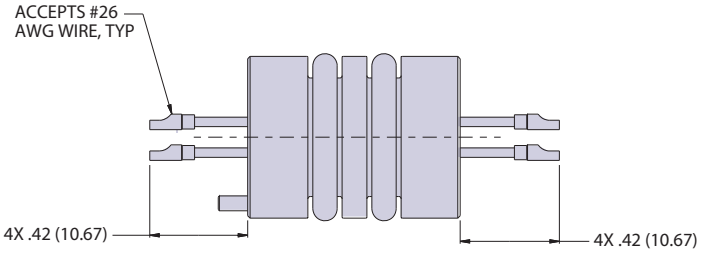
Application Notes

1. All body and mounting features are the same regardless of termination style
2. Use Glenair 687-008-1 socket for pin termination
3. Material / finish:
   - Body: 316l cres / passivate
   - Pins: 52 nickel alloy / gold plate .00005 Min thick
   - Insulators - vitreous glass / none
   - O-ring: fluorocarbon
4. Performance specifications:
   - Hermeticity: <1 x 10^-7 scche/sec @ 1 Atm Delta P
   - Maximum voltage: 500 VDC
   - Operating voltage: 250 VDC
   - Temperature: -76°C (-60°C) to 500°F (260°C)
   - Current capacity:
     - » 3.3 Amps @ ambient
     - » 2.5 Amps @ 500°F (260°C)
   - Pressure - 5,000 psi max in direction indicated
   - Temperature - 500°F (260°C) max

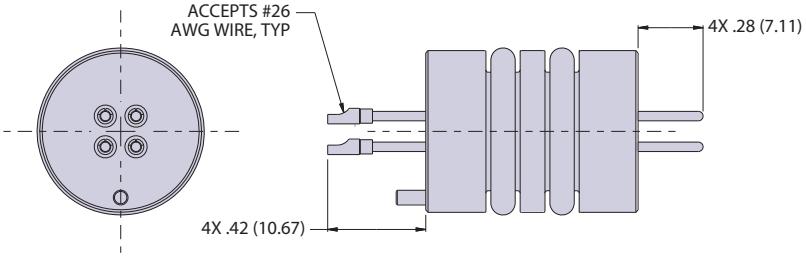


2570-2473-PP



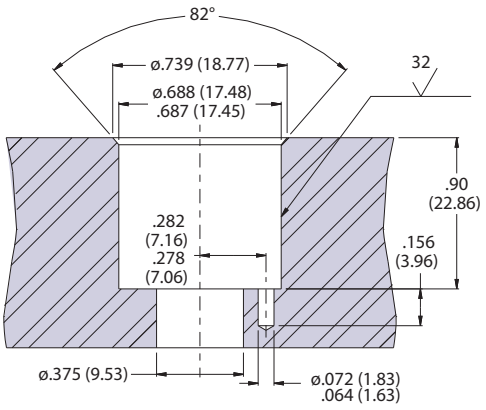


2570-2473-CC



2570-2473-CP

RECOMMENDED MOUNTING



Dimensions in Inches (millimeters) are subject to change without notice.

