MISSION-CRITICAL
INTERCONNECT
SOLUTIONS

Glenair®



RECTANGULAR AND CIRCULAR

Nanominiature Connectors and Cables

MIL-DTL-32139 QPL and Glenair Signature Designs

OCTOBER 2024

NANOMINIATURE
CIRCULAR AND
RECTANGULAR
CONNECTORS AND
CABLES

nano miniature™

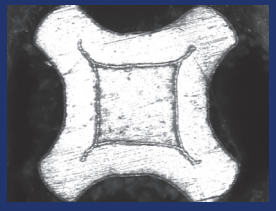
MIL-DTL-32139 QPL and Glenair Signature nanominiature connector designs



The M32139 Nano is the smallest and lightest mil-spec connector in the business. 1 Amp contacts are set on .025" centers and terminated to 30 AWG wire or PCB tails. Glenair supplies both standard QPL designs as well as a broader range of signature offerings.

- **Single and double row**
- **Metal shell, aluminum, titanium or stainless steel**
- **TwistPin contact system**
- **Gold alloy contact, unplated**
- **Thru-hole and surface-mount PCB versions**

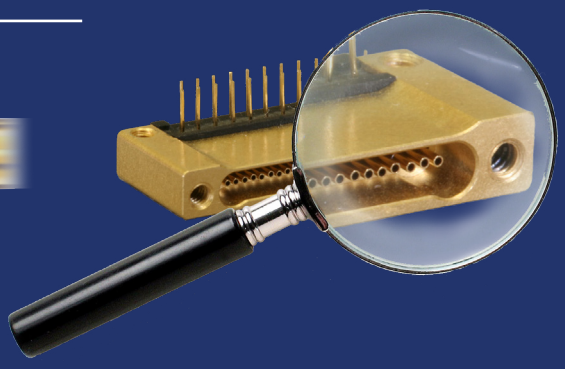
THE NANO TWISTPIN ADVANTAGE



Transverse cross-section of a gas-tight TwistPin contact crimped to solid wire



- **Gas-Tight Crimp Joint**
- **Better Shock and Vibration Performance**
- **Corrosion Proof Contact Alloy**



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Rectangular and Circular Connectors

Product Selection Guide

Glenair Nanominiature Connector Specifications

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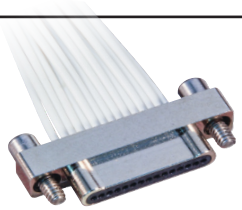
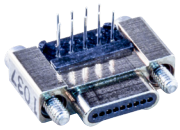
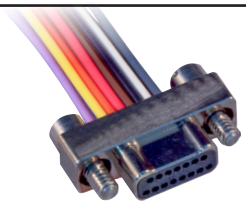
Nano Rectangular Single-Row Connectors and Accessories

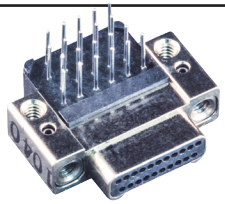




M32139 type single-row nanominiature rectangular connectors. Termination options include prewired, solid wire and PCB. Connector savers and EMI protective covers are also available.

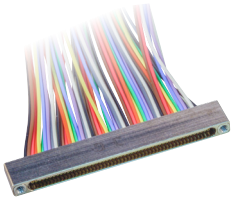
Nano Rectangular Dual-Row Connectors and Accessories





M32139 type dual-row rectangular nano connectors. Prewired – insulated or solid wire, PCB thru-hole, surface mount, straddle mount or back to back cable configurations. Connector savers and EMI protective covers also available.

MIL-DTL-32139 Qualified Connectors and Accessories





MIL-DTL-32139 qualified single or dual row prewired. Single row PCB thru-hole connectors available as vertical mount or right angle.

Nano-Strip Connectors





Nano Strip single and dual row plastic shell connectors. Surface mount, insulated wire, uninsulated wire and thru-hole connectors.

Nano Circular Connectors and Accessories





Pre-wired and PCB thru-hole mount circular nano plug and receptacle connectors with threaded or breakaway interfaces. Available receptacle mounting configurations include front panel mount, rear panel mount, and inline.

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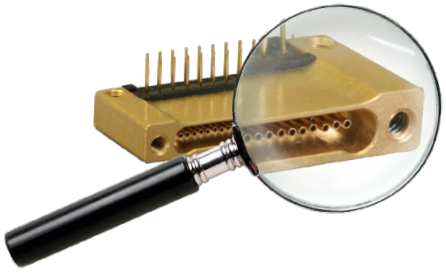
INTRODUCTION

Key Features

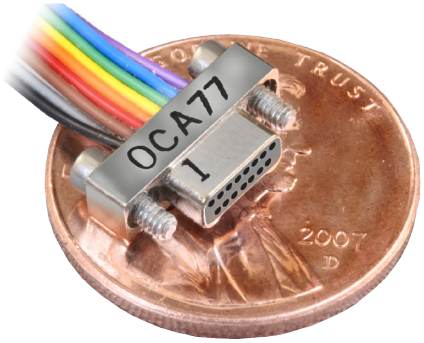
- 1 AMP Current Rating
- .025 Inch (0.64 mm.) Contact Spacing
- #30 and #32 Gage Wire Accommodation
- Single and Dual Row
- Metal Shell, Aluminum, Titanium or Stainless Steel
- TwistPin Contact System
- Gold Alloy Contact, Unplated
- Thru-Hole and Surface Mount PCB Versions



Nanominiature Connectors at a Glance

Nanominiature connectors are high reliability ultraminiature interconnects intended for critical applications where size and weight restrictions will not allow the use of larger connectors.

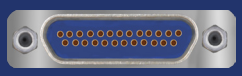
Typical applications include miniaturized electronics boxes used in UAV's, satellites, missile systems, and geophysical instruments. Contact spacing of 0.025 inches combined with a rugged contact system allow these nano connectors to be used in demanding environments where commercial-grade connectors should not be used.



How Small Are They?



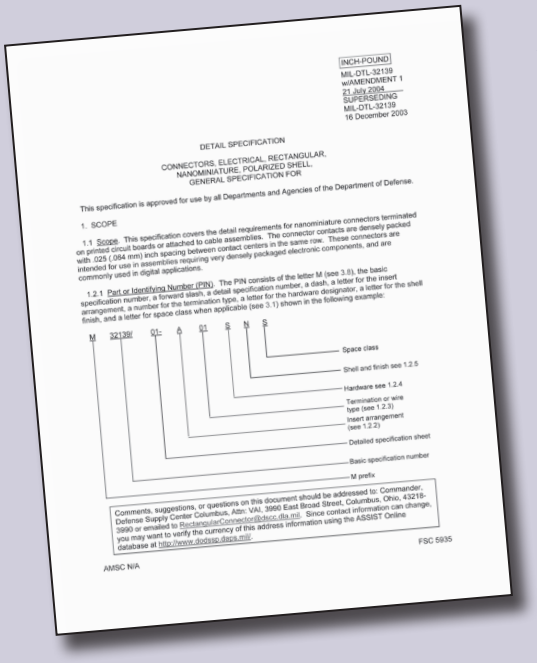
D-Subminiature Connector
Contacts on 0.109 Inch Spacing



Micro-D Connector
Contacts on 0.050 Inch Spacing



Nano Connector
Contacts on 0.025 Inch Spacing



INCH-POUND
MIL-DTL-32139
w/AMENDMENT 1
21 July 2004
SUPERSEDING
MIL-DTL-32139
16 December 2003

DETAIL SPECIFICATION

CONNECTORS, ELECTRICAL, RECTANGULAR,
NANOMINIATURE, POLARIZED SHELL,
GENERAL SPECIFICATION FOR

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers the detail requirements for nanominiature connectors terminated on printed circuit boards or attached to cable assemblies. The connector contacts are densely packed with .025 (.064 mm) inch spacing between contact centers in the same row. These connectors are intended for use in assemblies requiring very densely packaged electronic components, and are commonly used in digital applications.

1.2.1 Part or Identifying Number (PIN). The PIN consists of the letter M (see 3.6), the basic specification number, a forward slash, a detail specification number, a dash, a letter for the insert arrangement, a number for the termination type, a letter for the hardware designator, a letter for the shell finish, and a letter for space class when applicable (see 3.1) shown in the following example:

M 32139/ 01- A 01 S N S

Space class
Shell and finish see 1.2.5
Hardware see 1.2.4
Termination or wire type (see 1.2.3)
Insert arrangement (see 1.2.2)
Detailed specification sheet
Basic specification number
M prefix

Comments, suggestions, or questions on this document should be addressed to: Commander, Defense Supply Center Columbus, Attn: VAI, 3990 East Broad Street, Columbus, Ohio, 43218-3990 or emailed to RectangularConnector@dscc.dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at http://www.dodssp.daps.mil/.

FSC 5935

AMSC N/A

MIL-DTL-32139 At-A-Glance

High reliability nanominiature connectors are covered by military specification MIL-DTL-32139. This document assures intermateability and interchangeability. The specification covers pre-wired single and dual row metal shell connectors—manufactured and qualified by Glenair. The Glenair Series 89 products in this catalog also meet the electrical, mechanical and interface requirements of the military specification, but offer options not specifically covered in the mil-spec.

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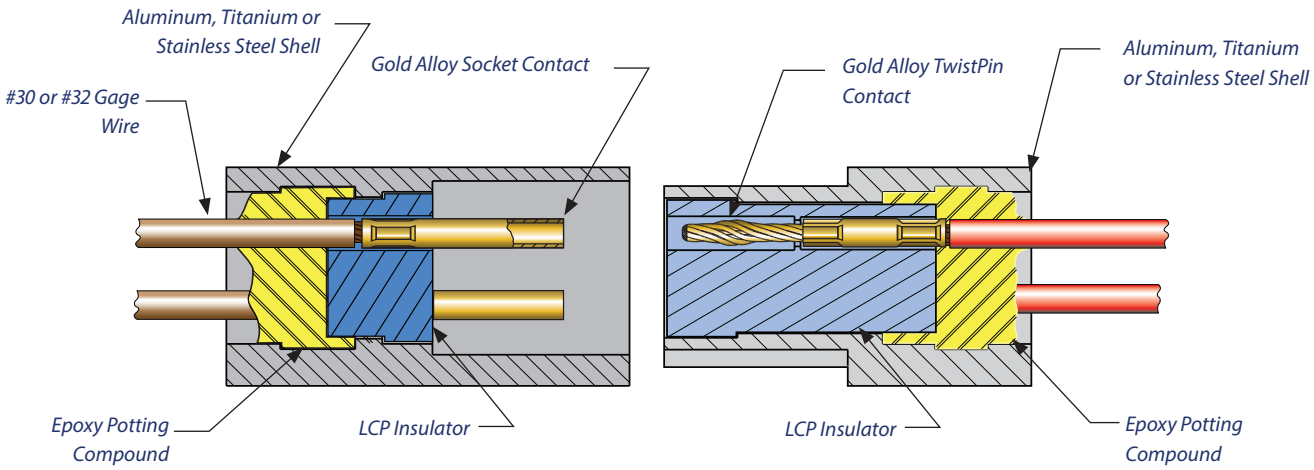
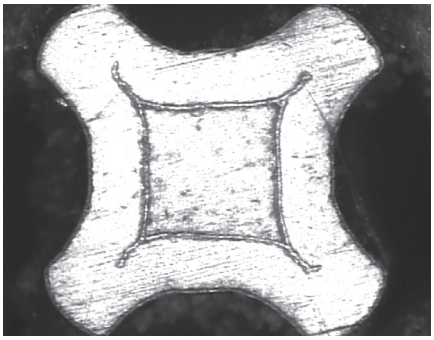
Series 89 Nano Rectangular Cutaway View



The Nano TwistPin Advantage



MIL-DTL-32139 defines the minimum acceptable performance levels for Nanominiature connectors. Manufacturers are given considerable leeway when it comes to contact design, wire termination, contact finish and material selection. Stamped and formed contacts, for example, are used in nanominiature connectors due to their low-cost and ease of manufacture. But independent testing clearly shows that TwistPin style contacts provide superior performance in hostile environments. If you have already made the decision to use a Nano sized connector, then you owe it to yourself to understand the very real differences between stamped pins and the Glenair TwistPin Contact System.



Transverse Cross-Section of a TwistPin Contact Crimped to Solid Wire

Three Reasons to Choose TwistPins

1 Gas-Tight Crimp Joint

TwistPin contacts assure gas-tight crimp joints for stable resistance after years of environmental exposure. The photograph at left demonstrates the superiority of a gas-tight, void-free 4-indent crimp.

2 Better Shock and Vibration Performance

The nanominiature TwistPin contact is made from six strands of wire. The five outer strands provide multiple points of contact with the mating socket contact for superior shock and vibration performance.

3 Corrosion-Proof Contact Alloy

Both the TwistPin contact and the mating socket contact are made from a special proprietary gold alloy that meets or exceeds the performance requirements of MIL-DTL-32139

INTRODUCTION

Glenair's 0.025 Inch Contact Spacing Series 89 Nanominiature Connectors

The latest evolution in rectangular shaped connectors for board-level I/O applications. Featuring gold alloy TwistPin contacts and aluminum, titanium or stainless steel shells, the Nanominiature is the smallest, yet remarkably robust, connector we make. Glenair is one of the first interconnect manufacturers to qualify to the new MIL-DTL-32139 Nanominiature Mil-Spec for these precision-machined connectors that deliver both ultra high density and maximum weight and space savings. These high reliability ultra miniature interconnects are ideal for critical applications where size and weight restrictions preclude the use of larger connectors such as M24308 D-Sub-miniatures. Ideal for military applications of all types, the rugged contact system allows Glenair's Nano connectors to be used in the most demanding miniaturized applications. The Glenair Nano contact system consists of a TwistPin (a miniaturized version of the Glenair Micro-D TwistPin) and a tubular socket providing excellent durability and superior resistance to shock and vibration. Accommodating #30 or #32 AWG wire, Nano TwistPin contacts handle 1 AMP current rating.

SERIES 89 NANOMINIATURE CONNECTOR PERFORMANCE SUMMARY	
Contact Spacing	.025" (0.64) Contact Centers
Wire Accommodation	#30-#32 AWG
Current Rating	1 AMP Maximum tested per EIA-364-70
Voltage Rating (DWV)	250 VAC RMS Sea Level, 100 VAC RMS 70,000 Feet per EIA-364 Procedure 20
Insulation Resistance	5000 Megohms Minimum Test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature	-55° C. to +125° C.
Optional High Operating Temperature	Mod Code 534 rated up to 200° C.
Contact Resistance	71 Millivolt Drop Maximum, 1 AMP Current, any catalog supported wire type
Vibration	20 g's, IAW EIA-364-28, Condition IV
Shock	100 g's, IAW EIA-364-27, Condition G
Durability	200 Mating Cycles per Test Procedure EIA-364-09
Corrosion Resistance	48 Hours Salt Spray IAW EIA-364-26, Condition B
Humidity	240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force	5 Ounce Maximum, 0.4 Ounce Minimum
Thermal Vacuum Outgassing	Total Mass Loss (TML) 1.0% Max., Volatile Condensible Material (VCM) 0.1% Max. IAW ASTM E595

MATERIALS AND FINISHES	
Connector Shell	Aluminum Alloy, Cadmium Plated per SAE-AMS-QQ-P-416 Type II Class 1. Aluminum Alloy, Electroless Nickel Plated Per SAE-AMS-2404, Class 3 or 4, Grade B Aluminum Alloy, Nickel Fluorocarbon Polymer Aluminum Alloy, Zinc Nickel (Black) Per ASTM B841 Titanium Alloy per MIL-T-81556, Unplated 300 Series Stainless Steel per ASTM A276, Passivated IAW SAE AMS 2700
Insulator	Liquid Crystal Polymer (LCP), per MIL-M-24519 GLCP-30F, 30% Glass-Filled or Polyphenylene Sulfide (PPS)
Pin Contact	Gold Alloy, Unplated
Socket Contact	Gold Alloy, Unplated
Hardware	Passivated, 300 Series Stainless Steel. Recommended Torque for Nano Jackscrews is 0.5 - 1.0 In/Lb for #0-80, 1.0 - 2.0 In/Lb for #2-56. Jackscrew hex drive for #0-80 is .050", #2-56 is 1/16". Ball end wrenches are not recommended.
PCB Trays	Liquid Crystal Polymer (LCP), per MIL-M-24519 GLP-30F, 30% Glass-Filled or Polyphenylene Sulfide (PPS)
Encapsulant	Epoxy

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Performance Specifications

1 **SCOPE**

1.1 **Scope**. This specification covers performance requirements for Glenair nanominiature connectors manufactured in accordance with MIL-DTL-32139.

1.2 **Description**. Metal shell nanominiature connectors on .025 inch (0.64 mm) centers, with TwistPin contacts.

2 **ORDER OF PRECEDENCE**

2.1 **Order of Precedence**. In the event of a conflict between the requirements of this specification and the references cited herein, this document takes precedence. The requirements set forth in customer specifications and Glenair detail drawings shall take precedence over this document.

3.1 **ELECTRICAL REQUIREMENTS**

3.1.1 **Insulation Resistance**. 5,000 megohms minimum between any pair of contacts and any contact and the shell when tested in accordance with EIA-364 Procedure 21. Test voltage 100 volts DC ±5%.

3.1.2 **Dielectric Withstanding Voltage**.

3.1.2.1 **Dielectric Withstanding Voltage (sea level)**. 250 volts ac, rms 60 Hz. Connectors shall show no evidence of breakdown or flashover when subjected to the DWV test of EIA-364 Procedure 20, test condition I.

3.1.2.2 **Dielectric Withstanding Voltage (70,000 feet).** 100 volts ac, rms 60 Hz. Connectors shall show no evidence of breakdown or flashover when subjected to the DWV test of EIA-364 Procedure 20, test condition IV.

3.1.3 **Contact Resistance**

3.1.3.1 **Contact Resistance**. The voltage drop of a mated pair of contacts attached to wires shall not exceed 71 millivolt drop maximum using a 1 ampere test current, when tested in accordance with EAI-364-06, using any catalog supported wire types.

3.1.4 **Low Signal Level Contact Resistance**. When tested with a micro-ohmeter using a test current of 10 milliamperes maximum, the resistance of a mated pair of contacts shall be 71 milliohms maximum using any catalog supported wire types. Test procedure shall be in accordance with EIA-364-23.

3.1.5 **Contact Current Capability**. Contacts shall be capable of carrying 1.0 ampere in continuous duty operation from -55° C to +125° C when tested in accordance with EIA-364-70.

3.1.6 **Magnetic Permeability**. Magnetic permeability, when tested in accordance with ASTM A342/A342M, shall not exceed 2 mu.

3.2 **MECHANICAL REQUIREMENTS**

3.2.1 **Contact Engaging and Separation Force**. Maximum engaging force shall be 5.0 ounces when tested in accordance with MIL-DTL-32139. Minimum separation force shall be 0.4 ounces.

3.2.2 **Connector Mating and Unmating Force**. The maximum mating and unmating force shall not exceed a value equal to 7 ounces times the number of contacts, when tested per MIL-DTL-32139. Mate connectors three times before initial measurements are taken.

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3.2.3 **Contact Retention**. Contacts, when tested in accordance with EIA-364-29, shall withstand a 2 pound axial load for a minimum of 5 seconds.

3.2.4 **Crimp Tensile Strength**. Wire shall not break or pull out of crimp joints at an applied force of less than 1.0 pound (0.44 kg) for 30 AWG wire, when tested in accordance with EIA-364-08. Wire breakage other than at the crimp shall not constitute failure.

3.2.5 **Resistance to Soldering Heat.** There shall be no degradation of the plastic, bonding adhesives, or sealing elastomers. Connector insulators shall also be capable of withstanding solder heat without evidence of deteriorating, deforming, or change of physical dimensions in accordance with EIA-364-56.

3.2.6 **Solderability**. Printed circuit terminals shall meet the solderability requirements of MIL-STD-202 Method 208.

3.2. **Durability**. 200 mating and unmating cycles in accordance with test procedure EIA-364-09. Connectors shall show no mechanical or electrical defects detrimental to the operation of the connector and shall subsequently pass Low Level Contact Resistance, Shock, Vibration, Low Level Contact Resistance, and DWV in sequence

3.3 ENVIRONMENTAL REQUIREMENTS

3.3.1 **Salt Spray (corrosion)**. Nickel-plated aluminum connectors shall show no exposure of base metal due to corrosion when subjected to the salt spray test of EIA-364-26, condition B, with a 48 hour duration. In addition, connectors shall meet, low signal level contact resistance and mating/unmating force requirements.

3.3.2 **Fluid Immersion**. Connectors shall meet mating force requirements following 20 hours immersion in synthetic lubricating oil MIL-PRF-7808, 2 hours in Perchloroethylene cleaning solvent ASTM D4376, and 1 hour immersion in coolant MIL-PRF-87252, when tested in accordance with MIL-DTL-32139. There shall be no degradation of the plastic, bonding adhesives, or elastomers.

3.3.3 **Thermal Vacuum Outgassing**. Connector shall not exceed 1.0% total mass loss (TML) or 0.1% total volatile condensible materials (VCM) when tested in accordance with ASTM E595.

Outgassing Properties of Nanominiature Components

Component	Material	Brand Name	% Total Mass Loss (TML)	% Collected Volatile Condensable Material (VCM)	Test Report
Thermoplastic Insulators and PCB Trays	Liquid Crystal Polymer	Vectra® C-130	0.03	0.00	NASA Test #GSC17478
Potting Compound	Epoxy	Hysol EE4215/HD3561	0.55	<0.01	Glenair Test
		Hysol EE4215/EpoPro 8704B	0.40	<0.01	
Wire	Tefzel®	Tefzel®	0.22	0.01	NASA Test #GSC19998

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Performance Specifications

3.3.4 **Thermal Shock**. Unmated connectors shall withstand 5 cycles of thermal shock with a minimum temperature of -55° C and a maximum temperature of 125° C when tested in accordance with EIA-364-32, Condition I. Connectors shall not exhibit any detrimental damage or degradation of electrical performance.

3.3.5 **Humidity**. Wired, mated connectors shall be subjected to humidity conditioning in accordance with EIA-364-31, Test Condition B (240 hours)(excluding steps 7a and 7b). On completion of step 6 of the final cycle, connectors shall be removed from the chamber, unmated and surface moisture removed. Connectors shall pass a DWV test of 100 volts (RMS 60 Hertz AC). Within 1 to 2 hours after removal of surface moisture, connectors shall meet 1 megohm insulation resistance. Following 24 hour conditioning, connectors shall meet 1000 megohm insulation resistance.

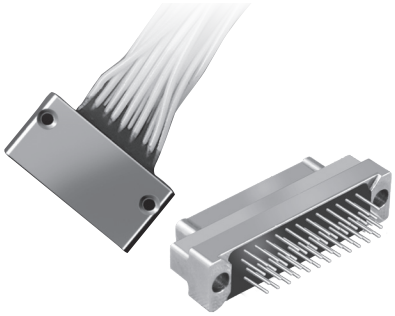
3.3.6 **Vibration (sine)**. Connectors, when mated, wired in series and fixtured in accordance with MIL-DTL-32139, shall exhibit no disruption of continuity, which lasts longer than 1 microsecond, in accordance with test procedure EIA-364-28, Condition IV. Connectors shall not be damaged and no loosening of parts shall occur. Peak level 20 g.

3.3.7 **Shock**. Connectors, when mated, wired in series and fixtured in accordance with MIL-DTL-32139, shall not exhibit any discontinuity longer than 1 microsecond when tested in accordance with EIA-364-27, Test Condition G with 100+/-20 milliampere test current. Connectors shall not be damaged and no loosening of parts shall occur. Peak acceleration 100 g's.

3.3.8 **Marking Permanency**. Connector marking shall meet the requirements of MIL-STD-202, Method 215.

3.3.9 **Fungus Resistance**. Materials used in the construction of these connectors shall be fungus inert in accordance with ASTM G21.

INTRODUCTION



Six things you should know about Nano connectors for space flight:

1 Outgassing: What is outgassing, why is it important, and how does it affect connector selection? Is special processing required to meet outgassing requirements?

2 Screening: What is NASA screening and what level of screening is required?

3 Magnetic Permeability: Are nonmagnetic connectors required?

4 Cryogenic Exposure: Are Nano connectors suitable for -200° C. exposure?

5 Materials: Nano connectors offer a variety of materials and plating finishes. Which ones are recommended for space flight?

6 Wire Corrosion: M22759/33 irradiated Tefzel® wire is preferred for space applications. What about corrosion problems caused by this wire?

Save Time and Trouble with Mod Code 429 Space Grade Nanominiature Connectors

M32139 Class S Nanominiature connectors are DSCC approved for space programs. NASA EEE-INST-002 provides guidance on additional screening for Nano connectors. Glenair Mod Code 429 upgrades inspection and screening to NASA requirements without the need for a customer Statement of Work or Specification Control Drawing. This section explains Glenair Mod Code 429 ordering, and provides valuable information on outgassing and other space flight topics.