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MIL-DTL-38999 Series I, II, III and IV QPL Hermetic Connectors		
Part number	Description	Page
	MIL-DTL-38999 Series I, II, III and IV Hermetic Class Insert Arrangements	B-2
	MIL-DTL-38999 Series I, II, III and IV Hermetic Class Layouts and Pin Counts	B-4
	MIL-DTL-38999 Hermetic Class Material Speci□cations and Finishes	B-5
	MIL-DTL-38999 Connector Performance Speci□cations	B-6
	MIL-DTL-38999 Contact Performance Speci□cations	B-9
	MIL-DTL-38999 Series I – IV Alternate Keyway Positions	B-10
	Recommended Torque Values	B-13
	MIL-DTL-38999 Hermetic Connectors and Environmental Mates	B-14
MS27469 / 231-100-H0	Wall Mount Hermetic Receptacle, Series I	B-16 / B-17
MS27470 / 231-100-H7	Jam Nut Mount Hermetic Receptacle, Series I	B-18 / B-19
MS27471 / 231-100-H5	Solder Mount Hermetic Receptacle, Series I	B-20 / B-21
231-103-H7	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series I	B-22
231-103-H9	Sav-Con® Jam Nut Mount Bulkhead Feed-Thru, Series I	B-24
257-255	Jam Nut Mount Hermetic Receptacle, Series I	B-26
MS27475 / 232-100-H0	Wall Mount Hermetic Receptacle, Series II	B-28 / B-29
MS27476 / 232-100-H2	Box Mount Hermetic Receptacle, Series II	B-30 / B-31
MS27477 / 232-100-H7	Jam-Nut Mount Hermetic Receptacle, Series II	B-32 / B-33
MS27478 / 232-100-H5	Solder Mount Hermetic Receptacle, Series II	B-34 / B-35
232-103-H7	Jam Nut Mount Hermetic Bulkhead Feedthrough, Series II Type	B-36
237-280	Special Weld-Mount Hermetic Receptacle, Series II	B-38
947-120	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series II	B-40
947-278	Jam Nut Mount Hermetic Bulkhead Feed-Thru	B-42
D38999/21 / 233-100-H2	Box Mount Hermetic Receptacle, Series III	B-44 / B-45
D38999/23 / 233-100-H7	Jam Nut Mount Hermetic Receptacle, Series III	B-46 / B-47
D38999/25 / 233-100-H5	Solder Mount Hermetic Receptacle, Series III	B-48 / B-49
D38999/27 / 233-100-H8	Weld Mount Hermetic Receptacle, Series III	B-50 / B-51
233-103-H7	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series III	B-52
233-103-H9	Jam Nut Mount Hermetic Plug/Receptacle Bulkhead Feed-Thru, Series III	B-53
237-033	Jam Nut Mount Hermetic with Double O-Rings, Series III	B-54
237-063	Special Hermetic Jam Nut Mount Receptacle, Series III	B-56
237-153	Hermetic Dual Flange Jam Nut Mount Receptacle, Series III	B-58
257-093	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series III	B-60
257-121	Special Jam Nut Mount Hermetic Receptacle with Accessory Threads, Series III	B-62
257-215	Jam Nut Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-64
257-216	Jam Nut Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-66
257-288	Box Mount Hermetic Bulkhead Feed-Thru w/ Crimp Removable Contacts, Series III	B-68
257-333	Hermetic Jam Nut Receptacle w/ Crimp Removable Contacts, Series III	B-70
947-082	Jam Nut Hermetic Bulkhead Feed-Thru, Series III	B-72
947-115	Jam Nut Hermetic Bulkhead Feed-Thru, Series III	B-73
947-117	Jam Nut Mount Hermetic Bulkhead Feed-Thru, Series I	B-74
947-282	Flange Mount Hermetic Bulkhead Feed-Thru, Series III	B-76
D38999/41 / 234-100-H2	Box Mount Hermetic Receptacle, Series IV	B-78 / B-79
D38999/43 / 234-100-H7	Jam Nut Mount Hermetic Receptacle, Series IV	B-80 / B-81
D38999/45 / 234-100-H5	Solder Mount Hermetic Receptacle, Series IV	B-82 / B-83
D38999/48 / 234-100-H8	Weld Mount Hermetic Receptacle, Series IV	B-84 / B-85

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Hermetic Connectors Product Index

Series 800 Mighty Mouse Hermetic Connectors		
Part Number	Description	Page
	Series 80 Mighty Mouse Product Selection Guide	C-2
	Series 80 Mighty Mouse Contact Arrangements	C-4
	Series 80 Mighty Mouse Straight PCB Footprints	C-9
	Series 80 Mighty Mouse Flange Gaskets 809-108	C-25
	Series 80 Mighty Mouse Recommended Torque Values	C-28
	Glenair Connector Products Special Leak Rate Mod Code	C-29
800-013	Series 800 How to Order Information	C-30
800-013-02 and 800-013-03	Square Flange Mount Connectors	C-32
800-013-07	Jam Nut Mount Connector	C-33
801-012	Series 801 How to Order Information	C-34
801-012-02	Square Flange Mount Connector	C-35
801-012-03	Solder Mount Connector	C-36
801-012-07	Jam Nut Mount Connector	C-37
801-012-013	Weld Mount Connector	C-38
801-059	Quick Coupling Connector with Co-Ax Pins Ordering Information	C-39
801-059-02	Flange Mount Quick Coupling Connector with Co-Ax Pins	C-40
801-059-03	Solder Mount Quick Coupling Connector with Co-Ax Pins	C-41
801-059-07	Jam Nut Mount Quick Coupling Connector with Co-Ax Pins	C-42
802-013	Series 802 Aqua Mouse Submersible Hermetic Receptacle	C-43
802-013-00	Front Mount Jam Nut Receptacle	C-44
802-013-02	Square Flange Mount Receptacle	C-45
802-013-03	Weld Mount Receptacle	C-46
802-013-07	Rear Mount Jam Nut Receptacle	C-47
802-040	Series 802 Aqua Mouse Connector How to Order Information	C-48
802-040-00	Front Panel Jam Nut Mount Connector, Coax Contacts	C-49
802-040-02	Front Panel Square Flange Mount Connector, Coax Contacts	C-50
802-040-03	Weld Mount Connector, Coax Contacts	C-51
802-040-07	Rear Panel Jam Nut Mount Connector, Coax Contacts	C-52
803-006	Series 803 How to Order Information	C-53
803-006-02 and 803-006-07	1/4 Turn Bayonet and Jam Nut Mount Connectors	C-54
804-006	Series 804 How to Order Information	C-55
804-006-00	Front Panel Jam Nut Mount Receptacle	C-56
804-006-07	Rear Panel Jam Nut Mount Receptacle	C-57
805-006	Series 805 How to Order Information	C-58
805-006-02	Square Flange Mount Connector	C-59
805-006-03	Solder Mount Connector	C-60
805-006-07	Jam Nut Mount Connector	C-61
805-006-013	Front Panel Weld Mount Connector	C-62
MIL-DTL-26482 Type Quick Release Bayonet Cupling Hermetic Connectors		
Part Number	Description	Page
	MIL-DTL-26482 Type Insert Arrangements	D-2
	MIL-DTL-26482 Type Alternate Key Positions	D-3
	Glenair Hermetic Connector Product Special Leak Rate Mod Codes	D-4
	Glenair Hermetic Connector Porduct Space Grade Mod Codes	D-5
230-014	Bayonet Coupling Solder Mount Receptacle MS3113 Type	D-6

Index

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230-015	Bayonet Coupling Jam Nut Receptacle MS3114 Type	D-8
947-303	Narrow Flange Mount Bulkhead Feed-Thru MS3440 Type	D-10
230-035	Bayonet Coupling Narrow Flange Mount Receptacle MS3112 Type	D-12
230-016	Bayonet Coupling Narrow Flange Mount Receptacle MS3440 Type	D-14
230-017	Bayonet Coupling Wide Flange Mount Receptacle MS3442 Type	D-16
230-018	Bayonet Coupling Solder Flange Mount Receptacle MS3443 Type	D-18
230-019	Quick Release Bayonet Receptacle, Single Hole Jam Nut MS3443 Type	D-20
230-022	Bayonet Coupling Jam Nut Mount Receptacle with Solderless Contacts MS3479 Type	D-26
230-034	Bayonet Coupling Jam Nut Receptacle MS3449 Type	D-28
230-240	MIL-DTL-26482 Series I Connector, Special Square Flange Mount, Bayonet Coupling	D-30
257-135	Bayonet Coupling Jam Nut Mount Pin/Pin Bulkhead Feed-Thru Receptacle	D-32
947-292	Bayonet Coupling Jam Nut Mount Bulkhead Feed-Thru Receptacle	D-34