HOW TO ORDER SPACE GRADE NANO CONNECTORS

Step 1: Find a Standard Nano Part Number
Titanium shells, nickel-plated aluminum shells and stainless steel shells are suitable for use in vacuum environments. Cadmium plating is prohibited for space flight.

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: Outgassing Processing
Glenair Nano connectors are certified to meet NASA outgassing requirements without special processing. However, if additional outgassing processing is required, choose the appropriate suffix code from the table below.

Step 4: Select the Mod Code 429 that Matches the Desired Level of Screening and Outgassing
Use the following table to choose the right Mod code. Add the Mod Code to the connector part number.
Example: 891-002-9ST-0A1-12J-429J

NASA Screening Level	Special Screening Only	Special Screening and Outgassing	
		48 Hour Oven Bake at 125°C	Thermal Vacuum Outgassing 24 Hours at 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 186S	Mod 186M

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Space Grade Application Guidelines

1 Outgassing: is outgassing and how does it affect connector selection? Is special processing required to meet outgassing requirements?

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 10-6 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 calculated to determine the Collected Volatile Condensable Material (CVCM). The CVCM cannot exceed 0.10% of the original specimen mass.

Do Nano Connectors Require Special Outgassing Processing?

No. Nano connectors meet NASA outgassing requirements without special processing.

2 Screening: What is NASA screening and what level of screening is required?

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. Table 2J in the NASA spec contains specific inspection instructions for Nanominiature connectors. These screening requirements exceed the standard mil spec inspection levels.

What Screening Level is Required for Space Applications?

NASA defines three levels of screening: level 1 for highest reliability, level 2 for high reliability, and level 3 for standard reliability.

Is Glenair NASA Certified?

Yes. Meeting NASA requirements means not only inspecting per EEE-INST-002, but also building parts in accordance with NASA Technical Standard NASA-STD-8739.4 “Crimping, Interconnecting Cables, Harnesses, and Wiring”. Glenair fully meets these requirements and has obtained NASA certification. Our extra inspection steps reflect the fact that pre-wired connectors not only require best practices on the assembly floor, but also require thorough final electrical and mechanical testing. For more information on Glenair's NASA qualifications and certifications, please contact our Micro-D and Nanominiature connector product manager.

TABLE 2: NASA SCREENING REQUIREMENTS

Inspection/ Test	NASA Level 1	NASA Level 2
Visual Inspection	100%	100%
Mechanical	2 pcs.	2 pcs.
Voltage (DWV)	100%	2 pcs.
Insulation Resistance	2 pcs.	2 pcs.
Temperature Cycling	2 pcs.	2 pcs.*
Low Level Contact Resistance	2 pcs.	2 pcs.
Mating and Unmating Force	2 pcs.	N/A
Solderability/Resistance to Soldering Heat	2 pcs.	N/A

*NASA EEE-INST-002 Table 2J does not require temperature cycling for level 2, however Glenair performs temperature cycling on 2 pieces.

Notes:
1. NASA screening requirements from Table 2J of EEE-INST-002.
2. Prior to NASA screening parts are subjected to 100% DWV, insulation resistance, and continuity testing

Space Grade Application Guidelines

3 Magnetic Permeability: Are nonmagnetic connectors required?

Spacecraft designers generally avoid the use of ferromagnetic materials, which can become magnetized and can interfere with sensitive instruments. Nano connectors have a maximum permeability of 2 mu.

4 Cryogenic Exposure: Are Nano connectors suitable for use at temperatures approaching -200° C.?

Nano connectors are rated to -55° C. Glenair has not performed testing below this temperature. EEE-INST-002 states "...experience has proven it is possible for (non-certified) connector types to be used successfully at cryogenic temperatures. It is recommended that connector samples should be subjected to five cycles of cryogenic temperature...(followed by examination for cracks and DWV)".

5 Materials: Which materials are recommended for space flight?

Cadmium plated shells are prohibited from space programs. Other Nano materials are acceptable.

6 Wire Corrosion: M22759/33 irradiated Tefzel® wire is preferred for space applications. What about corrosion problems caused by this wire?

Does M22759/33 Wire Have an Outgassing Problem?

Irradiated Tefzel® wire is known to cause tarnishing and corrosion of metal parts in close proximity, usually in sealed bags. Both MIL-DTL-32139 and NASA EEE-INST-002 contain cautionary notes regarding this problem. Wire manufacturers have not been able to eliminate this problem. This corrosion problem is referred to as "wire outgassing", which has led to confusion over the term outgassing. This problem has nothing to do with the ability of the wire to meet the TML and CVCM outgassing requirements of ASTM E595. M22759/33 irradiated Tefzel wire continues to be the wire of choice for spacecraft. This wire complies with outgassing requirements.

Nano connectors with M22759/33 wire should not be stored in sealed bags for extended periods.

New Unit Pack Minimizes Corrosion

Glenair has adopted an innovative new packaging system to protect the connector from performance hindering corrosion. Metal shell connectors supplied with M22759/33 wire are now packaged as follows: the connector is wrapped in Teflon® tape and placed in a ventilated sulfur-free paper envelope to ensure that your mission-critical component arrives in perfect order.

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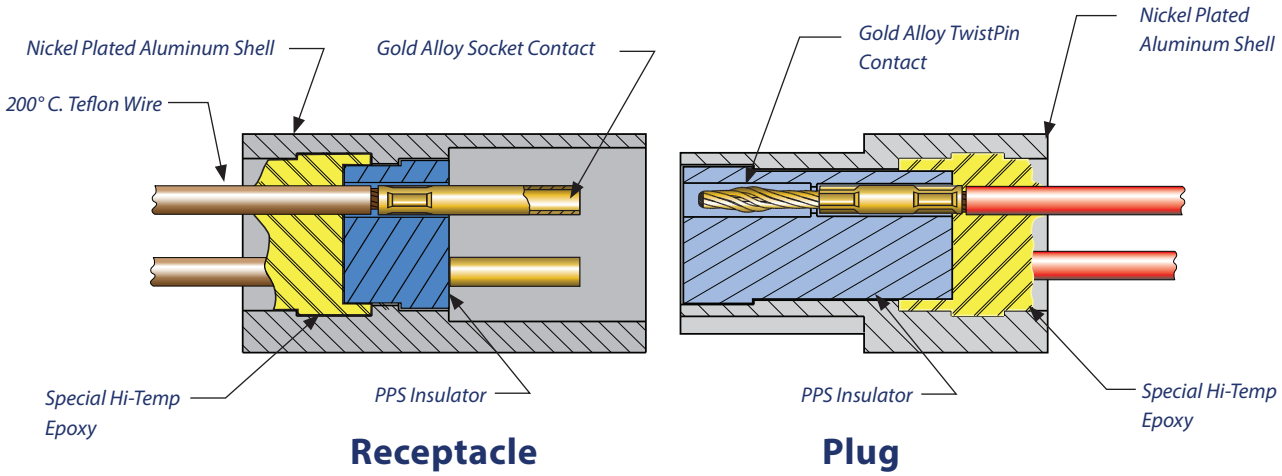
Upgrade to 200° Celsius with Mod Code 534 High-Temperature Epoxy

The search for oil and gas has led to deeper reservoirs where extreme temperatures and pressures test the limits of electronics design. Oil well logging instruments must be able to withstand temperatures beyond the limits of standard connectors.

Nano connectors are made from temperature-resistant materials. The polyphenylene Sulfide (PPS) glass-filled thermoplastic insulators easily withstand 200° C. The TwistPin contacts and aluminum shells also are rated for continuous exposure to 200° C. The epoxy potting compound is the only component not rated for high-temperature. Mod Code 534 upgrades the standard epoxy with a special 315° C. epoxy.



HOW TO ORDER NANO CONNECTORS WITH MOD CODE 534 HI TEMP	
Step 1: Find a standard Nano part number. Mod 534 is available on all standard metal shell Nanominiature connectors, including pre-wired and printed circuit board versions.	Example: 891-001-25PA2-0B7-12J 1. Metal shell only 2. Nickel-plated aluminum or stainless steel shells only.
Step 2: Add the Mod Code to the Part Number	Example: 891-001-25PA2-0B7-12J-534

Notes

Shell Material & Finish:
Electroless nickel plated aluminum is commonly used for high-temperature connectors. Cadmium plated aluminum is not recommended for temperatures exceeding 175° C. because of discoloration and breakdown of the chromate seal applied to the cadmium. Stainless steel shells provide the best resistance to temperature and corrosive environments, but at the expense of weight and cost.

Potting Compound:
315° C. Rated Epoxy

INTRODUCTION

TwistPin Connectors and RoHS Compliance

European Union Directive 2011/65/EU, with amendment 2015/863, on Restriction of Hazardous Substances ("RoHS") states that certain types of equipment (primarily consumer electronic products such as personal computers) shall not contain lead, mercury, cadmium, hexavalent chromium, PBB, PBDE, DEHP, BBP, DBP, or DIBP. For the record, Glenair does not produce any OEM products of this type. Furthermore, our interconnect components are either free of the substances RoHS controls, or specifically intended for use in military-aerospace applications that are exempt. Please contact the factory to verify all components meet RoHS compliance regulations.

Are Nano connectors RoHS compliant?

The products in this catalog can be ordered with various plating finishes. Some finishes for example cadmium along with solder-dipping, do not comply with the RoHS directive.

Why doesn't Glenair eliminate non-RoHS products?

Glenair products are typically used in defense and aerospace equipment exempt from RoHS requirements. Glenair continues to offer cadmium and chromate finishes in accordance with DoD and aerospace specifications. Our part numbers contain a broad range of finish and component options. RoHS compliant finishes can easily be requested if desired.

Examples of products that do not comply with RoHS regulations:

1 Cadmium plating.
Is available on metal shell connectors in this catalog. Note that cadmium plating does not currently comply with RoHS rules.

2 Tin-lead solder dipped printed circuit board tails.
Board mount M32139 Nanos and other products are normally solder dipped in 63% tin 37% lead or 60% tin 40% lead molten solder. RoHS compliance for consumer products requires elimination of solder coatings containing lead.

Examples of RoHS materials for easy selection:

1 Specify electroless nickel plating on the connector shell.
Or, choose stainless steel shells for maximum corrosion protection and RoHS compliance.

2 Use Mod Code 513 on Nano board mount connectors.
Board mount Nanominiatures and other products normally solder dipped in 63% tin 37% or 60% tin 40% lead molten solder. Any solder-dipped part can be supplied with RoHS compliant gold-plating instead, by simply adding Mod Code 513 as a suffix to the standard part number.

NANO CONNECTOR PLATING CODES: ROHS COMPLIANCE

Plating Code	Plating Type	RoHS	Notes
A1	Cadmium with yellow chromate conversion coating over electroless nickel	No	Electroless nickel is the preferred alternate.
A2	Electroless nickel	Yes	First choice for RoHS compliance. Good corrosion resistance, excellent conductivity, M32139 approved, always in stock.
A31	Zinc nickel black	Yes	
A33	Nickel PTFE	Yes	
S	Stainless steel shell, passivated	Yes	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.
T	Titanium, unplated	Yes	Higher cost but unsurpassed corrosion resistance, not conductive enough for typical EMI needs. Build-to-order.

NANO CONNECTOR ROHS MATERIAL EXAMPLES

Part Number	Problem	Solution	RoHS Compliant Part Number
891-001-25PA1-125	Plating code A1 specifies cadmium plating.	Change to electroless nickel plating (plating code A2).	891-001-25P**A2**-125
891-008-25PA2-BRTIT	PCB connectors are solder-dipped in tin-lead.	Add Mod Code 513 to change the PC tail finish to gold plating.	891-008-25PA2-BRTIT-**513**
891-008-25PA1-BRTIT	Cadmium plated shell and solder-dipped contacts.	Change to nickel plating and PC tail finish to gold plating	891-008-25P**A2**-BRTIT-**513**

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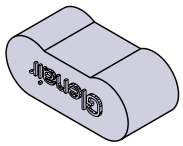
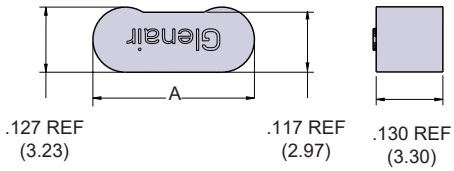
Anti-Static Dust Caps

Anti-Static Dust Caps offer protection to Nano connectors for storage and handling. Molded in black thermoplastic LDPE, these caps meet the anti-static decay rate specified in MIL-PRF-81705D. **UL 94-V0** rated, self-extinguishing.

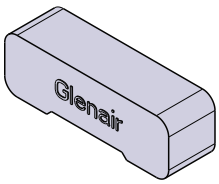
DUST COVER DIMENSIONS		
890 Single Row	Contacts	A Ref.
Part Number	Layout	In.
000-01-05-174	5P	.215 (5.46)
000-01-09-174	9P	.315 (8.00)
000-01-15-174	15P	.465 (11.81)
000-01-21-174	21P	.615 (15.62)
000-01-25-174	25P	.715 (18.16)
000-01-31-174	31P	.865 (21.97)
000-01-37-174	37P	1.015 (25.78)
000-01-51-174	51P	1.365 (34.67)
000-01-05-175	5S	.431 (10.95)
000-01-09-175	9S	.531 (13.49)
000-01-15-175	15S	.681 (17.30)
000-01-21-175	21S	.831 (21.11)
000-01-25-175	25S	.931 (23.65)
000-01-31-175	31S	1.081 (27.46)
000-01-37-175	37S	1.231 (31.27)
000-01-51-175	51S	1.581 (40.16)
891 Dual Row	Contacts	A Ref.
000-01-09-176	9P	.191 (4.85)
000-01-15-176	15P	.266 (6.76)
000-01-21-176	21P	.341 (8.66)
000-01-25-176	25P	.391 (9.93)
000-01-31-176	31P	.466 (11.84)
000-01-37-176	37P	.541 (13.74)
000-01-41-176	41P	.591 (15.01)
000-01-51-176	51P	.716 (18.19)
000-01-65-176	65P	.891 (22.63)
000-01-69-176	69P	.941 (23.90)
000-01-85-176	85P	1.141 (28.98)
000-01-91-176	91P	1.216 (30.89)
000-01-09-177	9S	.406 (10.31)
000-01-15-177	15S	.481 (12.22)
000-01-21-177	21S	.556 (14.12)
000-01-25-177	25S	.606 (15.39)
000-01-31-177	31S	.681 (17.30)
000-01-37-177	37S	.756 (19.20)
000-01-41-177	41S	.806 (20.47)
000-01-51-177	51S	.931 (23.65)
000-01-65-177	65S	1.106 (28.09)
000-01-69-177	69S	1.156 (29.36)
000-01-85-177	85S	1.408 (35.76)
000-01-91-177	91S	1.483 (37.67)

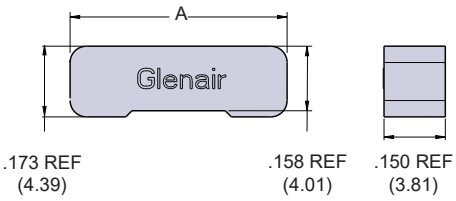
000-01-00-174 Single Row Plug



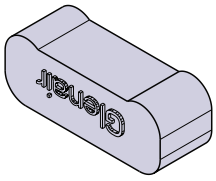


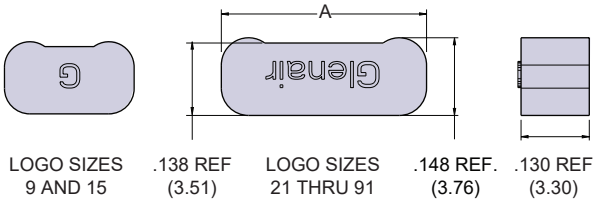
000-01-00-175 Single Row Receptacle



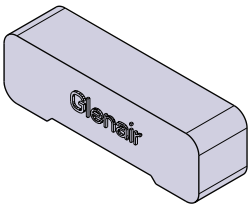


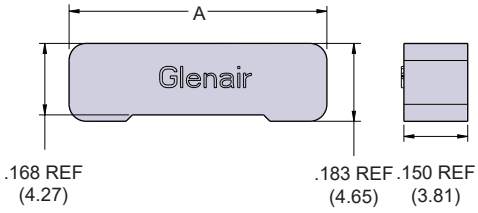
000-01-00-176 Dual Row Plug





000-01-00-177 Dual Row Receptacle





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Anti-Static Dust Caps

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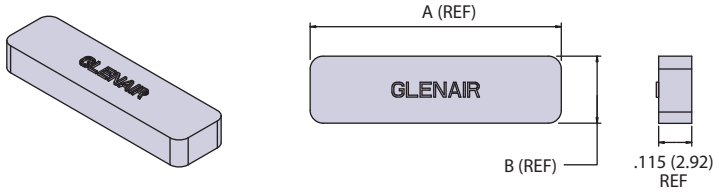
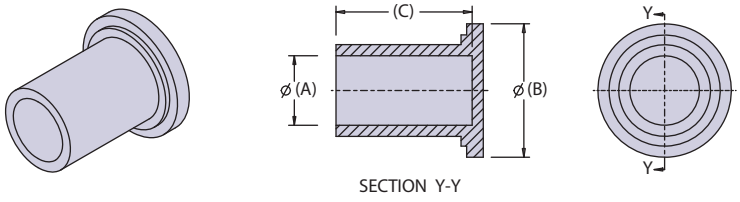
899-018 RECTANGULAR FRONT PANEL MOUNT DUST COVER DIMENSIONS		
Part Number	A Ref.	B Ref.
899-018-09	.653 (16.59)	.233 (5.92)
899-018-15	.728 (18.49)	.233 (5.92)
899-018-21	.803 (20.40)	.233 (5.92)
899-018-25	.853 (21.67)	.233 (5.92)
899-018-31	.928 (23.57)	.233 (5.92)
899-018-37	1.003 (25.48)	.233 (5.92)
899-018-41	1.053 (26.75)	.233 (5.92)
899-018-51	1.178 (29.92)	.233 (5.92)
899-018-65	1.353 (34.37)	.233 (5.92)
899-018-69	1.403 (35.64)	.233 (5.92)
899-018-85	1.745 (44.32)	.258 (6.55)
899-018-91	1.820 (46.23)	.258 (6.55)

899-018 Rectangular Front Panel Mount Dust Covers



899-023 CIRCULAR DUST COVER DIMENSIONS			
Part Number	A	B	C
899-023-04	.250 (6.35)	.48 (12.19)	.49 (12.4 5)
899-023-05	.312 (7.92)	.56 (14.22)	.56 (14.22)
899-023-06	.375 (9.53)	.62 (15.75)	.51 (12.95)
899-023-08	.500 (12.70)	.73 (18.54)	.50 (12.70)
899-023-10	.625 (15.88)	.84 (21.34)	.50 (12.70)

899-023 Circular Dust Covers



899-023 CIRCULAR DUST COVER SIZE MATRIX				
Part Number	Shell Size			
	1	2	3	4
892-000	08	08	08	10
892-001	04	05	06	06
892-002	04	04	05	06
892-003	04	05	06	06
892-004	05	06	06	08
892-005	04	05	06	06
892-006	06	08	08	08
892-007	05	05	06	06
893-008	04	04	05	06
893-009	04	05	06	06
893-010	04	04	05	06
893-011	04	05	06	06

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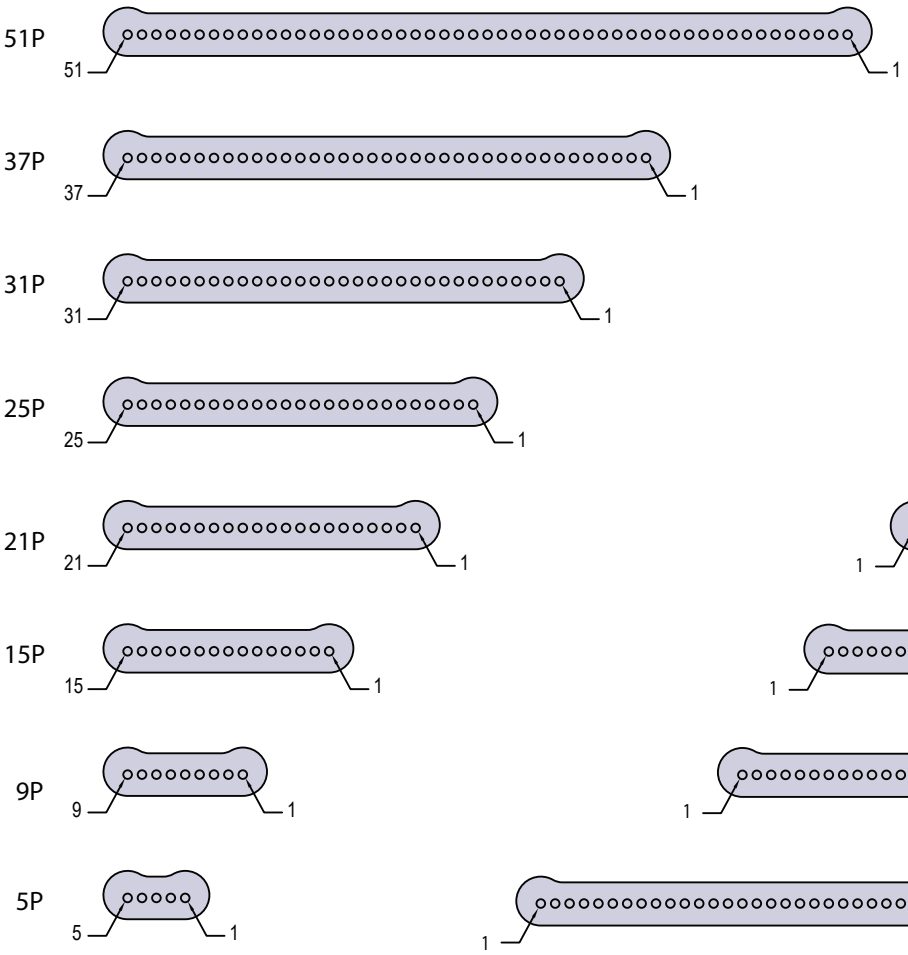
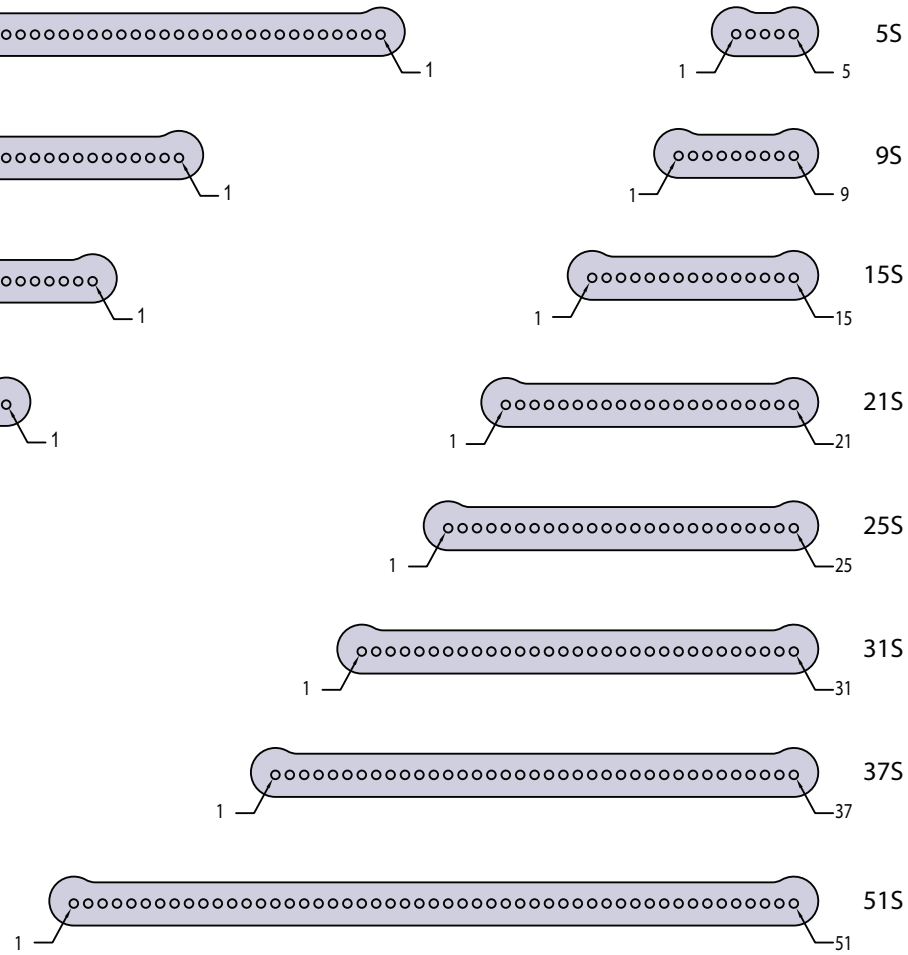
Single Row Contact Arrangements

Single Row Plugs (Pins)



Single Row Receptacles (Sockets)



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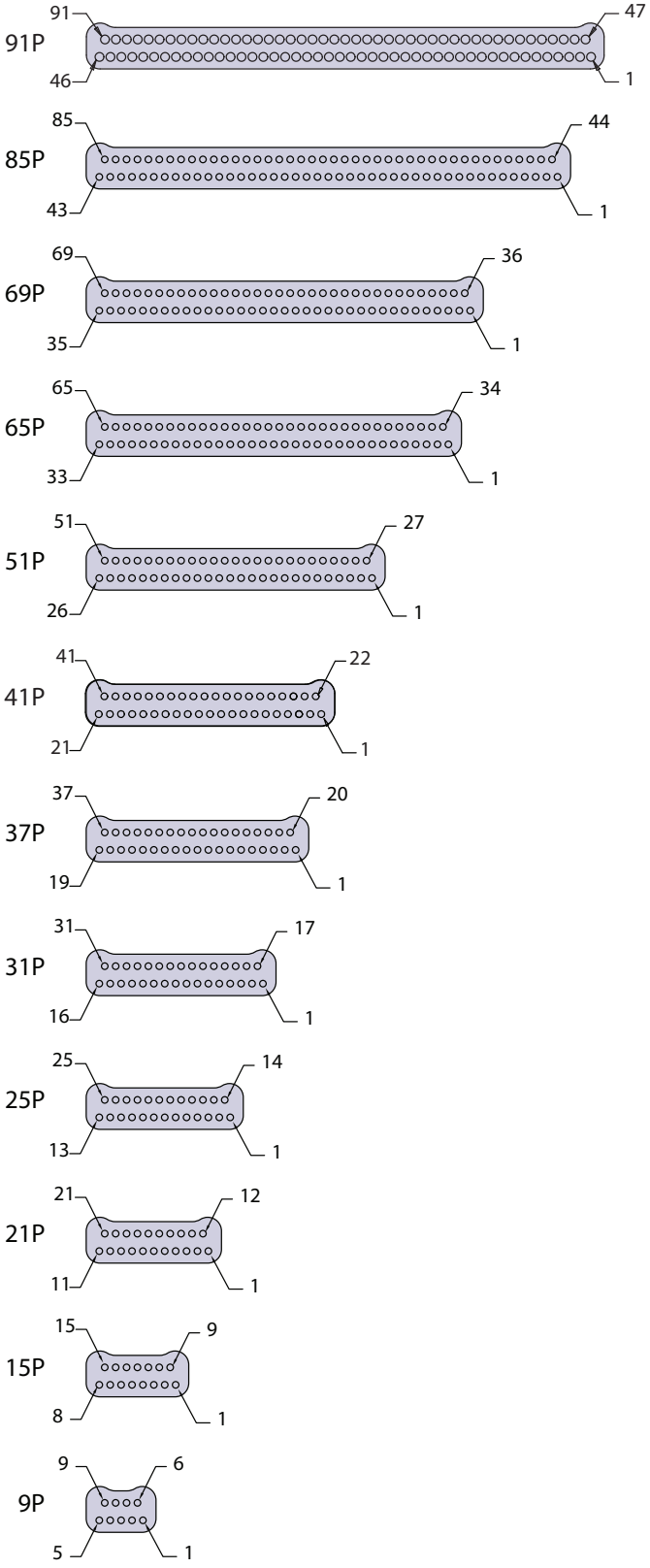
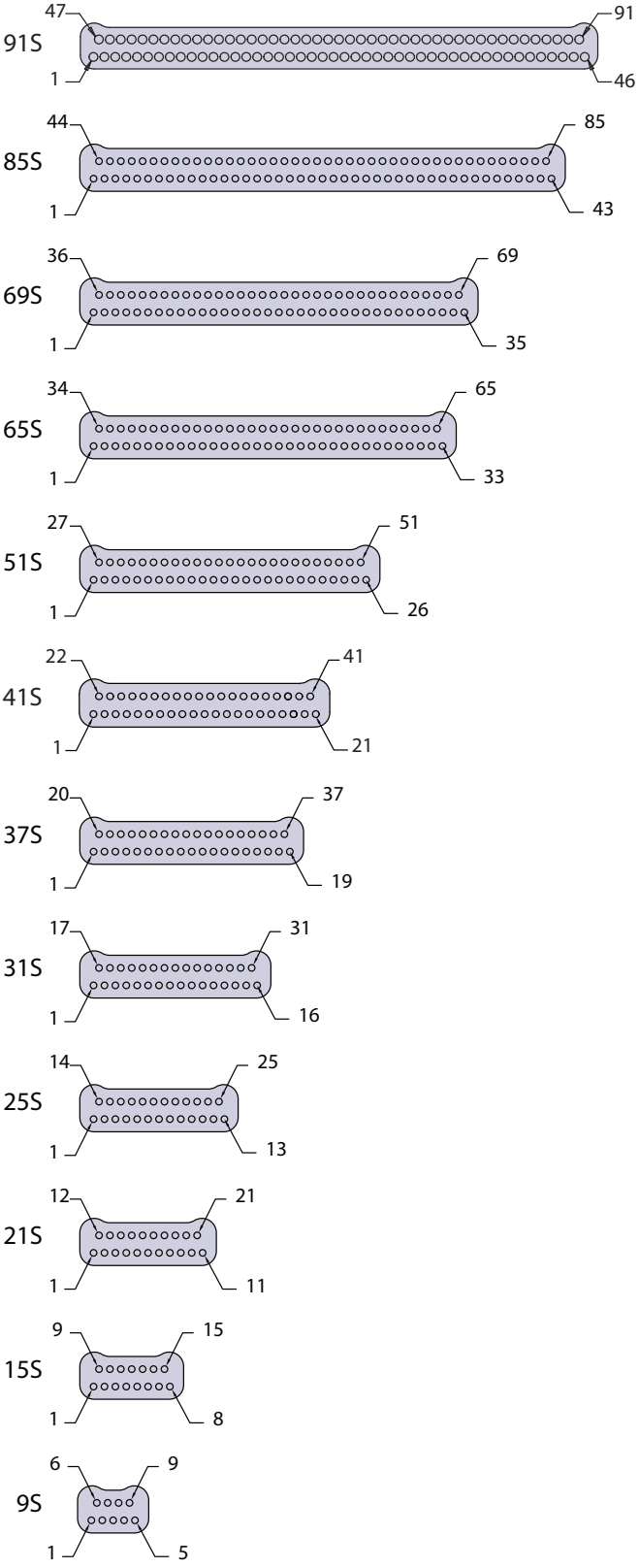
Dual-Row Contact Arrangements

INTRODUCTION

Dual Row Plugs (Pins)



Dual Row Receptacles (Sockets)



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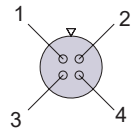
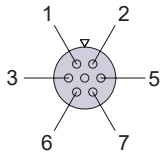
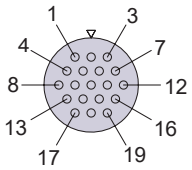
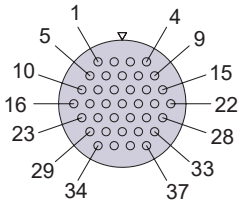
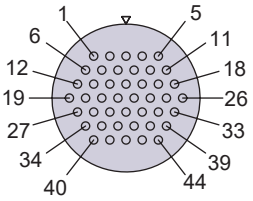
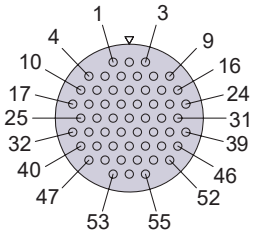
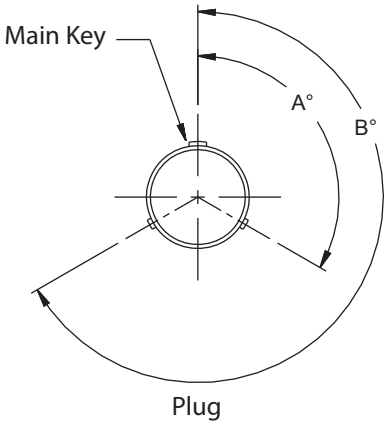
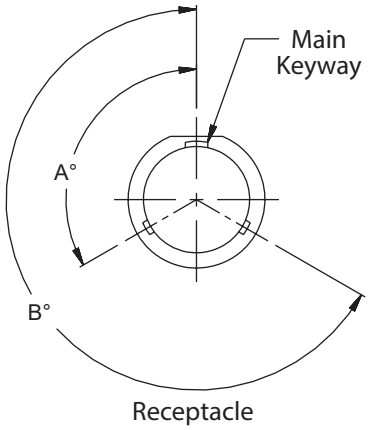
Circular Shell Size/Contact Arrangements and Keying Positions

CIRCULAR PLUG MATING FACE VIEWS

Size 1-4, 4 Contacts	Size 1-7, 7 Contacts	Size 2-19, 19 Contacts
		
Size 3-37, 37 Contacts	**Size 4-44, 44 Contacts**	**Size 4-55, 55 Contacts**
		

Position identifications are for reference only and do not exist on actual connector

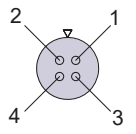
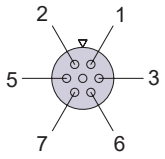
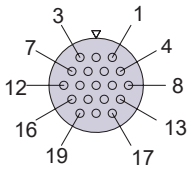
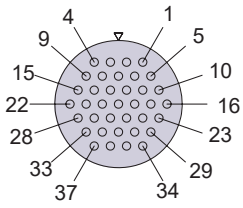
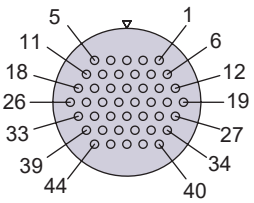
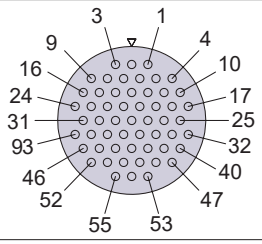




KEY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275

CIRCULAR RECEPTACLE MATING FACE VIEWS

Size 1-4, 4 Contacts	Size 1-7, 7 Contacts	Size 2-19, 19 Contacts
		
Size 3-37, 37 Contacts	**Size 4-44, 44 Contacts**	**Size 4-55, 55 Contacts**
		

Position identifications are for reference only and do not exist on actual connector

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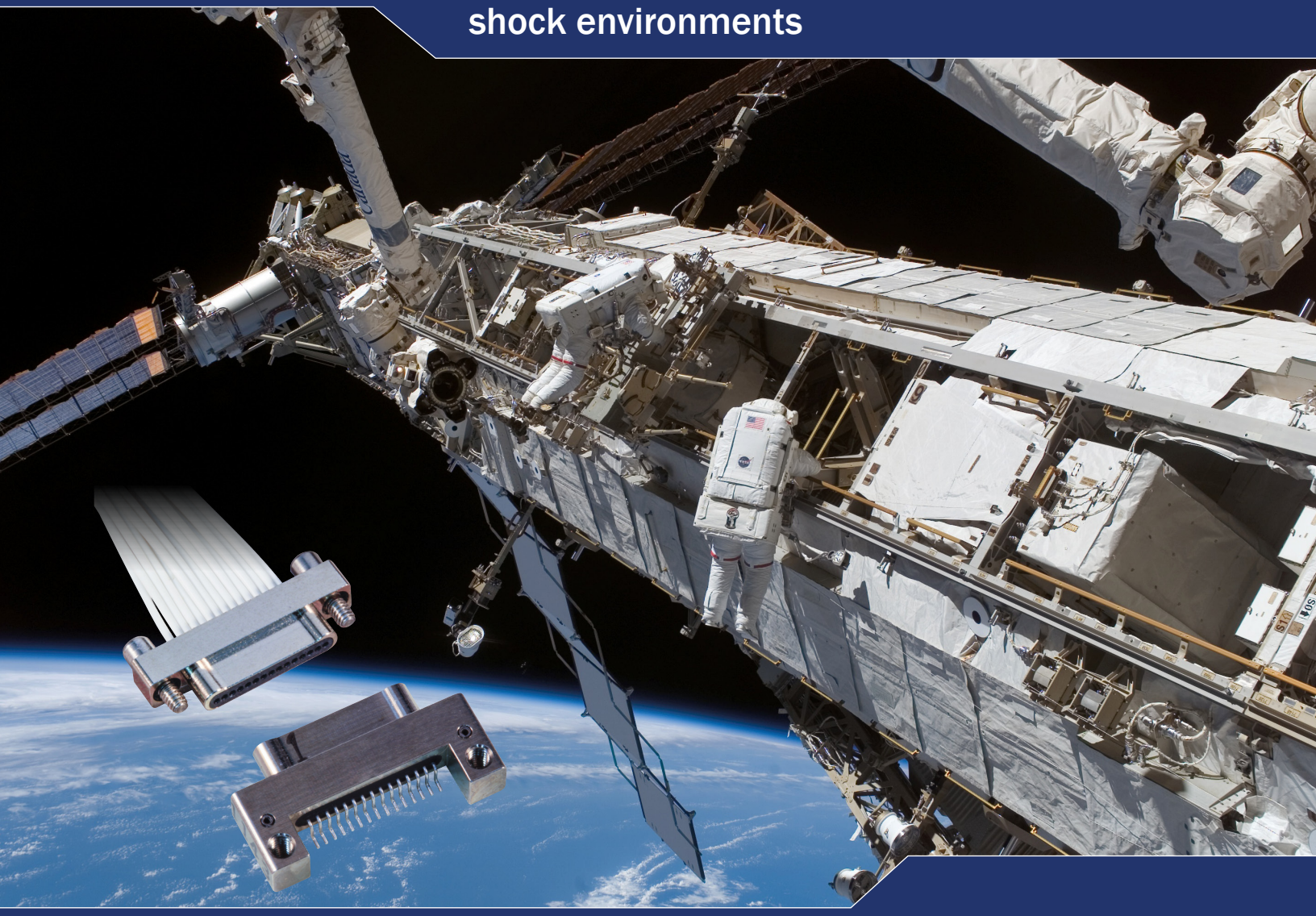
SERIES 89

nano miniature™

Nanominiature Single-Row Connectors

MIL-DTL-32139 Type, single-row, pre-wired and PCB rectangular connectors with TwistPin contacts for high-vibration and shock environments



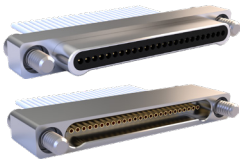
Series 89 single row Nanominiature connectors with TwistPin contacts offer high-performance mission-critical reliability for demanding applications. Glenair TwistPin contacts are precision crimped to uninsulated solid or insulated stranded wire — available in #30 or #32 AWG. Plug and receptacle rectangulars are offered in stainless steel, aluminum, or titanium shells. Connectors are set on .025 inch contact spacing and DWV rating of 250 volts AC, eight layouts available from 5-51 way. Pre-wired assemblies are available with ultra lightweight XLETFE insulated silver-coated high-strength copper wire, extruded PTFE insulated silver-coated copper wire or crosslink modified ETFE insulated silver coated high-strength copper wire in 1 inch increments. Connector hardware includes jackscrew or female threaded shells. Applications include downhole electronics, missile systems, launch vehicles and satellites.

- **Single-row, 5–51 way**
- **Metal shell: aluminum, titanium or stainless steel**
- **High vibration and shock gold alloy TwistPin contact system**
- **Straight and right-angle thru-hole and surface-mount PCB versions**

SERIES 89 NANOMINIATURE

Single-Row Rectangular Connectors

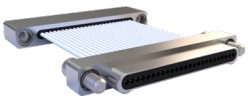
Product Selection Guide



890-001 and 890-002 Connectors with Insulated Wire B-2



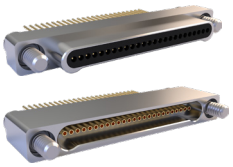
890-031 Straight, 45°, or 90° connector with factory installed backshell and insulated wire B-4



890-005 Back-to-Back Cable B-8



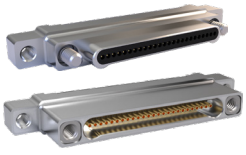
890-032 back-to-back straight, 45° or 90° connector. factory installed backshell and insulated wire B-10



890-003 and 890-004 Connectors with Uninsulated Wire B-14



890-006 and 890-007 Vertical-Mount Thru-Hole PCB Connectors B-16



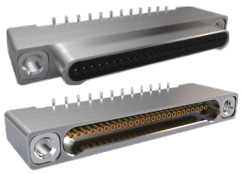
890-039 and 890-040 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears B-20



890-008 and 890-009 Right-Angle Mount Thru-Hole PCB Connectors B-26



890-043 and 890-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears B-30



890-010 and 890-011 Vertical Surface Mount PCB Connectors B-36



890-017 and 890-018 Vertical Surface Mount PCB Connectors with mounting ears B-40



890-012 and 890-013 Right-Angle Surface Mount PCB Connectors B-46



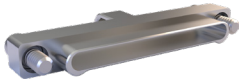
890-019 and 890-020 Right-Angle Surface Mount PCB Connectors with mounting ears B-50



890-016 Single Row Sav-Con® Connector Saver B-56



890-037 and 890-038 Shorting Connector B-58



899-010 EMI Cover B-60

SINGLE-ROW RECTANGULAR CONNECTORS

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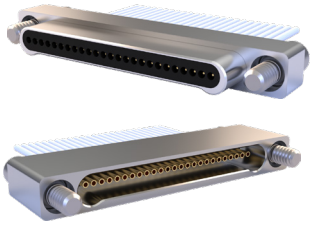
Single-Row Rectangular Connectors

890-001 and 890-002 Plug and Receptacle Connectors with Insulated Wire

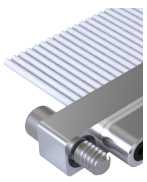
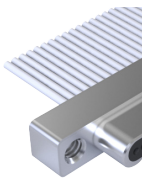
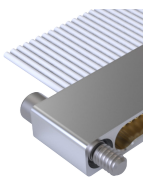
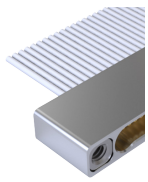


Glenair Insulated Wire Nano Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. Nanomimiature connectors offer premium performance and reliability for demanding applications, available in 8 arrangements. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion. Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-002	-25S	A2	-0	B	7	-12	T

Series	**890-001** = Plug, Pin Contacts, Single Row Nanominiature **890-002** = Receptacle, Socket Contacts, Single Row Nanominiature
Insert Arrangement/ Contact Type	**Plugs** (890-001): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P** **Receptacles** (890-002): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Alum Shell, Cadmium Plating — A2 = Alum Shell, Electroless Nickel Plating **A31** = Alum Shell, Zinc Nickel Plating, Blk — A33 = Alum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated — T = Titanium Shell, Unplated
Wire Gage	**0** = #30 AWG (Wire Types A, B, C, E. and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color Code	**1** = White 2 = Yellow 7 = 10 Color Repeating (wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length	**12** = 12.00 + 1.00 Inches; as required in one inch increments.
Hardware	**J** = Hex Head Jackscrew, #0-80 UNF-2A T = Female Thread, #0-80 UNF-2B* ***Stainless** Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

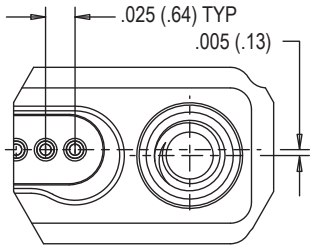
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

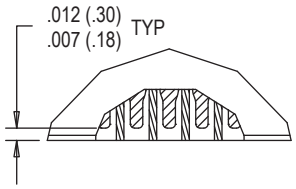
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



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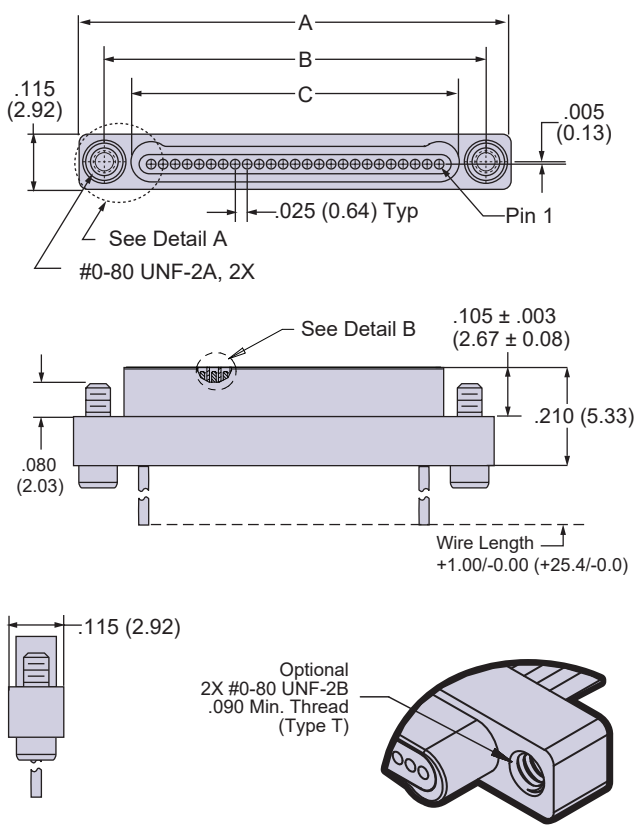
Dimensions in Inches (millimeters) are subject to change without notice.

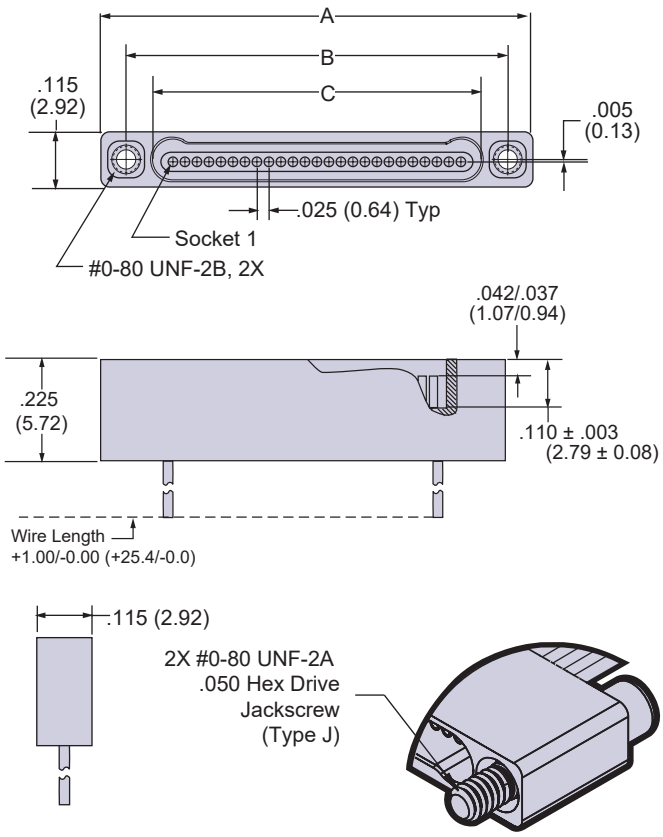
890-001 and 890-002 Plug and Receptacle Connectors with Insulated Wire

DIMENSIONS

890-001 Plug (Pin) Connector



890-002 Receptacle (Socket) Connector



Layout	A	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 & MIL-DTL-32139/2

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Single-Row Rectangular Connectors

890-031 Flying Lead Plug and Receptacle Connectors with Insulated Wire and Backshell

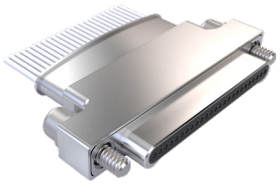
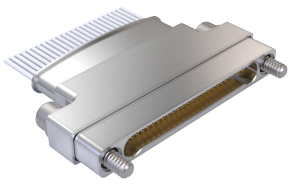
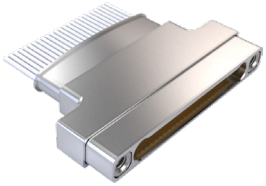


Glenair Flying Lead Nano Connectors with Factory Installed Backell feature gold alloy TwistPin contacts. Backshell wire exit configuration available in straight, 45°, and 90°. Contacts are precision-crimped to insulated, stranded wire. Nanomimiature connectors offer premium performance and reliability for demanding applications, available in 8 arrangements. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. TwistPin Contact System assures premium performance in demanding environments. Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