MIL-DTL-83723 Series III Type Threaded and Bayonet Coupling Heremtic Connectors

Part Number	Description	Page
	MIL-DTL-83723 Series III Type Insert Arrangements	E-2
	Glenair Hermetic Connector Product Space Grade Mod Codes	E-3
	Glenair Hermetic Connector Product Special Leak Rate Mod Code	E-4
	MIL-DTL-83723 Series III Type Insert Arrangements and Keyway Positions	E-5
230-023	Bayonet Coupling Square Flange Receptacle with Solder Terminals 83723/79 Type	E-6
230-024	Bayonet Coupling Solder Flange Receptacle with Solder Terminals 83723/80 Type	E-8
230-025	Bayonet Coupling Jam Nut Receptacle with Solder Terminals 83723/81 Type	E-10
230-026	Bayonet Coupling Solder Flange Receptacle with Straight Pin Contacts 83723/93 Type	E-12
230-027	Bayonet Coupling Jam Nut Receptacle with Straight Pin or PCB Contacts 83723/88 Type	E-14
230-028	Threaded Coupling Square Flange Receptacle with Solder Terminals 83723/89 Type	E-16
230-029	Threaded Coupling Jam Nut Receptacle with Solder Terminals 83723/90 Type	E-18
230-030	Threaded Coupling Solder Flange Receptacle with Solder Terminals	E-20

MIL-DTL-26500 Type Hermetic Connectors

Part Number	Description	Page
	MIL-DTL-26500 Type Insert Arrangements	F-2
	Glenair Hermetic Connector Product Special Leak Rate Mod Codes	F-3
	Glenair Hermetic Connector Product Space Grade Mod Codes	F-4
	MIL-DTL-26500 Type Insert Arrangements and Keyway Positions	F-5
	MIL-DTL-26500 Type Materials and Finishes	F-6
	MIL-DTL-26500 Type Bayonet and Threaded Coupling and Electrical Service Data	F-7
230-036 MS27034H*B**	MIL-DTL-26500 Type Bayonet Coupling Solder Flange Mount Receptacle	F-8
230-038 MS27034H*T**	MIL-DTL-26500 Type Threaded Coupling Solder Flange Mount Receptacle	F-10
230-039	MIL-DTL-26500 Type Bayonet Coupling Single Hole Mount Receptacle	F-12
230-040	MIL-DTL-26500 Type Threaded Coupling Single Hole Mount Receptacle	F-14
230-041	MIL-DTL-26500 Type Bayonet Coupling Square Flange Mount Receptacle	F-16
237-165	MIL-DTL-26500 Type Threaded Coupling Square Flange Mount Receptacle	F-18

MIL-DTL-5015 Type Hermetic Power and Signal Connectors

Part Number	Description	Page
	MIL-DTL-5015 Type Insert Arrangements	G-2
	MIL-DTL-5015 Type Alternate Key Positions	G-5
250-013	Threaded Coupling Square Flange Receptacle MS3142 Type	G-6

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Hermetic Connectors Product Index

250-014	Threaded Coupling Solder Mount Receptacle MS3143 Type	G-8
250-016	Threaded Coupling Solder Mount Receptacle Connector MS3143 Type Sockets	G-12
250-025	Threaded Coupling Flangeless Mount Receptacle Connector MS3143 Type	G-14
257-384	Jam Nut Mount Receptacle Connector MS3404 Type	G-16
947-042	Jam Nut Mount Bulkhead Feed-Thru Connector with Pin/Socket Contacts	G-18
947-056	Jam Nut Mount Bulkhead Feed-Thru Connector with Pin/Pin Contacts	G-20
947-259	Panel Mount Bulkhead Feed-Thru Receptacle	G-22
947-371	Jam Nut Mount Bulkhead Feed-Thru Receptacle	G-24

Series 22 Geo-Marine® High Density Severe Environment Hermetic Connectors		
Part Number	Description	Page
	Series 22 Geo-Marine® Product Information	H-2
	Glenair Hermetic Connector Product Space Grade Mod Code	H-3
	Geo-Marine® Insert Arrangements	H-4
	Geo-Marine® Alternate Keyway Positions, Materials and Finishes	H-5
220-00 and 220-10	Front Mounted Jam-Nut Bulkhead Connector Receptacle	H-6
220-01 and 220-11	In-Line Connector Receptacle Assembly	H-8
220-02 and 220-12	Square Flange Mount Connector Receptacle Assembly	H-10
220-03 and 220-13	Solder Mount Bulkhead Connector Receptacle Assembly	H-12
220-04 and 220-14	Rear Mounted Jam Nut Wall Mount Connector Receptacle Assembly	H-14
220-07 and 220-17	Rear Mounted Jam Nut Box Mount Receptacle Assembly	H-16
227-092	Special Scoop-Proof Jam Nut Receptacle, Sizes -10, -12 and -14	H-18
MIL-DTL-24308 D-Subminiature Hermetic Connectors		
Part Number	Description	Page
	MIL-DTL-24308 Type Hermetic Connector Solder Mount Information	J-2
	Glenair Hermetic Connector Product Special Leak Rate Mod Codes	J-3
	Glenair Hermetic Connector Product Space Grade Mod Codes	J-4
	MIL-DTL-24308 Type Hermetic Connector Materials, Finishes and Specifications	J-5
	MIL-DTL-24308 Type Hermetic Connector Insert Arrangements and Panel Cut-Outs	J-6
	MIL-DTL-24308 Type Hermetic Connector Style A and Style B Dimensions	J-7
280-003	Glass Sealed D-Subminiature Receptacle	J-8
280-006	Glass Sealed D-Subminiature Receptacle	J-10
280-009	Pin-To-Pin D-Subminiature Feedthrough	J-12
280-012	Rear PCB Termination Glass Sealed D-Subminiature Connector	J-14
280-013	O-Ring Panel Sealing High Density D-Subminiature Connector	J-16
280-014	O-Ring Panel Sealing D-Subminiature Connector	J-18
287-018	Glass-Sealed D-Subminiature Connector with Front Mount O-Ring Seal	J-20
287-035	High Density Glass-Sealed D-Subminiature Connector	J-22
MIL-DTL-83513 Type Micro-D Hermetic Connectors		
Part Number	Description	Page
	MIL-DTL-83513 Type Micro-D Hermetic Connector Introduction	K-2
	Glenair Hermetic Connector Product Space Grade Mod Code	K-3
	MIL-DTL-83513 Type Micro-D Connectors General Information	K-4
	MIL-DTL-83513 Type Micro-D Design Notes and Contact Arrangements	K-5
	MIL-DTL-83513 Type Micro-D Materials and Finishes and Performance Specifications	K-6
177-140H and 177-704H	Solder Mount Micro-D Hermetic Connector	K-7
177-705H and 177-706H	Rear Panel Mount with O-Ring Micro-D Hermetic Connector	K-9

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287-080	Rear Panel Mount with O-Ring Micro-D Hermetic Connector	K-12
177-232	Front Mount Socket Shell Micro-D Hermetic Connector, Size 37	K-14
177-859	Front Mount Socket Shell Micro-D Hermetic Connector, Sizes 9 to 21	K-15
Series 79 Micro-Crimp Hermetic Connectors		
Part Number	Description	Page
	Series 79 Micro-Crimp Hermetic Connectors General Information	L-2
	Series 79 Micro-Crimp Recommended Panel Cutouts	L-3
	Series 79 Micro-Crimp Contact Arrangements	L-5
	Series 79 Micro-Crimp Connectors for Space Flight	L-8
790-066	Hermetic Rear Panel Mount Receptacle, Pin Face, Solder Cup Contacts	L-9
797-077	Hermetic Receptacle, E-11P2 Arrangement	L-14
797-087	Hermetic Receptacle, Pin Contacts with P.C. Tails, Size H-66 Only	L-15
797-204	Hermetic Receptacle, Pre-Wired Pin Contacts, Shell Size G-33	L-17
797-216	Rectangular Hemetic Receptacle Connector 9 X Coax Contacts	L-19
Series 970 PowerTrip™ Hermetic Connectors		
Part Number	Description	Page
	Series 970 PowerTrip™ Hermetic Connectors Introduction	M-2
	Glenair Hermetic Connector Product Space Grade Mod Codes	M-5
970-007	Jam Nut Mount PowerTrip™ Bulkhead Feedthrough Receptacle How to Order Information	M-6
970-012	Square Flange Mount PowerTrip™ Bulkhead Feedthrough Receptacle How to Order Information	M-8
Special Hermetic Connectors		
Part Number	Description	Page
237-263	Special Micro Circular Quick Disconnect Receptacle, Rear Panel Jam Nut Mount	N-2
2570-1290	Single Pin High Temperature High Pressure (HTHP) Hermetic -- Single Pin Feedthrough	N-4

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