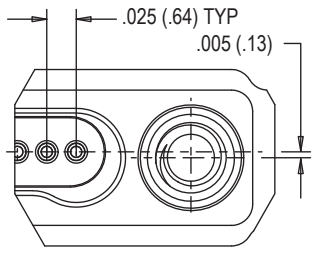
HOW TO ORDER

Sample Part Number	890-031	-25S	A2	N	-0	B	7	-12	T	C

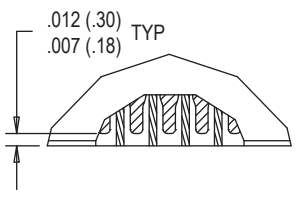
Series	**890-031** = Single Row I/O Flying Lead with Factory Installed Backshell
Insert Arrangement/ Contact Type	Plugs: **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P** Receptacles: **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell/Backshell Material and Finish	**A1** = Al Shell, Cadmium Plating **A2** = Al Shell, Electroless Nickel Plating **A31** = Al Shell, Zinc Nickel Plating, Blk **A33** = Al Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Backshell Orientation	**L** = 90°, Lobe Side Exit **H** = 45°, Lobe Side Exit **N** = Straight, No Orientation **M** = 90°, Non-Lobe Side Exit **K** = 45°, Non-Lobe Side Exit
Wire Gage	**0** = #30 AWG (Wire Types A, B, C, E. and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length	**12** = 12.00 + 1.00 Inches; as required in one inch increments.
Hardware	**J** = Hex Head Jackscrew, #0-80 UNF-2A **T** = Female Thread, #0-80 UNF-2B* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells
Shield/Jacket Opt	**N, A, C, D, S, T, V, W, X, Z**; See Shield/Jacket Options Table for Details

PLUG (PIN) CONNECTOR HARDWARE		RECEPTACLE (SOCKET) CONNECTOR HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

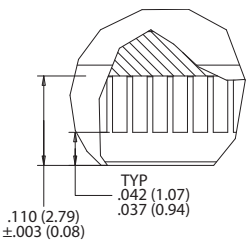
DETAIL A



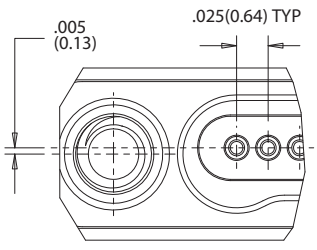
DETAIL B



DETAIL C



DETAIL D



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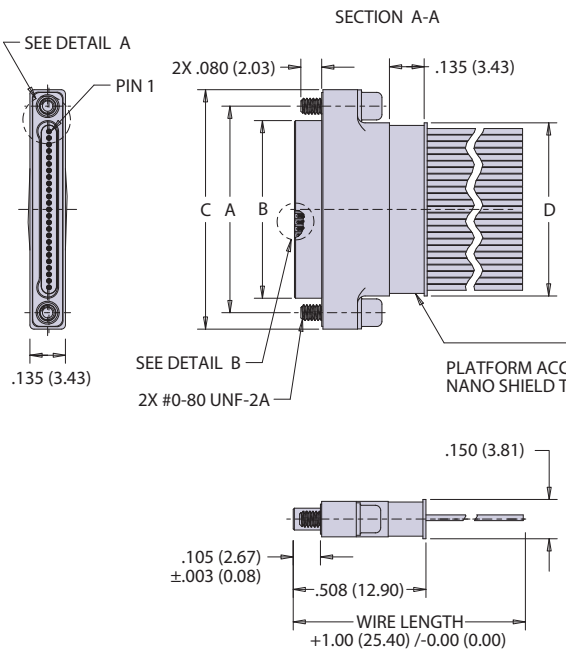
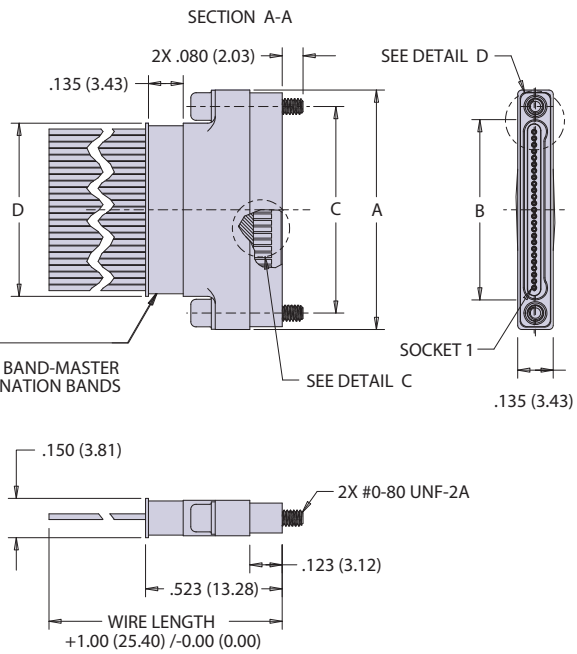
890-031 Flying Lead Plug and Receptacle Connectors with Insulated Wire and Backshell

DIMENSIONS

890-031 Plug (Pin), Straight Backshell



890-031 Receptacle (Socket), Straight Backshell



Layout	A	B BSC.	C BSC.	D
5	.295 (7.49)	.184 (4.67)	.420 (10.67)	.165 (4.19)
9	.395 (10.03)	.284 (7.21)	.520 (13.21)	.265 (6.73)
15	.545 (13.84)	.434 (11.02)	.670 (17.02)	.415 (10.54)
21	.695 (17.65)	.584 (14.83)	.820 (20.83)	.565 (14.35)
25	.795 (20.19)	.684 (17.37)	.920 (23.37)	.665 (16.89)
31	.945 (24.00)	.834 (21.18)	1.070 (27.18)	.815 (20.70)
37	1.095 (27.81)	.984 (24.99)	1.220 (30.99)	.965 (24.51)
51	1.445 (36.70)	1.334 (33.88)	1.570 (39.88)	1.315 (33.40)

Layout	A	B BSC.	C BSC.	D
5	.295 (7.49)	.185 (4.70)	.420 (10.67)	.165 (4.19)
9	.395 (10.03)	.285 (7.24)	.520 (13.21)	.265 (6.73)
15	.545 (13.84)	.435 (11.05)	.670 (17.02)	.415 (10.54)
21	.695 (17.65)	.585 (14.86)	.820 (20.83)	.565 (14.35)
25	.795 (20.19)	.685 (17.40)	.920 (23.37)	.665 (16.89)
31	.945 (24.00)	.835 (21.21)	1.070 (27.18)	.815 (20.70)
37	1.095 (27.81)	.985 (25.02)	1.220 (30.99)	.965 (24.51)
51	1.445 (36.70)	1.335 (33.91)	1.570 (39.88)	1.315 (33.40)

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

SHIELD/JACKET OPTIONS

Code	Description
N	No Shield, No Jacket
A	Braided Shield Installed (Nickel Plated Copper)
C	Braided Shield Installed (Nickel Plated Copper), with E-CTFE Halar "Expando" Jacket (+150 C)
D	No Shield, With E-CTFE Halar "Expando" Jacket (+150 C)
S	100% Braided Amberstrand Shield Installed
T	100% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150 C)
V	75% Braided Amberstrand Shield Installed
W	Armorlite Braided Microfiliment Stainless Steel Shield Installed
X	Armorlite Braided Microfiliment Stainless Steel Shield Installed With E-CTFE Halar "Expando" Jacket (+150°C)
Z	75% Braided Amberstrand Shield Installed, With E-CTFE Halar "Expando" Jacket (+150 C)

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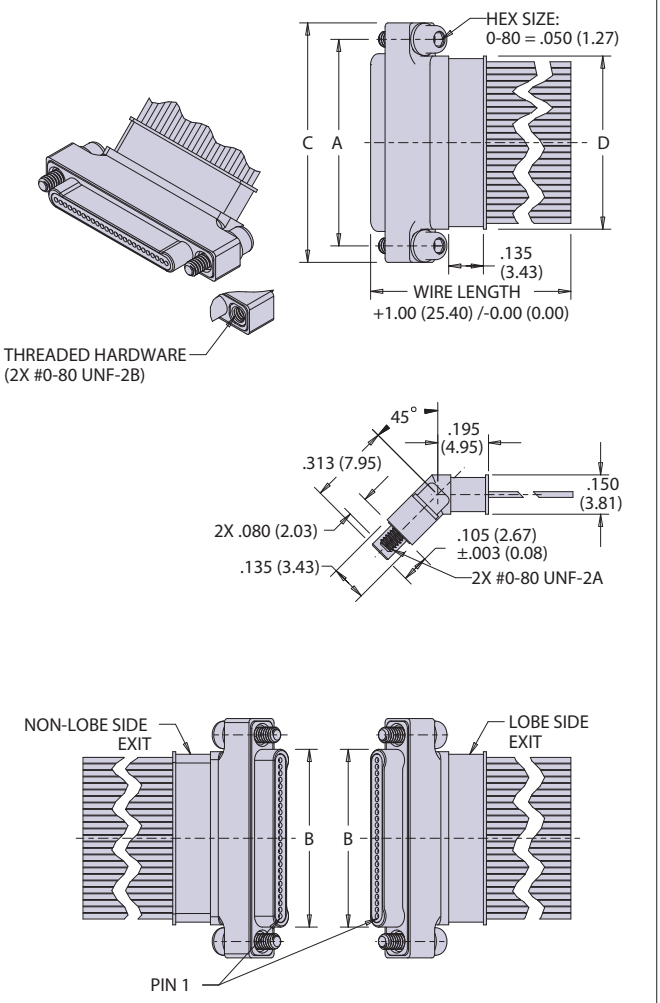
890-031 Flying Lead Plug and Receptacle Connectors with Insulated Wire and Backshell

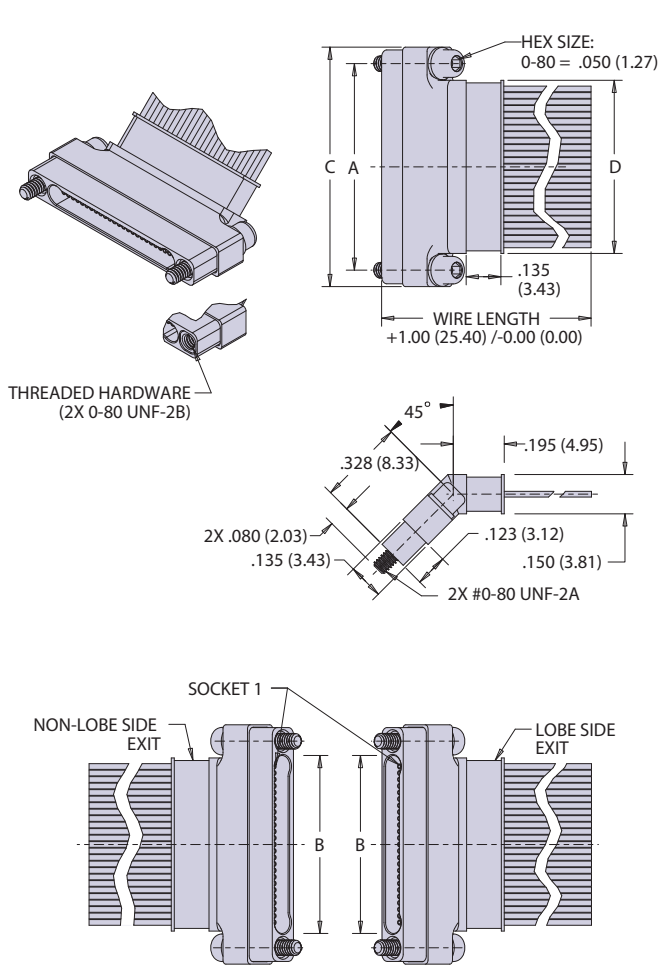
DIMENSIONS

890-031 Plug (Pin), 45° Backshell



Layout	A	B BSC.	C BSC.	D
5	.295 (7.49)	.184 (4.67)	.420 (10.67)	.165 (4.19)
9	.395 (10.03)	.284 (7.21)	.520 (13.21)	.265 (6.73)
15	.545 (13.84)	.434 (11.02)	.670 (17.02)	.415 (10.54)
21	.695 (17.65)	.584 (14.83)	.820 (20.83)	.565 (14.35)
25	.795 (20.19)	.684 (17.37)	.920 (23.37)	.665 (16.89)
31	.945 (24.00)	.834 (21.18)	1.070 (27.18)	.815 (20.70)
37	1.095 (27.81)	.984 (24.99)	1.220 (30.99)	.965 (24.51)
51	1.445 (36.70)	1.334 (33.88)	1.570 (39.88)	1.315 (33.40)

890-031 Receptacle (Socket), 45° Backshell



Layout	A	B BSC.	C BSC.	D
5	.295 (7.49)	.185 (4.70)	.420 (10.67)	.165 (4.19)
9	.395 (10.03)	.285 (7.24)	.520 (13.21)	.265 (6.73)
15	.545 (13.84)	.435 (11.05)	.670 (17.02)	.415 (10.54)
21	.695 (17.65)	.585 (14.86)	.820 (20.83)	.565 (14.35)
25	.795 (20.19)	.685 (17.40)	.920 (23.37)	.665 (16.89)
31	.945 (24.00)	.835 (21.21)	1.070 (27.18)	.815 (20.70)
37	1.095 (27.81)	.985 (25.02)	1.220 (30.99)	.965 (24.51)
51	1.445 (36.70)	1.335 (33.91)	1.570 (39.88)	1.315 (33.40)

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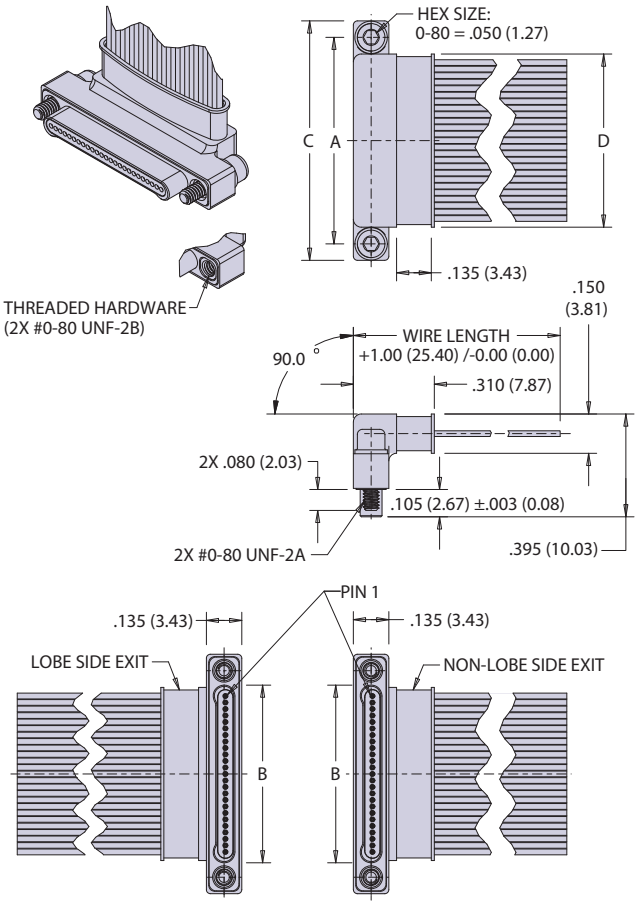
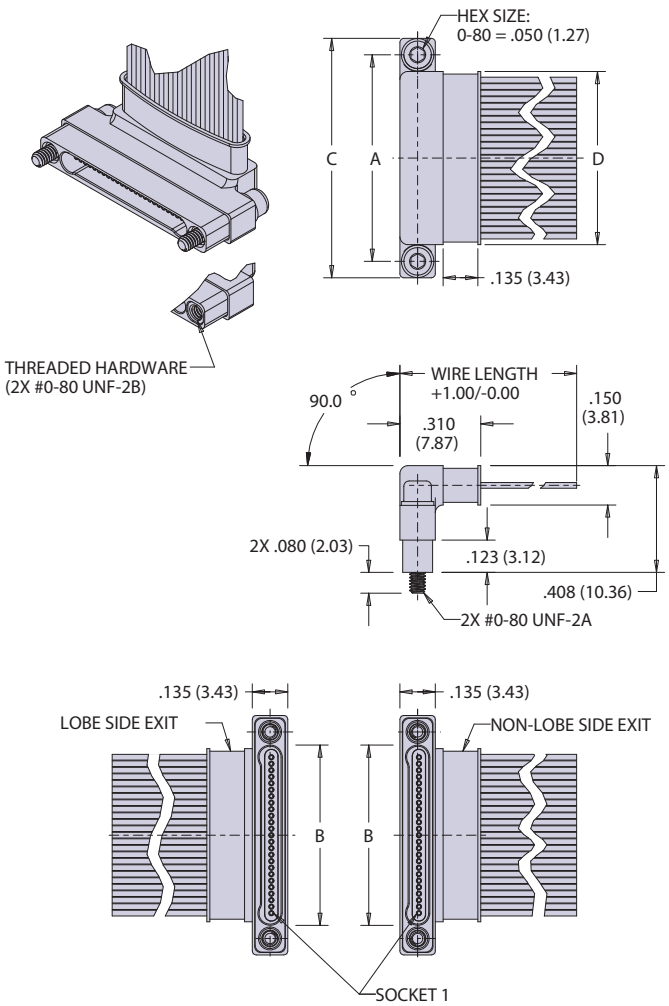
890-031 Flying Lead Plug and Receptacle Connectors with Insulated Wire and Backshell

DIMENSIONS

890-031 Plug (Pin), 90° Backshell



890-031 Receptacle (Socket), 90° Backshell



Layout	A	B BSC.	C BSC.	D
5	.295 (7.49)	.184 (4.67)	.420 (10.67)	.165 (4.19)
9	.395 (10.03)	.284 (7.21)	.520 (13.21)	.265 (6.73)
15	.545 (13.84)	.434 (11.02)	.670 (17.02)	.415 (10.54)
21	.695 (17.65)	.584 (14.83)	.820 (20.83)	.565 (14.35)
25	.795 (20.19)	.684 (17.37)	.920 (23.37)	.665 (16.89)
31	.945 (24.00)	.834 (21.18)	1.070 (27.18)	.815 (20.70)
37	1.095 (27.81)	.984 (24.99)	1.220 (30.99)	.965 (24.51)
51	1.445 (36.70)	1.334 (33.88)	1.570 (39.88)	1.315 (33.40)

Layout	A	B BSC.	C BSC.	D
5S	.295 (7.49)	.185 (4.70)	.420 (10.67)	.165 (4.19)
9S	.395 (10.03)	.285 (7.24)	.520 (13.21)	.265 (6.73)
15S	.545 (13.84)	.435 (11.05)	.670 (17.02)	.415 (10.54)
21S	.695 (17.65)	.585 (14.86)	.820 (20.83)	.565 (14.35)
25S	.795 (20.19)	.685 (17.40)	.920 (23.37)	.665 (16.89)
31S	.945 (24.00)	.835 (21.21)	1.070 (27.18)	.815 (20.70)
37S	1.095 (27.81)	.985 (25.02)	1.220 (30.99)	.965 (24.51)
51S	1.445 (36.70)	1.335 (33.91)	1.570 (39.88)	1.315 (33.40)

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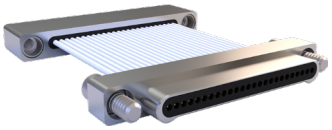
Single-Row Rectangular Connectors

890-005 Back-to-Back Cable Assembly

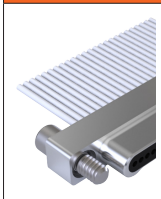
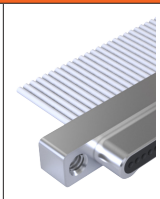
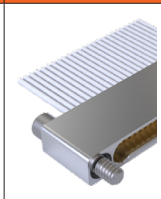
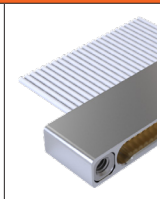


Glenair Back-To-Back Cable Assemblies feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. Nanomimiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion. Connectors are wired 1 to 1, 2 to 2, 3 to 3, etc.

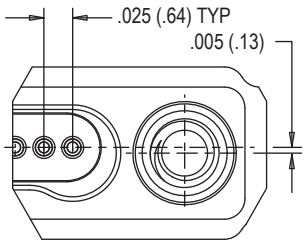
HOW TO ORDER

Sample Part Number	890-005	-25	CS	A2	-0	B	7	-12	JT

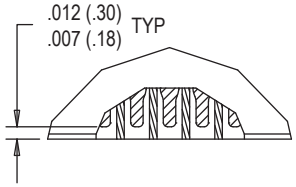
Series	**890-005** = Back-To-Back Cables, Single Row, Nanominiature
Insert Arrangement	**5, 9, 15, 21, 25, 31, 37, 51**
Connector Type	**Type** / **Side 1** / **Side 2** **GP** Plug (Pins) Plug (Pins) **GS** Receptacle (Sockets) Receptacle (Sockets) **CS** Plug (Pins) Receptacle (Sockets)
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (wire type A is striped, types B, C, E, and F are solid colors)
Overall Length	Overall Length In Inches Including Connectors; Example: "**12**" specifies 12 inches OAL; 2" minimum
Hardware	**JJ** = Jackscrews on both ends (GP, GS, CS) **TJ** = Jackscrews on receptacle, threaded holes on plug (CS) **JT** = Jackscrews on plug, threaded holes on receptacle (CS) **JR** = Jackscrews on receptacle, threaded holes on receptacle (GS) **JP** = Jackscrews on plug, threaded holes on plug (GP) **TT** = Threaded holes both ends (GP, GS, CS) (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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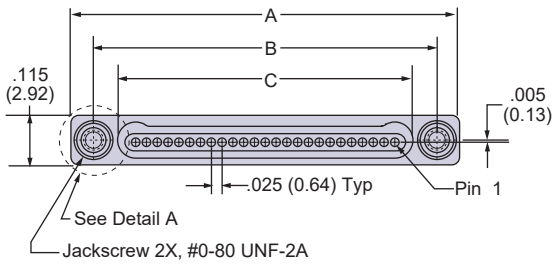
Dimensions in Inches (millimeters) are subject to change without notice.

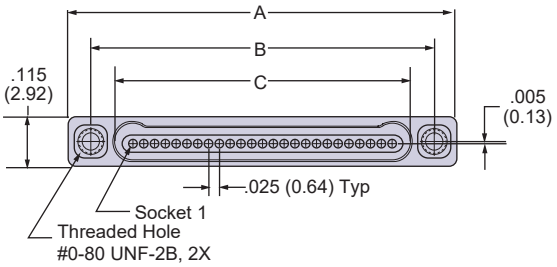
890-005 Back-to-Back Cable Assembly

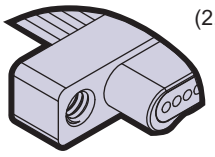
DIMENSIONS

890-005 Plug (Pin) Connectors

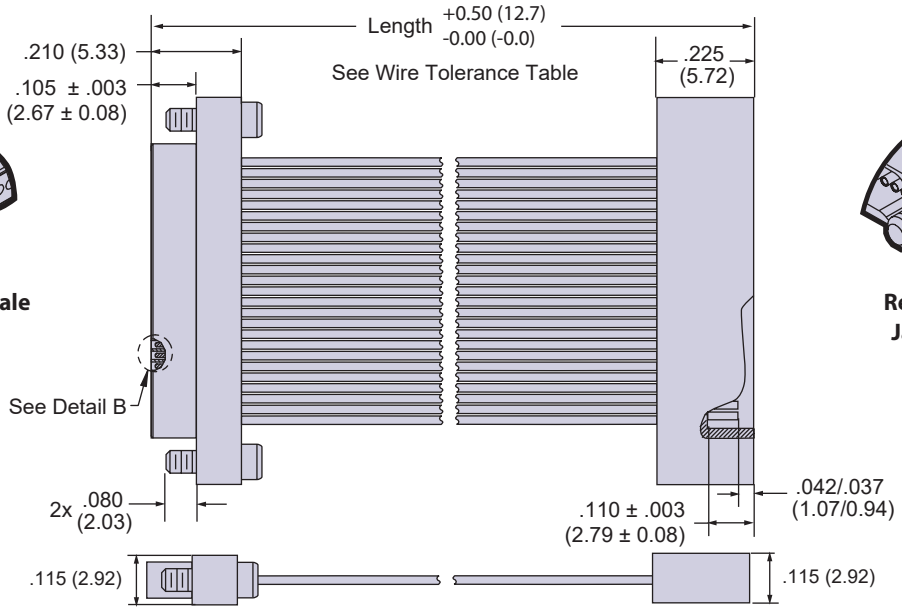


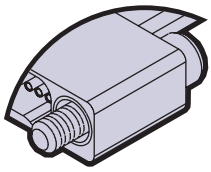
890-005 Receptacle (Socket) Connectors





Plug with "T" Female Thread Option





Receptacle With "J" Jackscrew Option

Connectors are wired 1 to 1, 2 to 2, etc.

Layout	A ± .005 (0.127)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

WIRE LENGTH TOLERANCE

Length Range	Tolerance
2″ - 48″ (50.80 - 1219.20)	+0.50/-0.00 (+12.70/-0.00)
>48″ - 72″ (>1219.20 - 1828.80)	+1.00/-0.00 (+25.4/-0.00)
>72″ - 120″ (>1828.80 - 3048.00)	+2.00/0.00 (+50.80/-0.00)
>120″ (>3048.00)	+4.00/-0.00 (+101.60/-0.00)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

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

Single-Row Rectangular Connectors

890-032 Plug and Receptacle Jumper Connectors with Straight, 45°, and 90° Backshell



Glenair Nano Jumpers with Factory Installed Backell feature gold alloy TwistPin contacts. Backshell wire exit configuration available in straight, 45°, and 90°. Contacts are precision-crimped to insulated, stranded wire. Nanomimiature connectors offer premium performance and reliability for demanding applications, available in 8 arrangements. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. TwistPin Contact System assures premium performance in demanding environments. Typical Applications include UAV's, satellites, missile systems and geophysical instruments. Wired 1 to 1, 2 to 2, 3 to 3 etc.

HOW TO ORDER

Sample Part Number	890-032	-25	CS	N	L	A2	-0	B	7	-12	T	J	N
				SIDE 1	SIDE 2						SIDE 1	SIDE 2	

Series
890-032 = I/O Jumper with Backshell

Insert Arrangement
5, **9**, **15**, **21**, **25**, **31**, **37**, **51**

Connector Type

Type	Side 1	Side 2
GP	Plug (Pins)	Plug (Pins)
GS	Receptacle (Sockets)	Receptacle (Sockets)
CS	Plug (Pins)	Receptacle (Sockets)

Backshell Accessory Code
H = 45°, Lobe Side Exit
K = 45°, Non-Lobe Side Exit
L = 90°, Lobe Side Exit
M = 90°, Non-Lobe Side Exit
N = Straight, No Orientation

Shell/Backshell Material and Finish
A1 = Aluminum Shell, Cadmium Plating
A2 = Aluminum Shell, Electroless Nickel Plating
A31 = Aluminum Shell, Zinc Nickel Plating, Black
A33 = Aluminuym Shell, Nickel PTFE Plating
S = Stainless Steel Shell, Passivated
T = Titanium Shell, Unplated

Wire Gage
0 = #30 AWG (Wire Types A, B, C, E. and F) **2** = #32 AWG (Wire Type B Only)

Wire Type
A = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper.
B = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6)
C = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30
E = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30
F = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30

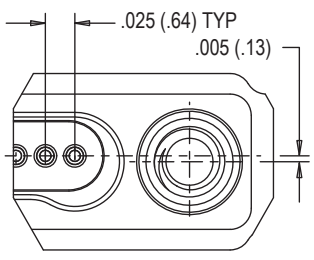
Wire Color Code
1 = White **2** = Yellow
7 = 10 Color Repeating (wire Type A is striped, Types B, C, E, and F are solid colors)

Wire Length
Wire Length in Inches; **12** = 12.00 Inches; as required in one inch increments. 3" minimum. Tolerance provided in Wire Length Tolerance table

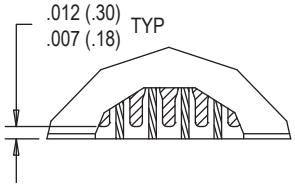
Hardware
J = Hex Head Jackscrew, #0-80 UNF-2A **T** = Female Thread, #0-80 UNF-2B*
*Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

Shield/Jacket Option
See Shield/Jacket Options Table

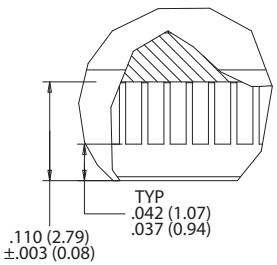
DETAIL A



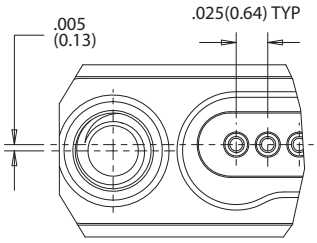
DETAIL B



DETAIL C



DETAIL D



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

890-032 Plug and Receptacle Jumper Connectors with Straight, 45°, and 90° Backshell

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP max. tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

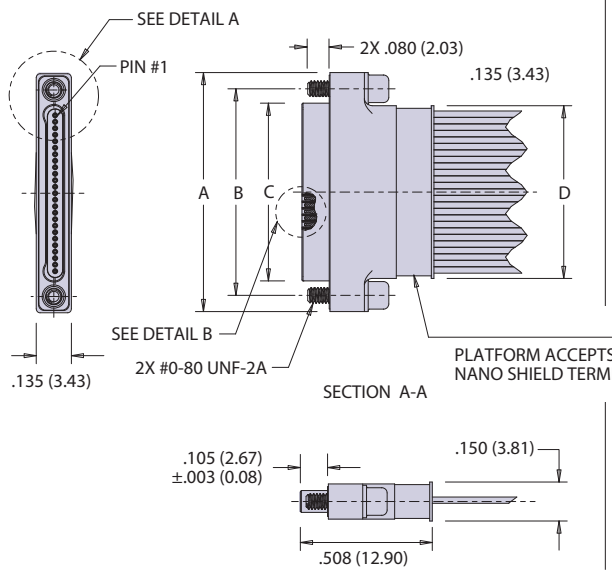
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

SHIELD/JACKET OPTIONS

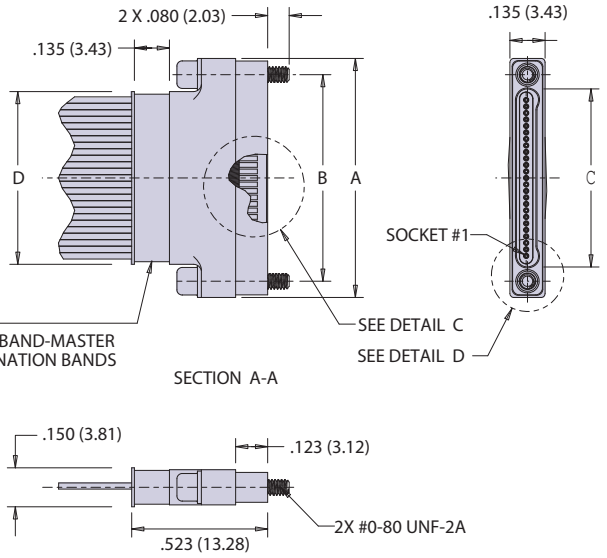
Code	Description
N	No Shield, No Jacket
A	Braided Shield Installed (Nickel Plated Copper)
C	Braided Shield Installed (Nickel Plated Copper), with E-CTFE Halar "Expando" Jacket (+150 C)
D	No Shield, With E-CTFE Halar "Expando" Jacket (+150 C)
S	100% Braided Amberstrand Shield Installed
T	100% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150 C)
V	75% Braided Amberstrand Shield Installed
W	Armorlite Braided Microfiliment Stainless Steel Shield Installed
X	Armorlite Braided Microfiliment Stainless Steel Shield Installed With E-CTFE Halar "Expando" Jacket (+150°C)
Z	75% Braided Amberstrand Shield Installed, With E-CTFE Halar "Expando" Jacket (+150 C)

STRAIGHT JUMPER DIMENSIONS

890-032 Plug (Pin), Straight Backshell Jumper



890-032 Receptacle (Socket) Straight Backshell Jumper



Specify exit side in part number

Layout	A	B BSC.	C BSC.	D	Layout	A	B BSC.	C BSC.	D
5P	.420 (10.67)	.295 (7.49)	.184 (4.67)	.165 (4.19)	5S	.420 (10.67)	.295 (7.49)	.185 (4.70)	.165 (4.19)
9P	.520 (13.21)	.395 (10.03)	.284 (7.21)	.265 (6.73)	9S	.520 (13.21)	.395 (10.03)	.285 (7.24)	.265 (6.73)
15P	.670 (17.02)	.545 (13.84)	.434 (11.02)	.415 (10.54)	15S	.670 (17.02)	.545 (13.84)	.435 (11.05)	.415 (10.54)
21P	.820 (20.83)	.695 (17.65)	.584 (14.83)	.565 (14.35)	21S	.820 (20.83)	.695 (17.65)	.585 (14.86)	.565 (14.35)
25P	.920 (23.37)	.795 (20.19)	.684 (17.37)	.665 (16.89)	25S	.920 (23.37)	.795 (20.19)	.685 (17.40)	.665 (16.89)
31P	1.070 (27.18)	.945 (24.00)	.834 (21.18)	.815 (20.70)	31S	1.070 (27.18)	.945 (24.00)	.835 (21.21)	.815 (20.70)
37P	1.220 (30.99)	1.095 (27.81)	.984 (24.99)	.965 (24.51)	37S	1.220 (30.99)	1.095 (27.81)	.985 (25.02)	.965 (24.51)
51P	1.570 (39.88)	1.445 (36.70)	1.334 (33.88)	1.315 (33.40)	51S	1.570 (39.88)	1.445 (36.70)	1.335 (33.91)	1.315 (33.40)

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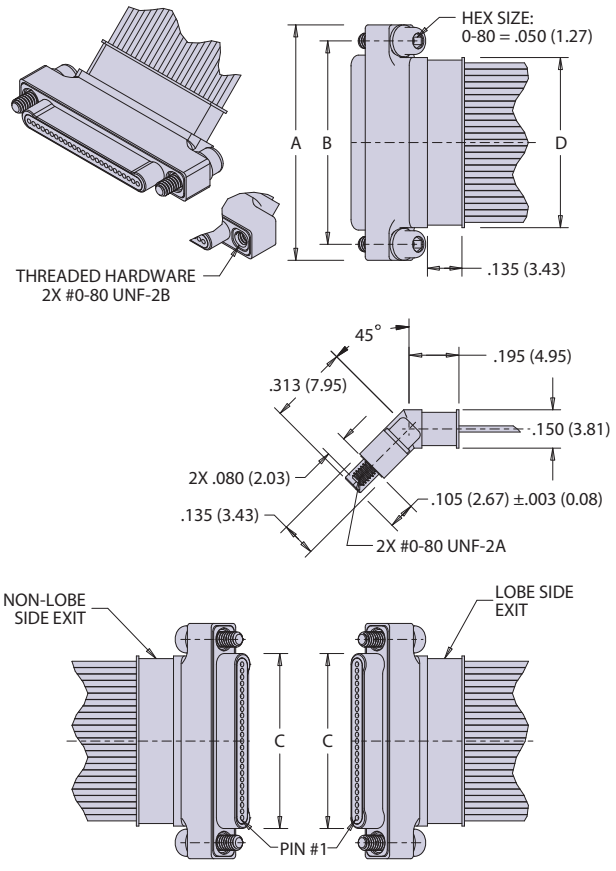
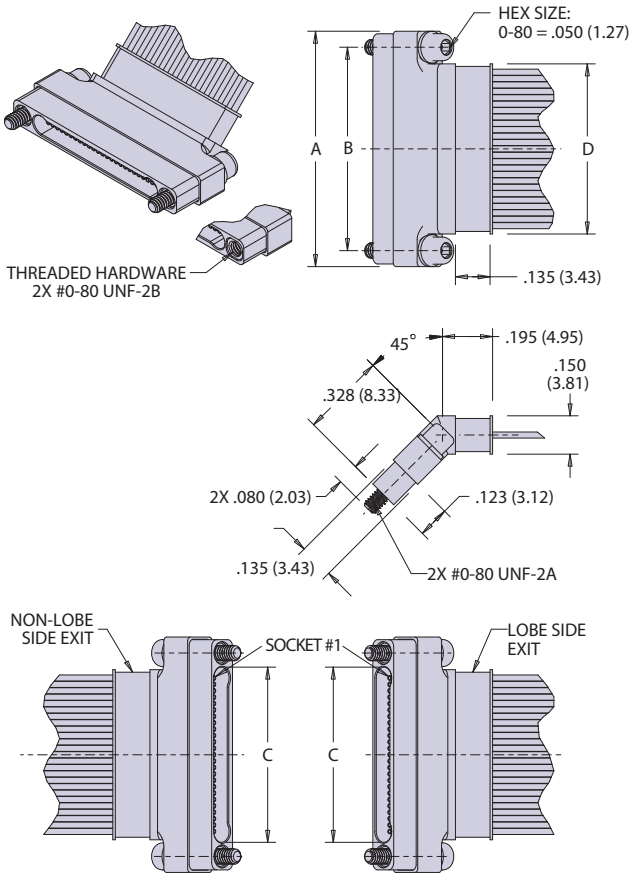
890-032 Plug and Receptacle Jumper Connectors with Straight, 45°, and 90° Backshell

45° JUMPER DIMENSIONS

890-032 Plug (Pin), 45° Backshell Jumper

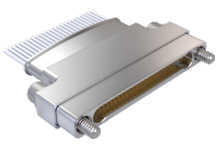
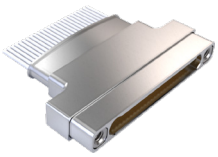


890-032 Receptacle (Socket) 45° Backshell Jumper



Specify exit side in part number

Layout	A	B BSC.	C BSC.	D	Layout	A	B BSC.	C BSC.	D
5P	.420 (10.67)	.295 (7.49)	.184 (4.67)	.165 (4.19)	5S	.420 (10.67)	.295 (7.49)	.185 (4.70)	.165 (4.19)
9P	.520 (13.21)	.395 (10.03)	.284 (7.21)	.265 (6.73)	9S	.520 (13.21)	.395 (10.03)	.285 (7.24)	.265 (6.73)
15P	.670 (17.02)	.545 (13.84)	.434 (11.02)	.415 (10.54)	15S	.670 (17.02)	.545 (13.84)	.435 (11.05)	.415 (10.54)
21P	.820 (20.83)	.695 (17.65)	.584 (14.83)	.565 (14.35)	21S	.820 (20.83)	.695 (17.65)	.585 (14.86)	.565 (14.35)
25P	.920 (23.37)	.795 (20.19)	.684 (17.37)	.665 (16.89)	25S	.920 (23.37)	.795 (20.19)	.685 (17.40)	.665 (16.89)
31P	1.070 (27.18)	.945 (24.00)	.834 (21.18)	.815 (20.70)	31S	1.070 (27.18)	.945 (24.00)	.835 (21.21)	.815 (20.70)
37P	1.220 (30.99)	1.095 (27.81)	.984 (24.99)	.965 (24.51)	37S	1.220 (30.99)	1.095 (27.81)	.985 (25.02)	.965 (24.51)
51P	1.570 (39.88)	1.445 (36.70)	1.334 (33.88)	1.315 (33.40)	51S	1.570 (39.88)	1.445 (36.70)	1.335 (33.91)	1.315 (33.40)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

WIRE LENGTH TOLERANCE	
Length Range	Tolerance
3″ - 48″ (76.20 - 1219.20)	+0.50/-0.00 (+ 12.70/-0.00)
>48″ - 72″ (>1219.20 - 1828.80)	+1.00/-0.00 (+25.4/-0.00)
>72″ - 120″ (>1828.80 - 3048.00)	+2.00/-0.00 (+50.80/-0.00)
>120″ (>3048.00)	+4.00/-0.00 (+101.6/-0.00)

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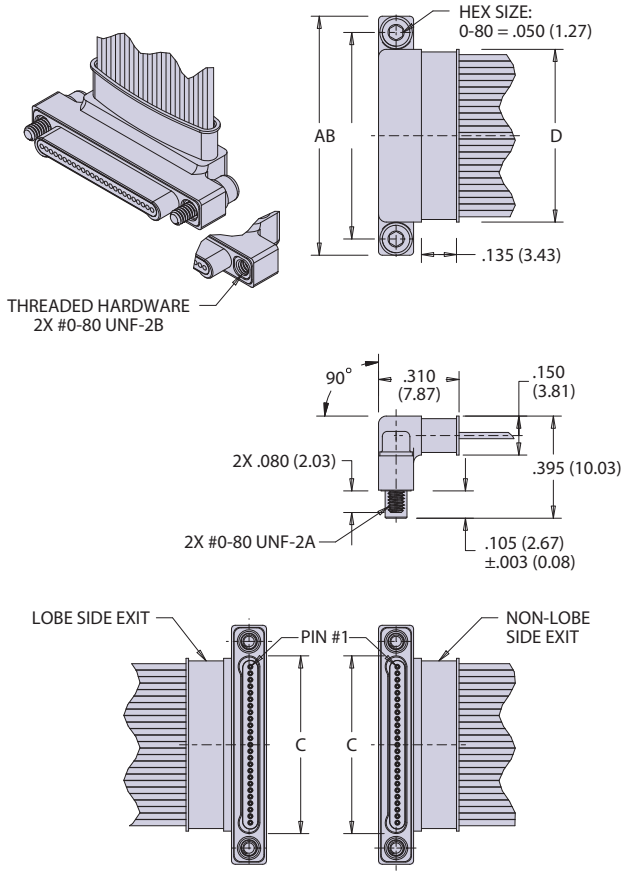
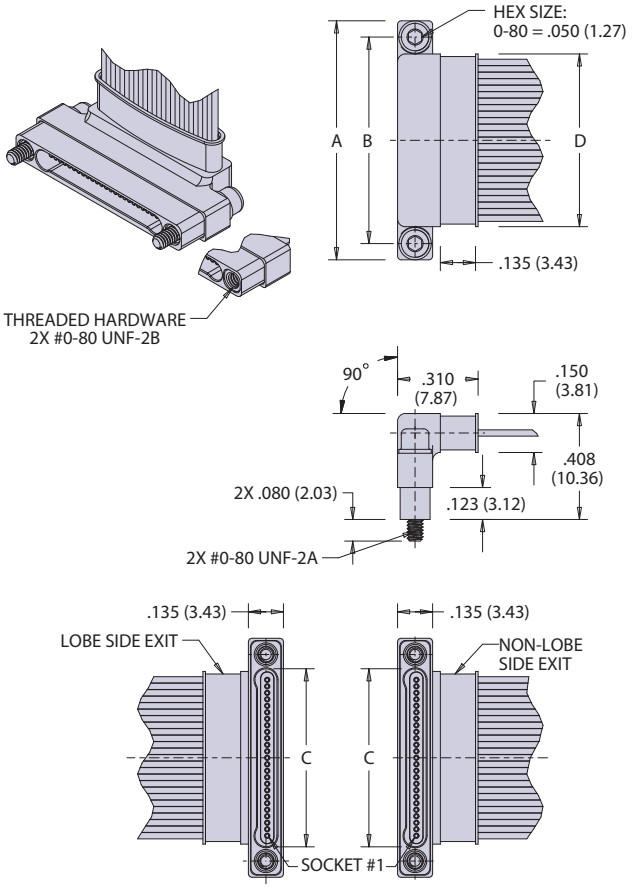
890-032 Plug and Receptacle Jumper Connectors with Straight, 45°, and 90° Backshell

90° JUMPER DIMENSIONS

890-032 Plug (Pin), 90° Backshell Jumper

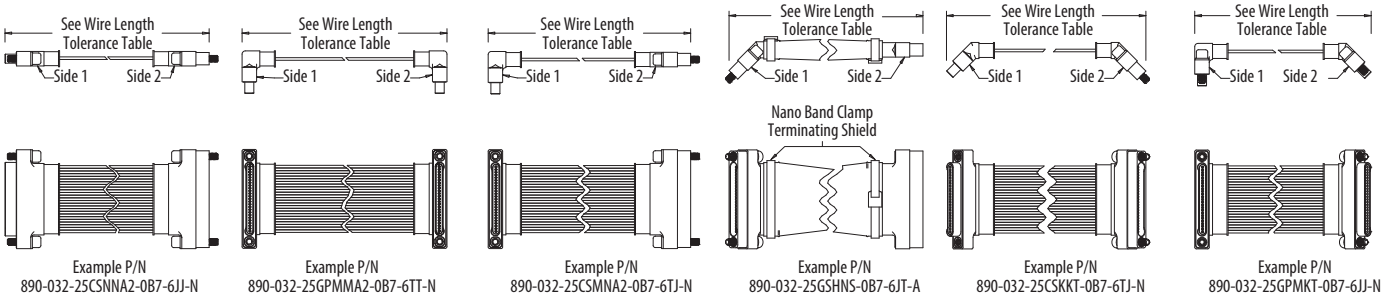


890-032 Receptacle (Socket) 90° Backshell Jumper



Specify exit side in part number

Layout	A	B BSC.	C BSC.	D	Layout	A	B BSC.	C BSC.	D
5P	.420 (10.67)	.295 (7.49)	.184 (4.67)	.165 (4.19)	5S	.420 (10.67)	.295 (7.49)	.185 (4.70)	.165 (4.19)
9P	.520 (13.21)	.395 (10.03)	.284 (7.21)	.265 (6.73)	9S	.520 (13.21)	.395 (10.03)	.285 (7.24)	.265 (6.73)
15P	.670 (17.02)	.545 (13.84)	.434 (11.02)	.415 (10.54)	15S	.670 (17.02)	.545 (13.84)	.435 (11.05)	.415 (10.54)
21P	.820 (20.83)	.695 (17.65)	.584 (14.83)	.565 (14.35)	21S	.820 (20.83)	.695 (17.65)	.585 (14.86)	.565 (14.35)
25P	.920 (23.37)	.795 (20.19)	.684 (17.37)	.665 (16.89)	25S	.920 (23.37)	.795 (20.19)	.685 (17.40)	.665 (16.89)
31P	1.070 (27.18)	.945 (24.00)	.834 (21.18)	.815 (20.70)	31S	1.070 (27.18)	.945 (24.00)	.835 (21.21)	.815 (20.70)
37P	1.220 (30.99)	1.095 (27.81)	.984 (24.99)	.965 (24.51)	37S	1.220 (30.99)	1.095 (27.81)	.985 (25.02)	.965 (24.51)
51P	1.570 (39.88)	1.445 (36.70)	1.334 (33.88)	1.315 (33.40)	51S	1.570 (39.88)	1.445 (36.70)	1.335 (33.91)	1.315 (33.40)



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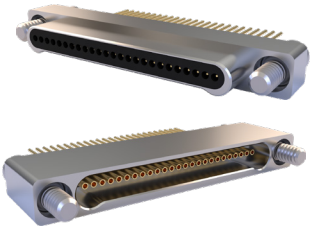
Single-Row Rectangular Connectors

890-003 and 890-004 Plug and Receptacle Connectors with Uninsulated Wire

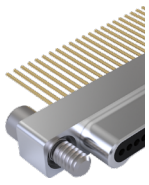
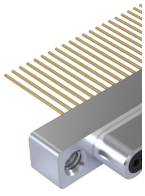
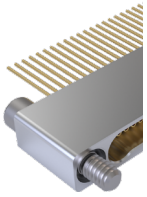
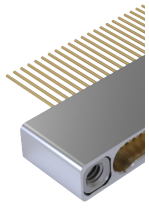


Glenair Uninsulated Wire Nano Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to solid wire. Nanomimiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion. Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

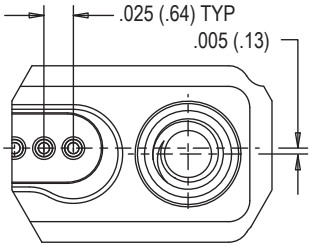
HOW TO ORDER

Sample Part Number	890-003	-31P	A2	-0	D3	-.250	J

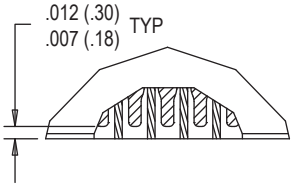
Series	**890-003** = Plug, Pin Contacts, Single Row Nanominiature **890-004** = Receptacle, Socket Contacts, Single Row Nanominiature
Insert Arrangement/ Contact Type	Plugs (890-003): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P** Receptacles (890-004): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single Strand Copper Wire, Uninsulated, with Gold Plating
Lead Length	**.125, .250, .375, .500**
Hardware	**J** = Hex Head Jackscrew, #0-80 **T** = Female Thread, #0-80* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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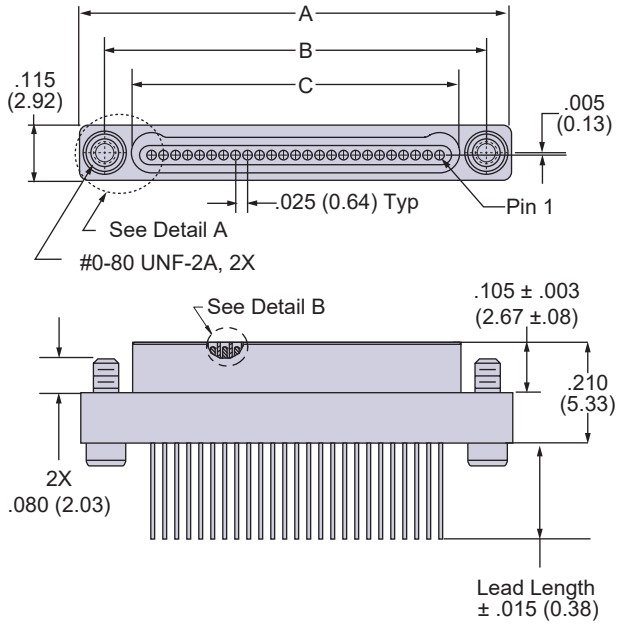
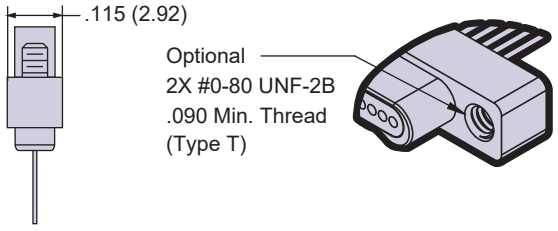
890-003 and 890-004 Plug and Receptacle Connectors with Uninsulated Wire

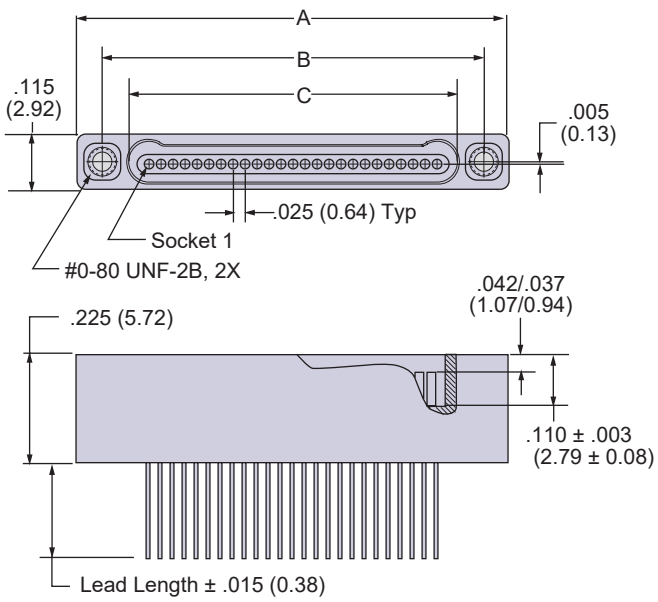
DIMENSIONS

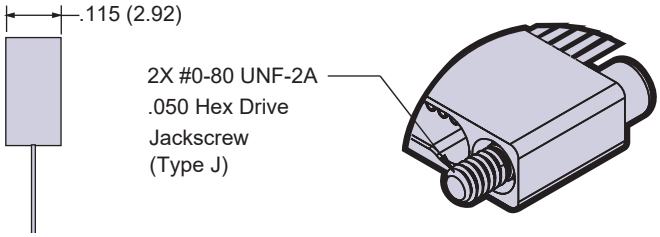
890-003 Plug (Pin) Connector





890-004 Receptacle (Socket) Connector





Layout	A In. ± .005 (0.127)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP/nA
   - Contacts: gold alloy / unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

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

Single-Row Rectangular Connectors

890-006 and 890-007 Plug and Receptacle Vertical-Mount Thru-Hole PCB Connectors

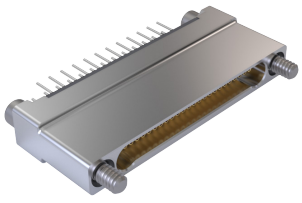
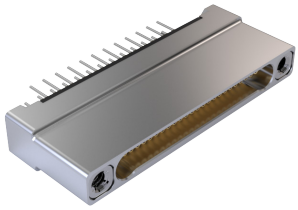


Vertical-Mount Thru-Hole PCB Nano Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female threads, or with jackscrews for use with flexible circuits. Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability. Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell Nanominiature connector.

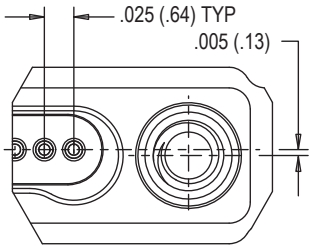
HOW TO ORDER

Sample Part Number	890-007	-25S	A2	-BST	1	T

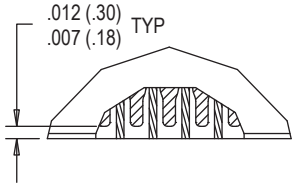
Series	**890-006** = Plug, Pin Contacts, Single Row, Vertical-Mount PCB **890-007** = Receptacle, Socket Contacts, Single Row, Vertical-Mount PCB
Insert Arrangement/ Contact Type	Plugs (890-006): **5P**, **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **51P** Receptacles (890-007): **5S**, **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BST** = Board Straight Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Hex Head Jackscrew, #0-80 **T** = Female Thread, #0-80* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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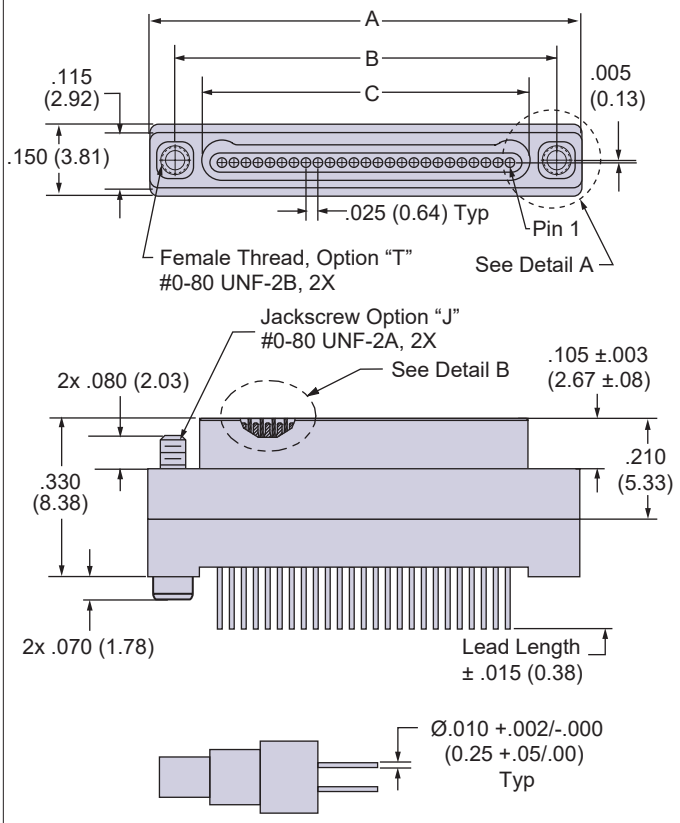
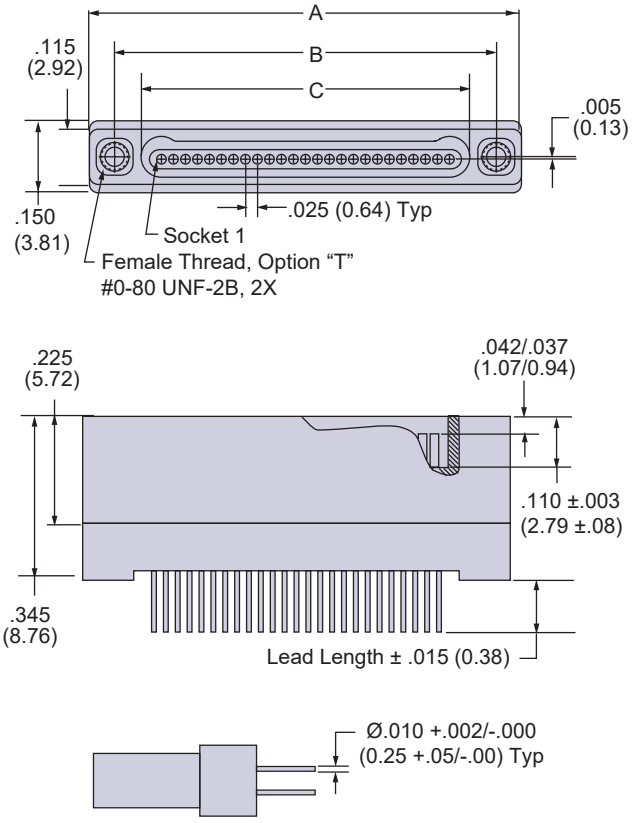
890-006 and 890-007 Plug and Receptacle Vertical-Mount Thru-Hole PCB Connectors

DIMENSIONS

890-006 Plug (Pin) Connectors



890-007 Receptacle (Socket) Connectors



Layout	A ± .005 (0.127)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/5 and MIL-DTL-32139/6

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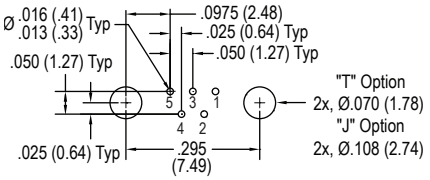
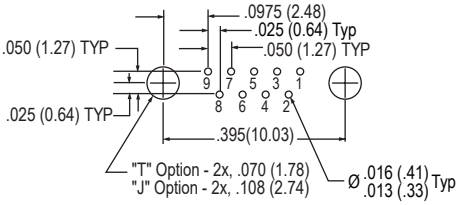
Dimensions in Inches (millimeters) are subject to change without notice.

890-006 Vertical-Mount Thru-Hole PCB Connectors - Plug Footprints

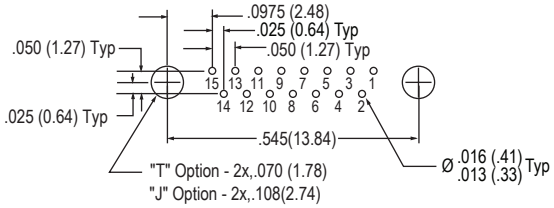
5 Contacts

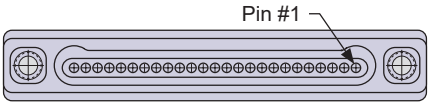


9 Contacts



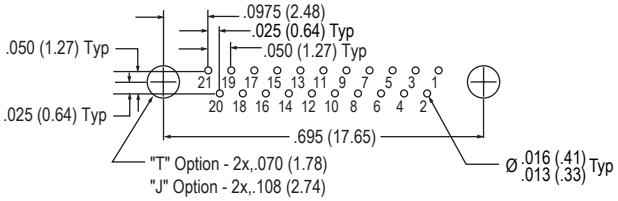
15 Contacts



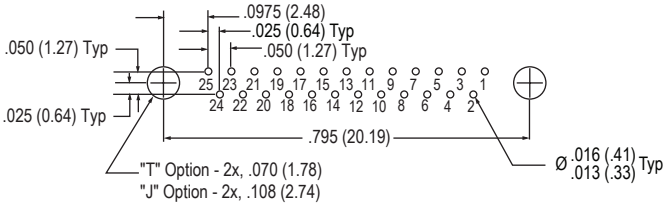


Connector Mating Face

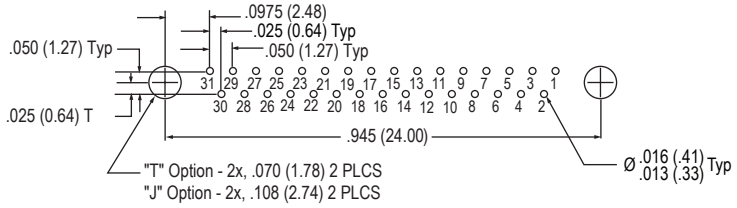
21 Contacts



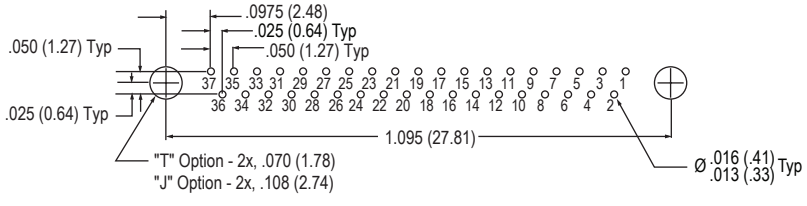
25 Contacts



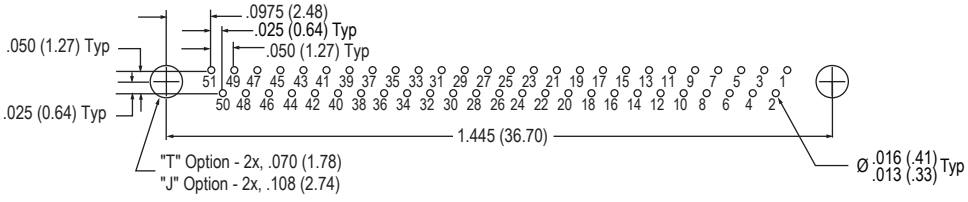
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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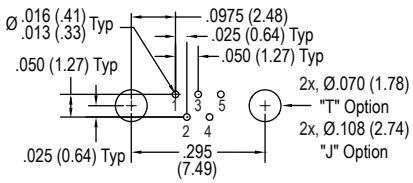
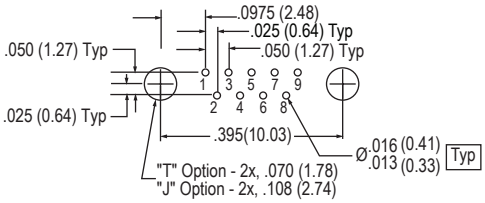
890-007 Vertical-Mount Thru-Hole PCB Connectors - Receptacle Footprints

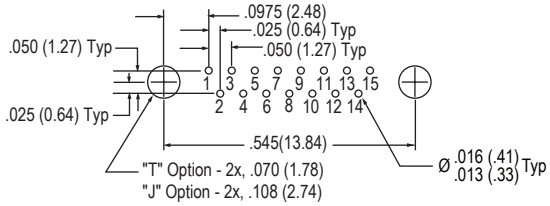
5 Contacts

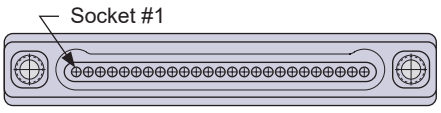


9 Contacts



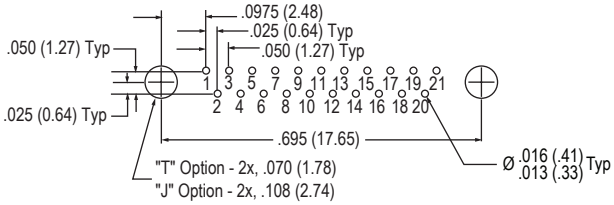
15 Contacts



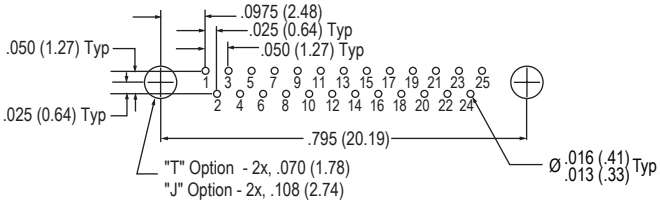


Connector Mating Face

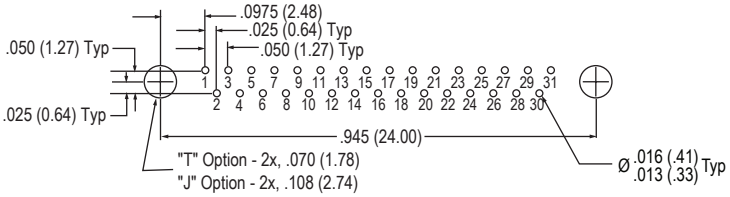
21 Contacts



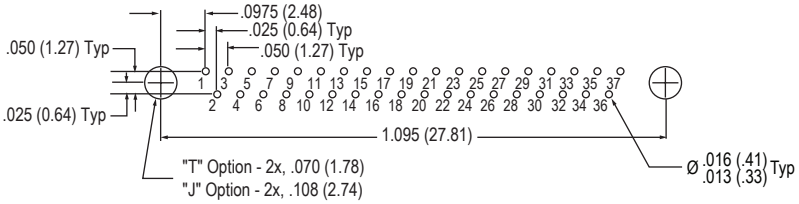
25 Contacts



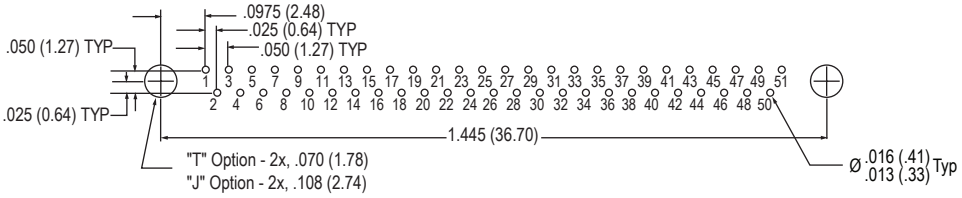
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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Single-Row Rectangular Connectors

890-039 and 890-040 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears



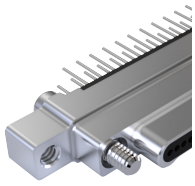
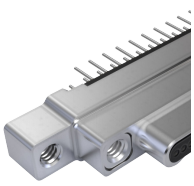
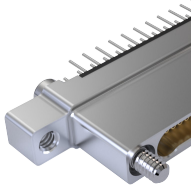
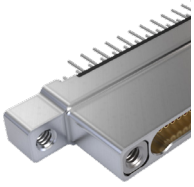
Vertical-Mount Thru-Hole PCB Nano Connectors feature gold alloy TwistPin contacts.Connectors offer premium performance and reliability for demanding applications. Available with #0-80 female mounting threads and #0-80 jackscrew or threaded jacking holes. Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector with same layout.

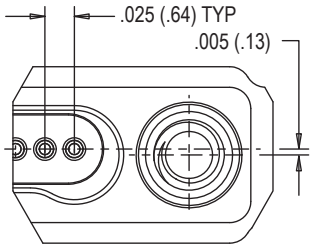
HOW TO ORDER

Sample Part Number	890-039	-25P	A2	-BST	1	J

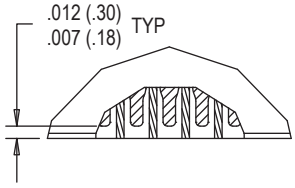
Series	**890-039** = Verticle Mount, Thru-Hole PCB Plug **890-040** = Verticle Mount, Thru-Hole PCB Receptacle
Insert Arrangement/ Contact Type	Plugs (890-039): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P,** Receptacles (890-040): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BST** - Board Straight Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Hex Head Jackscrew **T** = Female Thread (stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells).

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Contacts: gold alloy/unplated
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/5 and MIL-DTL-32139/6

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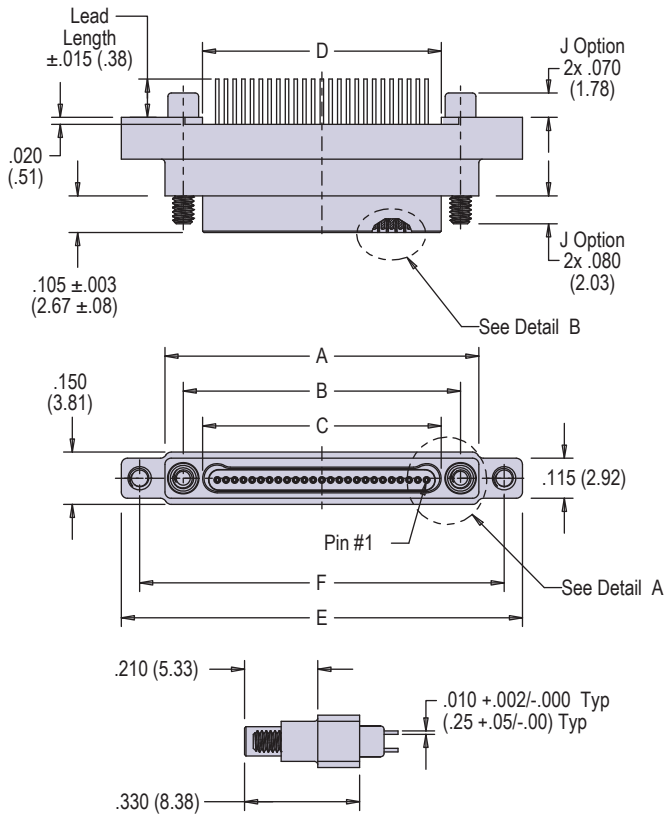
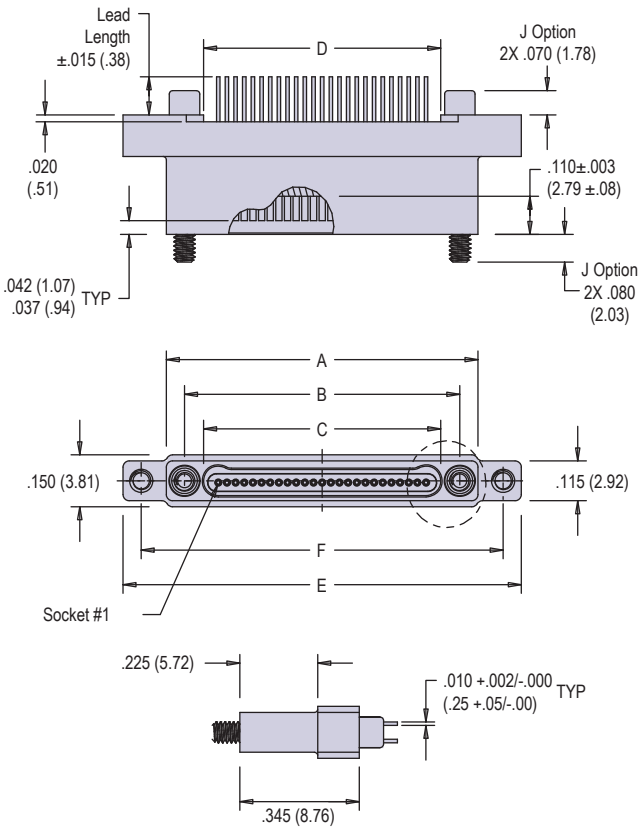
890-039 and 890-040 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears

DIMENSIONS

890-039 Plug (Pin) Connectors



890-040 Receptacle (Socket) Connectors



Layout	A ± .005 (0.127)	B BSC.	C BSC.	D BSC	E	F
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)	.185 (4.70)	.650 (16.51)	.545 (13.84)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)	.185 (4.70)	.650 (16.51)	.545 (13.84)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	.285 (7.24)	.750 (19.05)	.645 (16.38)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)	.285 (7.24)	.750 (19.05)	.645 (16.38)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)	.435 (11.05)	.900 (22.86)	.795 (20.19)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	.435 (11.05)	.900 (22.86)	.795 (20.19)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	.585 (14.86)	1.050 (26.67)	.945 (24.00)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	.585 (14.86)	1.050 (26.67)	.945 (24.00)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)	.685 (17.40)	1.150 (29.21)	1.045 (26.54)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)	.685 (17.40)	1.150 (29.21)	1.045 (26.54)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)	.835 (21.21)	1.300 (33.02)	1.195 (30.35)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)	.835 (21.21)	1.300 (33.02)	1.195 (30.35)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	.985 (25.02)	1.450 (36.83)	1.345 (34.16)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)	.985 (25.02)	1.450 (36.83)	1.345 (34.16)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.335 (33.91)	1.800 (45.72)	1.695 (43.05)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)	1.335 (33.91)	1.800 (45.72)	1.695 (43.05)

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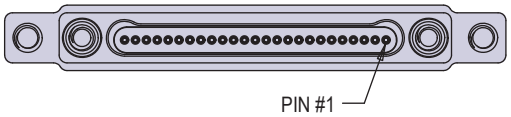
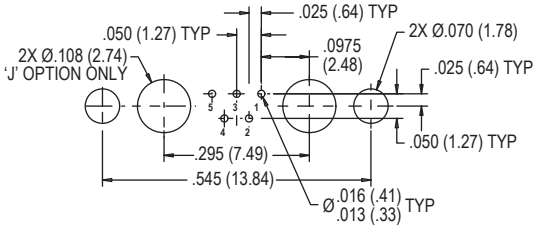
Dimensions in Inches (millimeters) are subject to change without notice.

890-039 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears - Plug Footprints

Vertical PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board



5 Contacts



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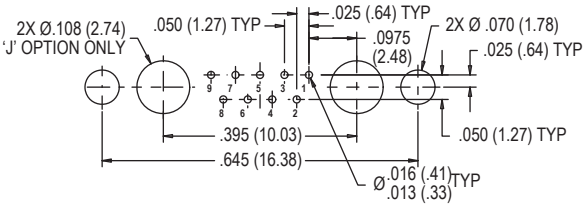

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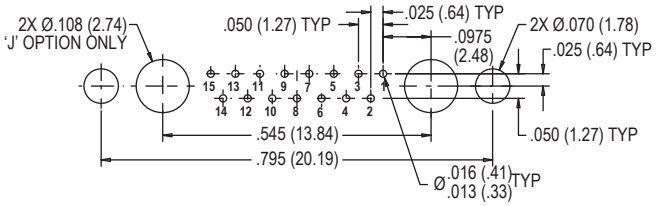

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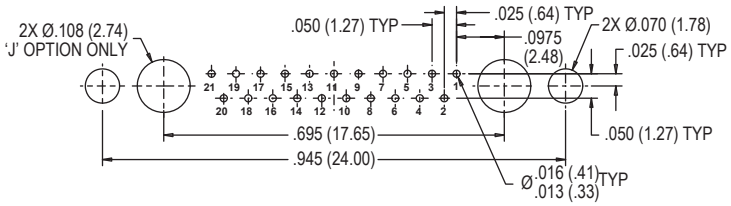

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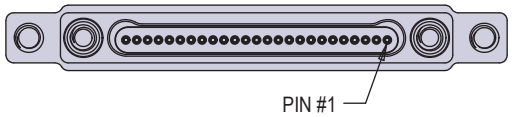
890-039 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears - Plug Footprints

Vertical PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board



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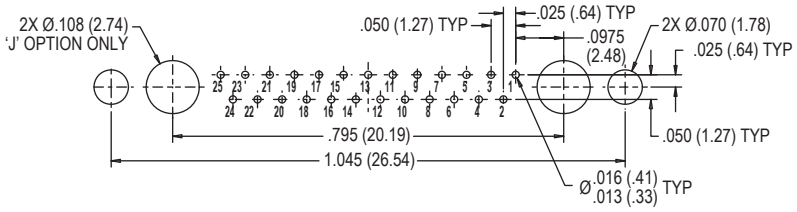
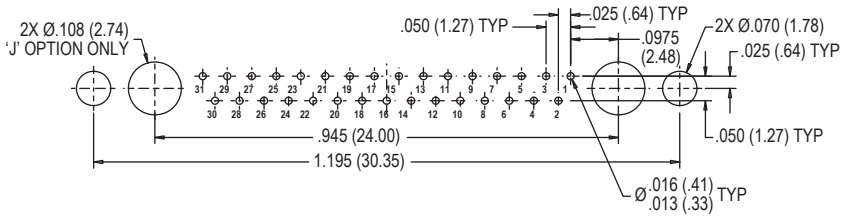
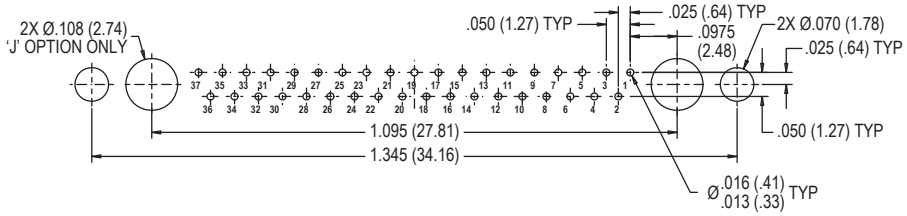


31 Contacts



37 Contacts



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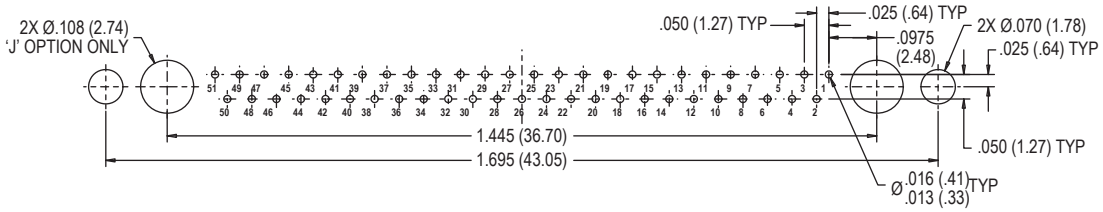

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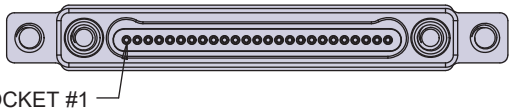
890-040 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears - Receptacle Footprints

Vertical PCB Receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board



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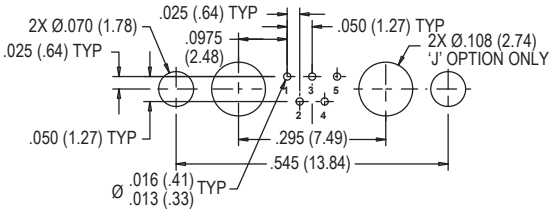
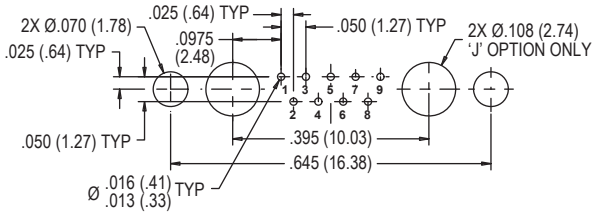


9 Contacts



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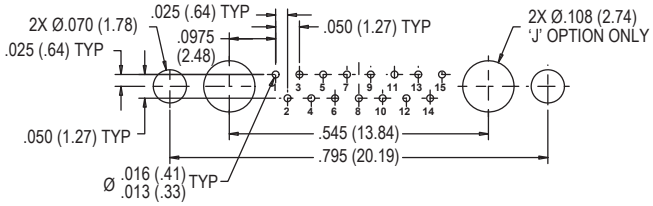
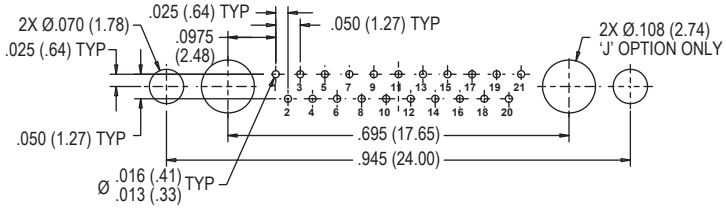


21 Contacts



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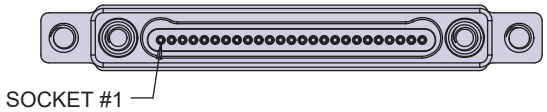
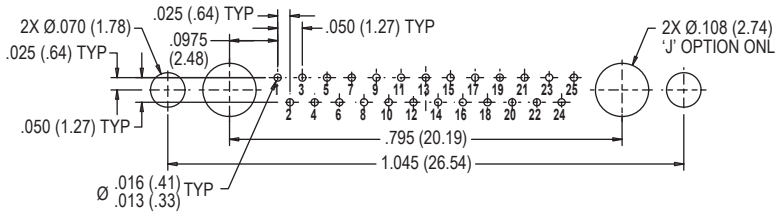
890-040 Vertical-Mount Thru-Hole PCB Connectors with Mounting Ears - Receptacle Footprints

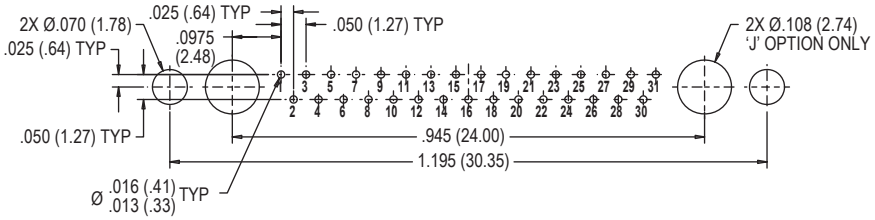
Vertical PCB Receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board



25 Contacts



31 Contacts



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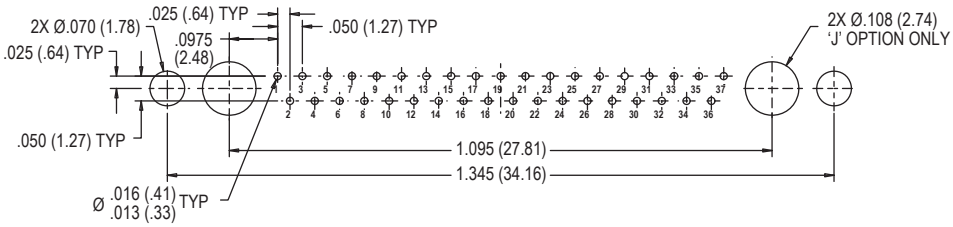

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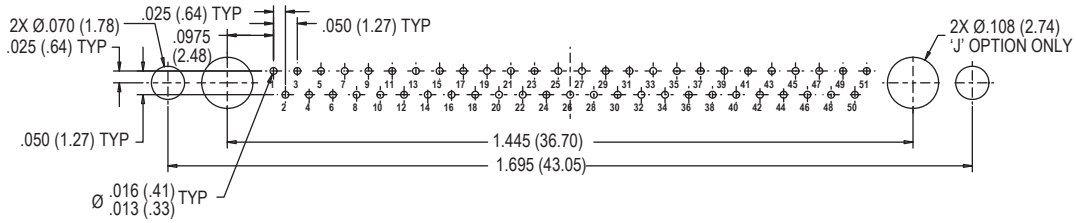

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Single-Row Rectangular Connectors

890-008 and 890-009 Plug and Receptacle Right-Angle Mount Thru-Hole PCB Connectors



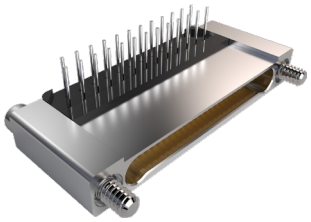
Right-Angle Thru-Hole PCB Nano Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female threads, or #0-80 jackscrews. Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

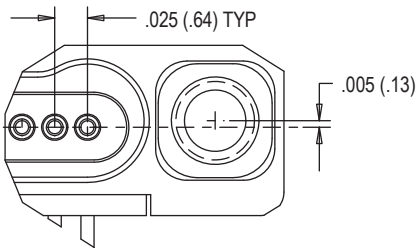
HOW TO ORDER

Sample Part Number	890-008	-51P	A2	-BRT	1	T

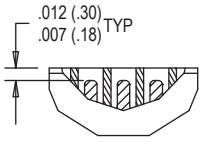
Series	**890-008** = Plug, Pin Contacts, Single Row, Right-Angle Mount PCB **890-009** = Receptacle, Socket Contacts, Single Row, Right-Angle Mount PCB
Insert Arrangement/ Contact Type	**Plugs** (890-008): **5P**, **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **51P** Receptacles (890-009): **5S**, **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BRT** = Board Right-Angle Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** - .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Hex Head Jackscrew, #0-80 **T** = Female Thread, #0-80* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew Option	T - Female Thread Option	J - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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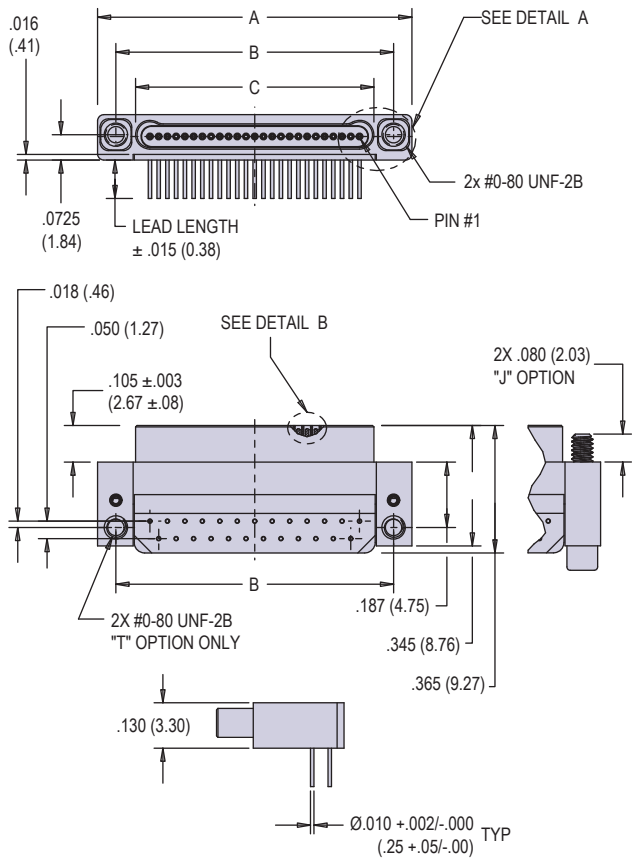
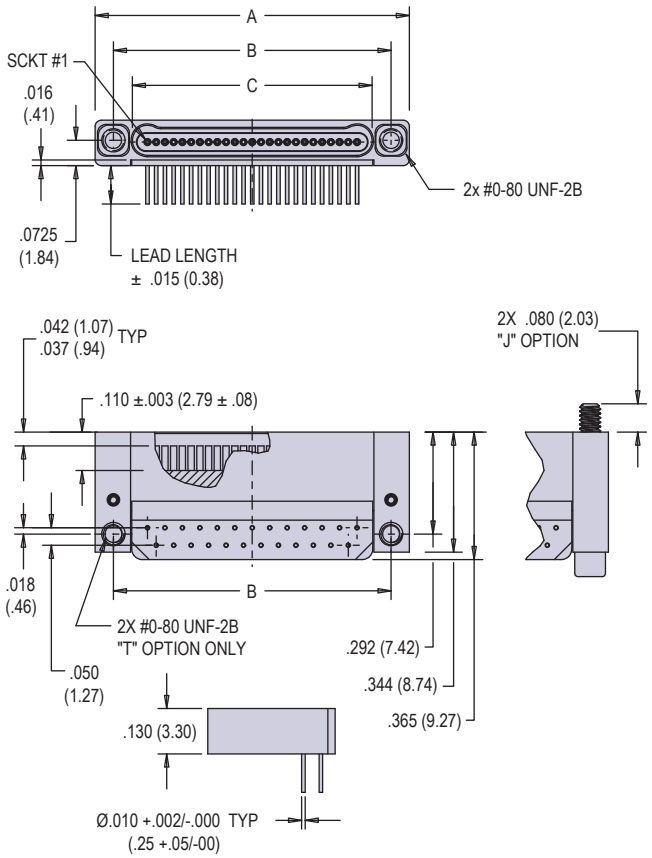
890-008 and 890-009 Plug and Receptacle Right-Angle Mount Thru-Hole PCB Connectors

DIMENSIONS

890-008 Plug (Pin) Connectors



890-009 Receptacle (Socket) Connectors



Layout	A ± .005 (0.127)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/7 and MIL-DTL-32139/8

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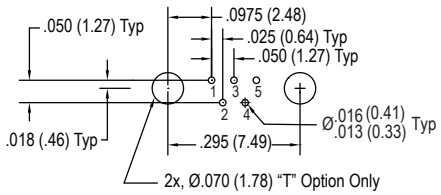
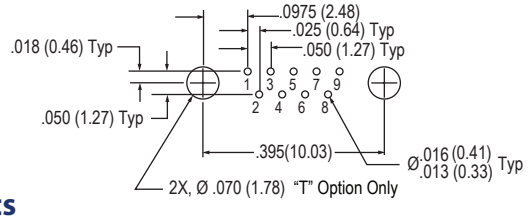
890-008 Right-Angle Mount Thru-Hole PCB Connectors - Plug Footprints

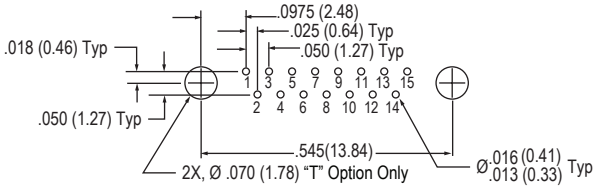
5 Contacts

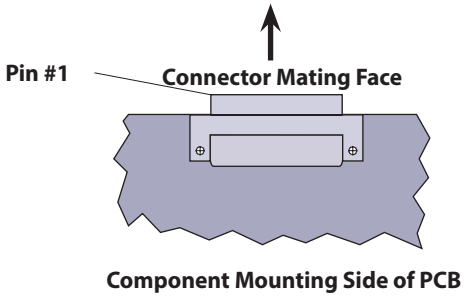


9 Contacts

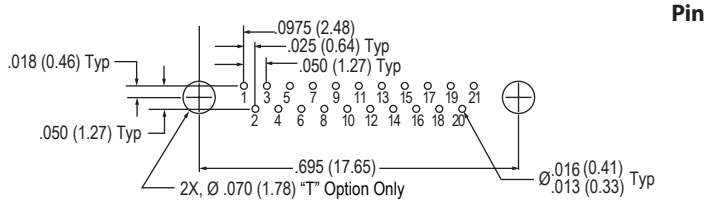


15 Contacts

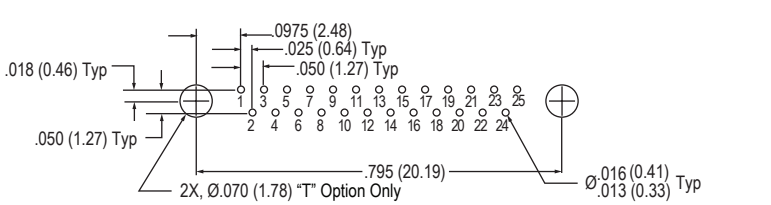




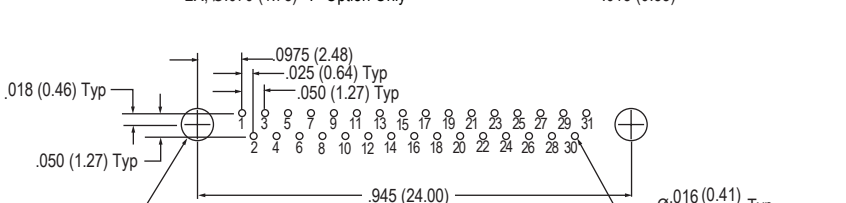
21 Contacts



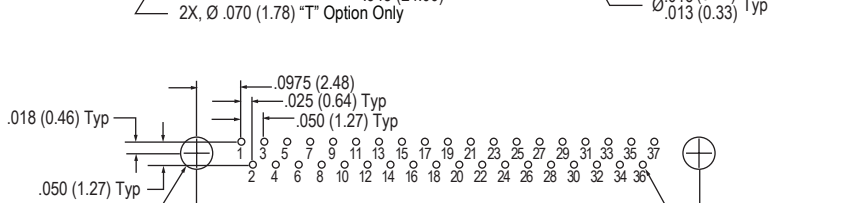
25 Contacts



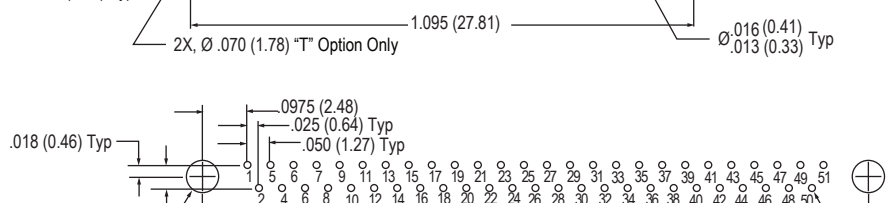
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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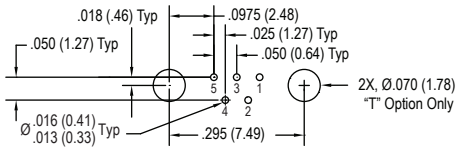
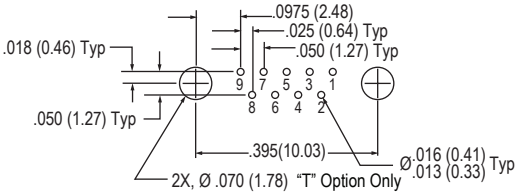
890-009 Right-Angle Mount Thru-Hole PCB Connectors - Receptacle Footprints

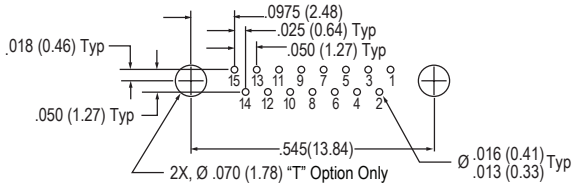
5 Contacts



9 Contacts



15 Contacts



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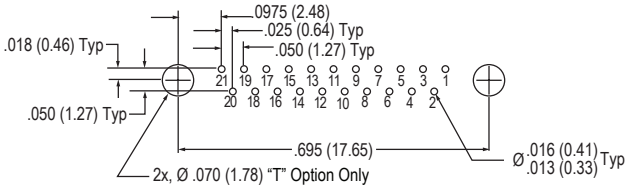

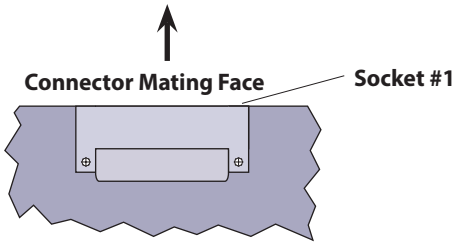

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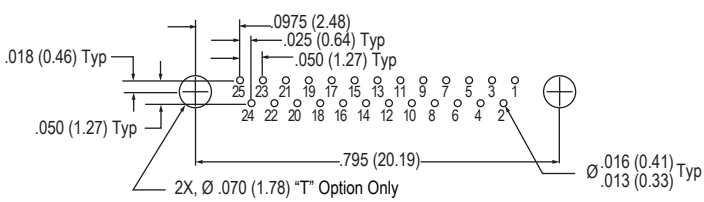

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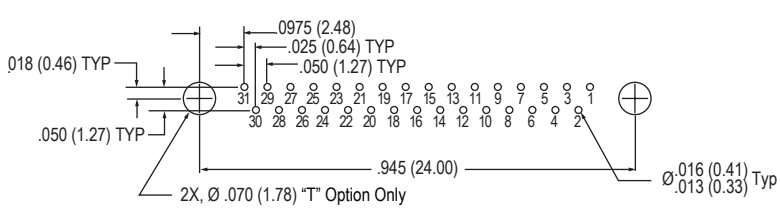

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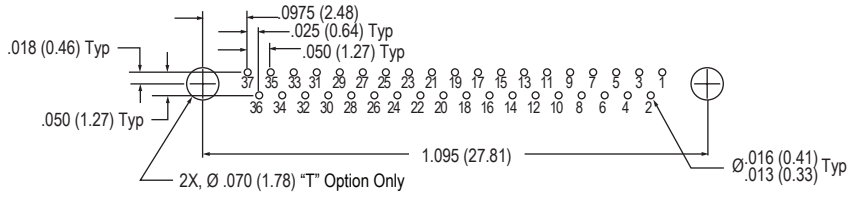

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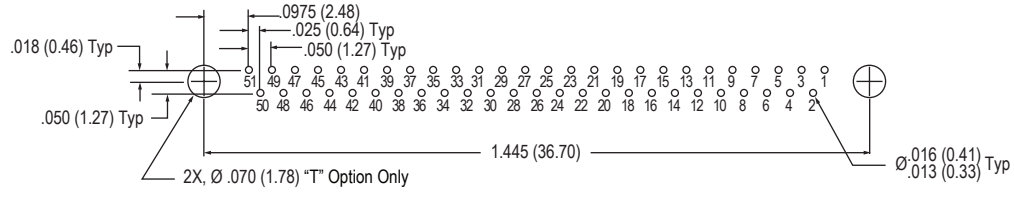

Layouts shown are for connector mounting side of PC Board.

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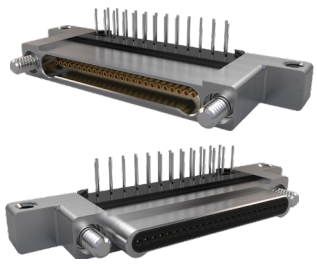
Single-Row Rectangular Connectors

890-043 and 890-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears



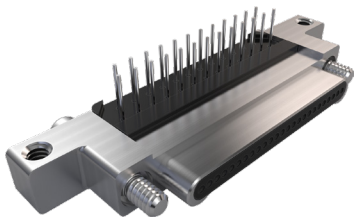
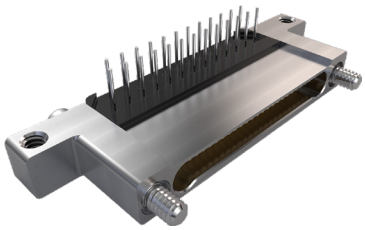
Right-Angle Thru-Hole PCB Nano Connectors with Mounting Ears feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Robust mounting ears allow for jackscrew hardware to be used, available with #0-80 female mounting threads and #0-80 jackscrew threads.

Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability. Choose aluminum, titanium or stainless steel shells in eight layouts from 5 to 51 contacts. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	890-043	-25P	A2	-BRT	1	J

Series	**890-043** = Right-Angle, Thru-Hole PCB Plug **890-044** = Right-Angle, Thru-Hole PCB Receptacle
Insert Arrangement/ Contact Type	Plugs (890-043): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P,** Receptacles (890-044): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **T** = Titanium Shell, Unplated **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated
Termination Type	**BRT** = Board Right-Angle Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Hex Head Jackscrew

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	J - Jackscrew

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

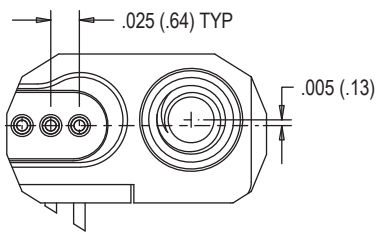
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

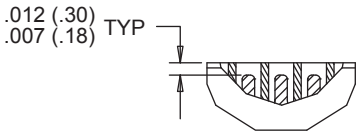
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



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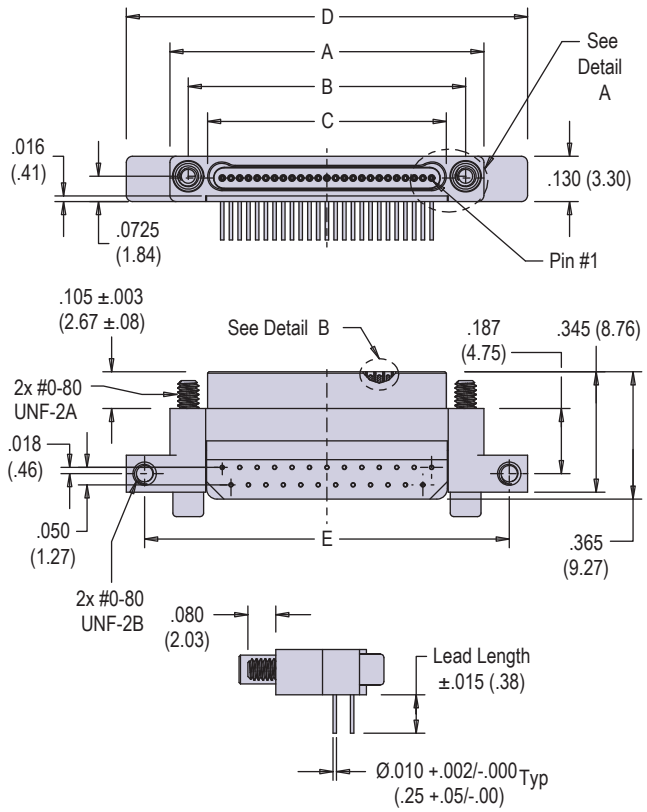
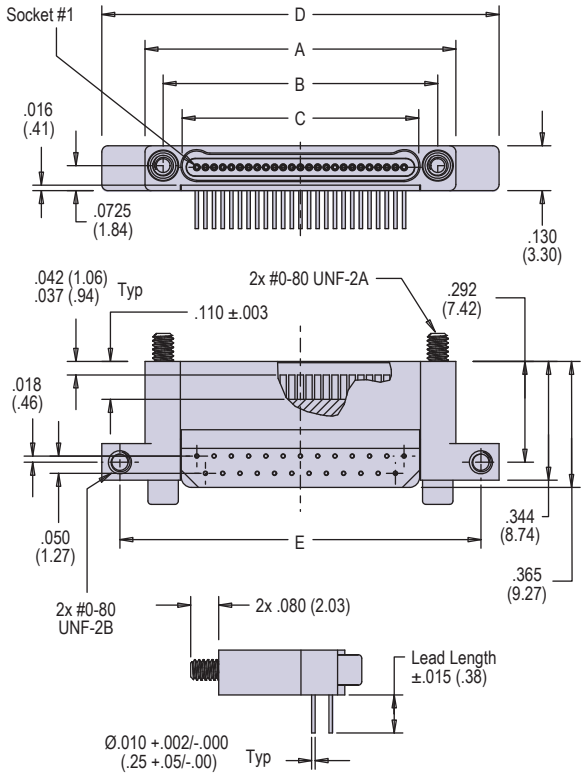
890-043 and 890-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears

DIMENSIONS

890-043 Plug (Pin) Connectors



890-044 Receptacle (Socket) Connectors



Layout	A ± .005(0.127)	B BSC.	C BSC.	D	E BSC
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)	.650 (16.51)	.545 (13.84)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)	.650 (16.51)	.545 (13.84)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	.750 (19.05)	.645 (16.38)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)	.750 (19.05)	.645 (16.38)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)	.900 (22.86)	.795 (20.19)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	.900 (22.86)	.795 (20.19)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	1.050 (26.67)	.945 (24.00)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	1.050 (26.67)	.945 (24.00)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)	1.150 (29.21)	1.045 (26.54)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)	1.150 (29.21)	1.045 (26.54)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)	1.300 (33.02)	1.195 (30.35)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)	1.300 (33.02)	1.195 (30.35)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	1.450 (36.83)	1.345 (34.16)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)	1.450 (36.83)	1.345 (34.16)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.800 (45.72)	1.695 (43.05)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)	1.800 (45.72)	1.695 (43.05)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/7 and MIL-DTL-32139/8

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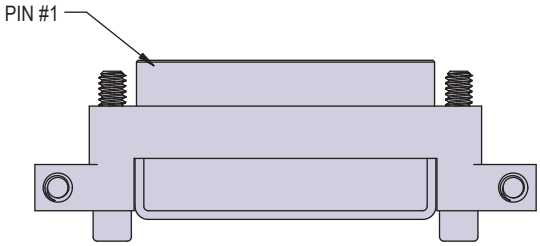
890-043 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Plug Footprints

Right-Angle PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board



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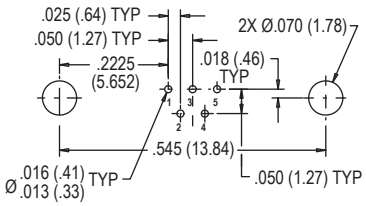

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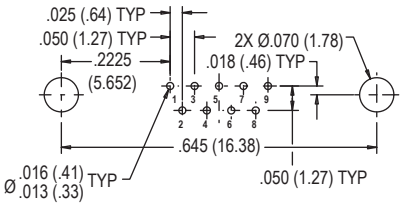

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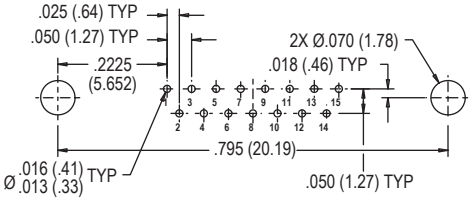

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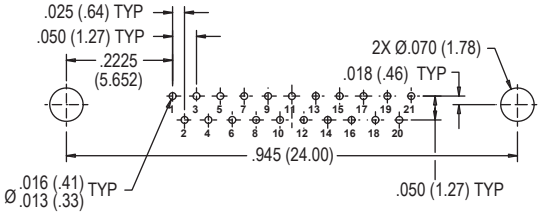

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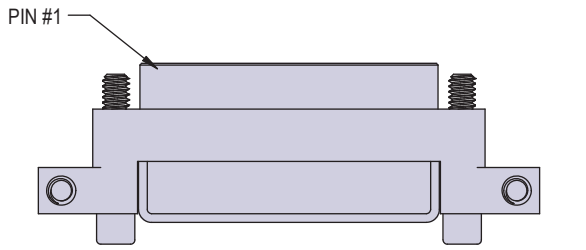
890-043 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Plug Footprints

Right-Angle PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board



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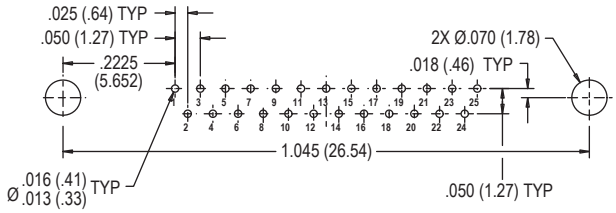

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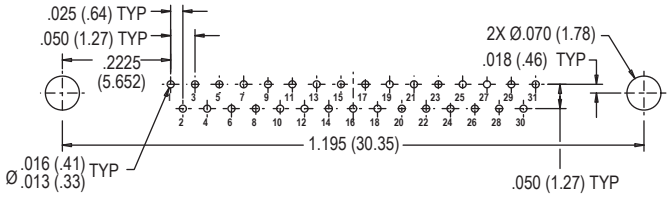

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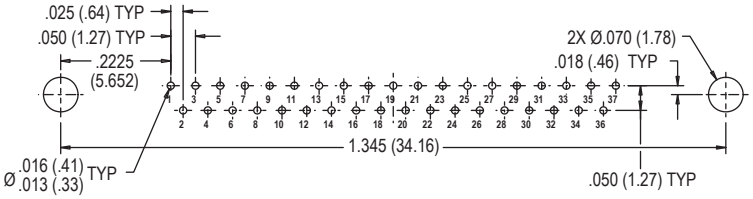

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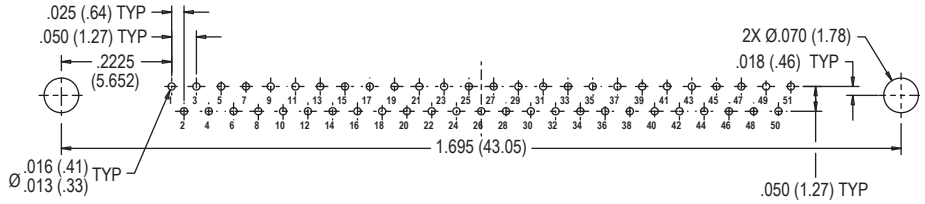

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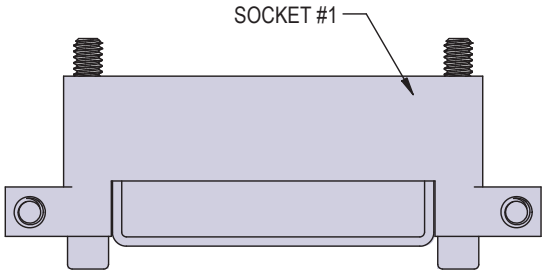
890-044 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Receptacle Footprints

Right-Angle PCB receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board



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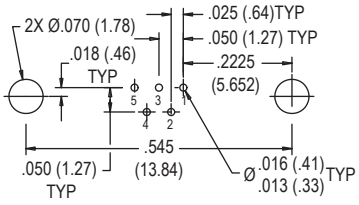

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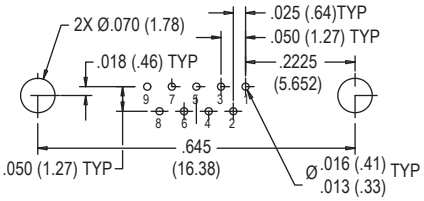

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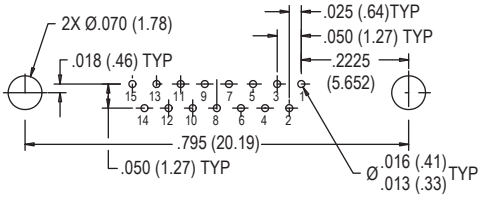

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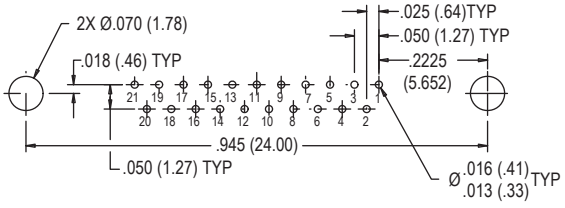

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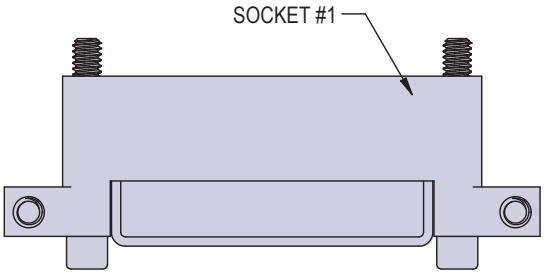
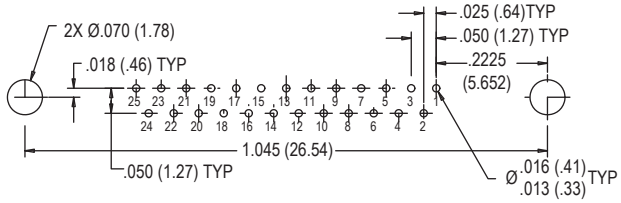
890-044 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Receptacle Footprints

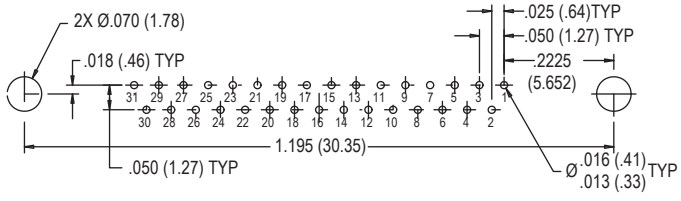
Right-Angle PCB receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board



25 Contacts



31 Contacts



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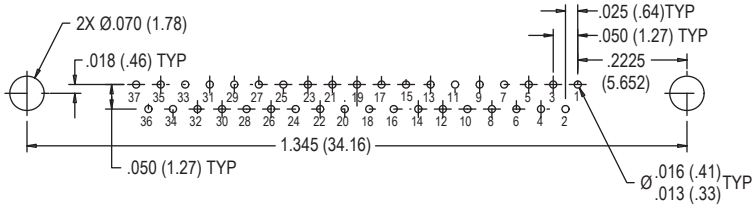

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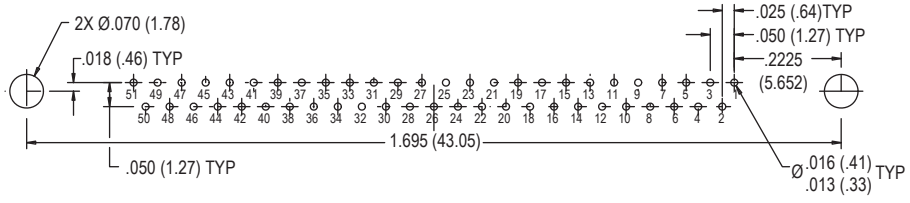

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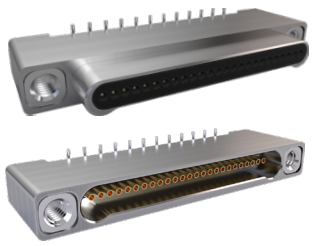
Single-Row Rectangular Connectors

890-010 and 890-011 Vertical Surface Mount PCB Connectors



Vertical Surface Mount PCB Nano Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female threads.

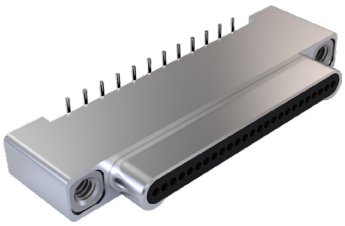
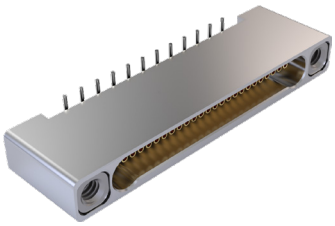
Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	890-010	-37P	A1	-BSS	T

Series	**890-010** = Plug, Pin Contacts, Single Row, Vertical SMT Nanominiature **890-011** = Receptacle, Socket Contacts, Single Row, Vertical SMT Nanominiature
Insert Arrangement/ Contact Type	Plugs (890-010): **5P**, **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **51P** Receptacles (890-011): **5S**, **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2**=Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33**= Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S**=Stainless Steel Shell, Passivated
Termination Type	**BSS** = Board Straight Surface Mount
Hardware	**T** = Female Thread, #0-80* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

PLUG HARDWARE	RECEPTACLE HARDWARE
	
T - Female Thread	T - Female Thread

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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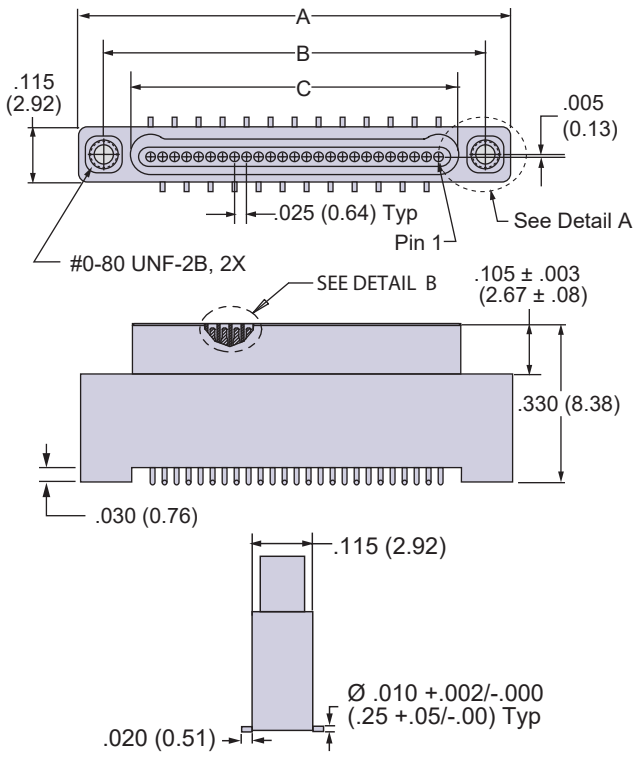
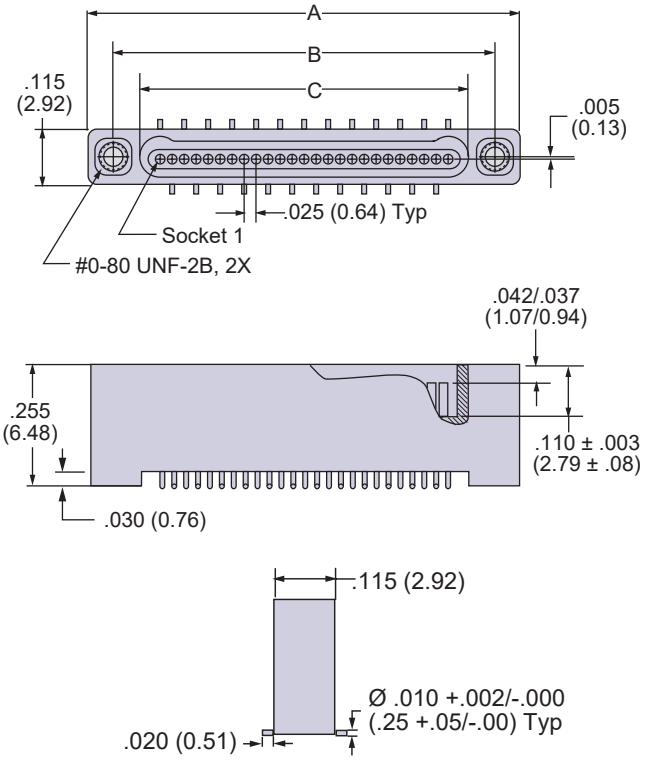
890-010 and 890-011 Vertical Surface Mount PCB Connectors

DIMENSIONS

890-010 Plug (Pin) Connectors

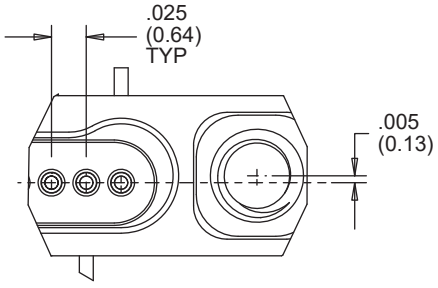


890-011 Receptacle (Socket) Connectors

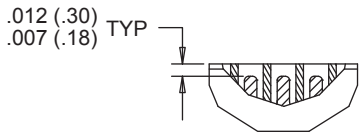


Layout	A ± .005 (0.127)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

DETAIL A



DETAIL B



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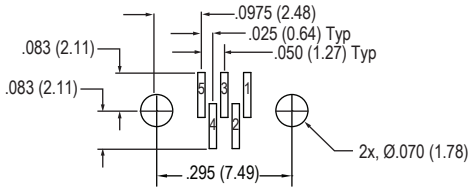
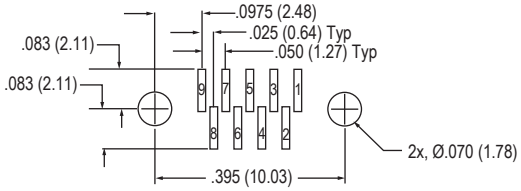
Dimensions in Inches (millimeters) are subject to change without notice.

890-010 Vertical Surface Mount PCB Connectors - Plug Footprints

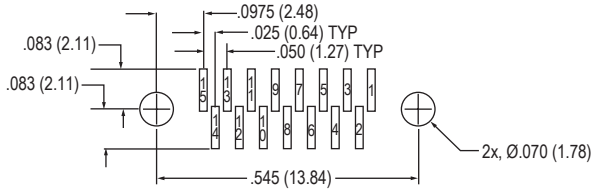
5 Contacts

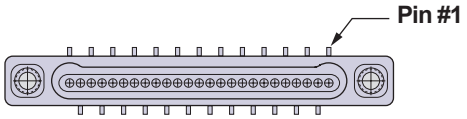


9 Contacts

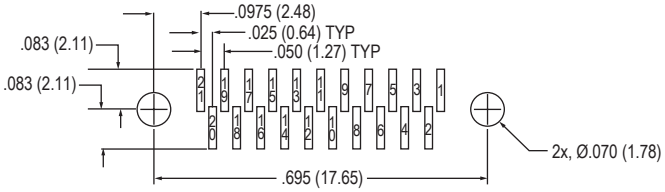


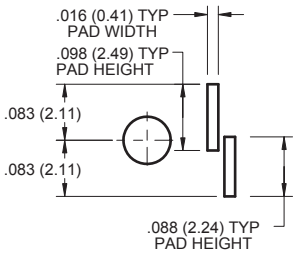
15 Contacts





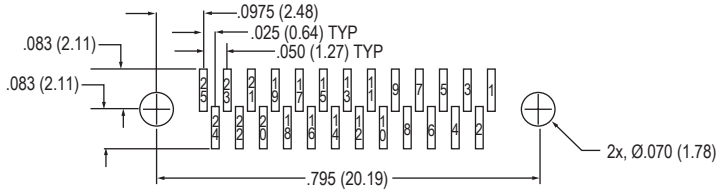
21 Contacts



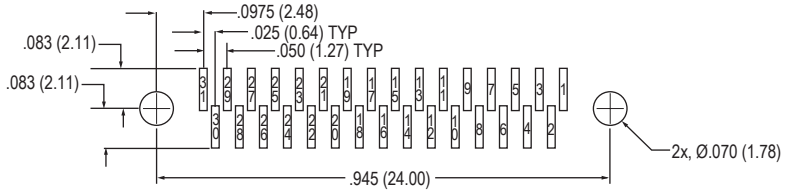


Pad Footprint Detail

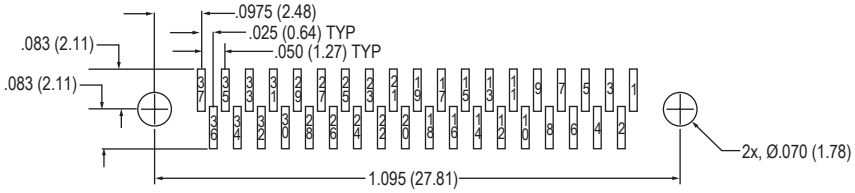
25 Contacts



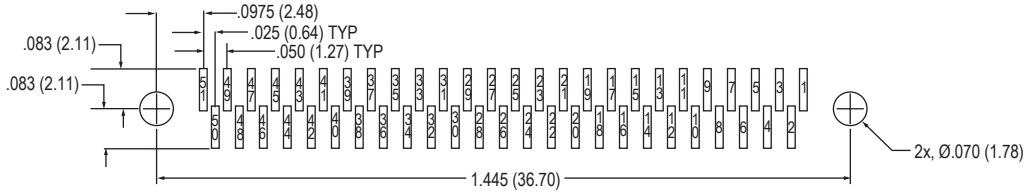
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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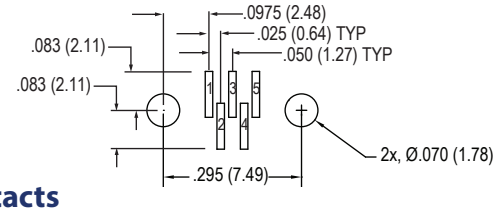
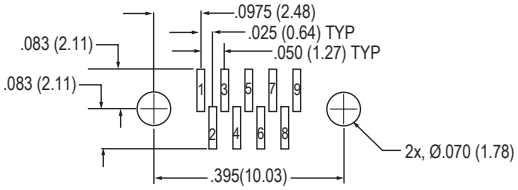
890-011 Vertical Surface Mount PCB Connectors - Receptacle Footprints

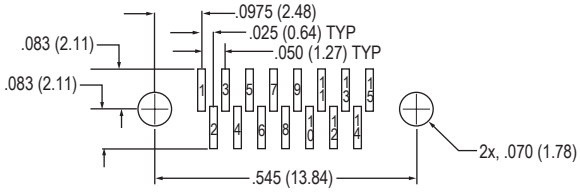
5 Contacts

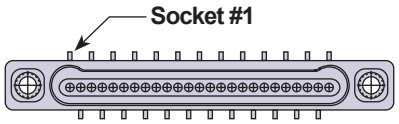


9 Contacts

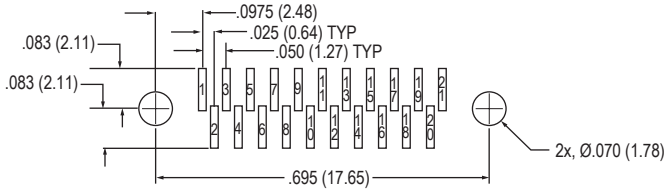


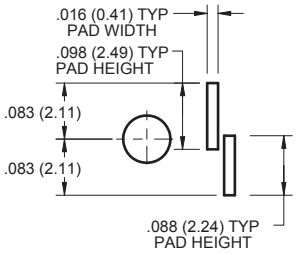
15 Contacts





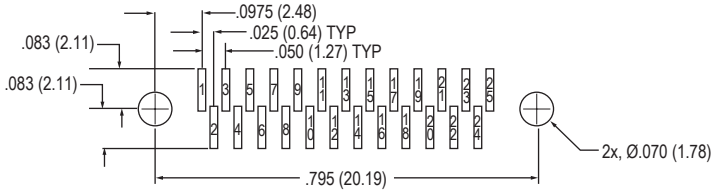
21 Contacts



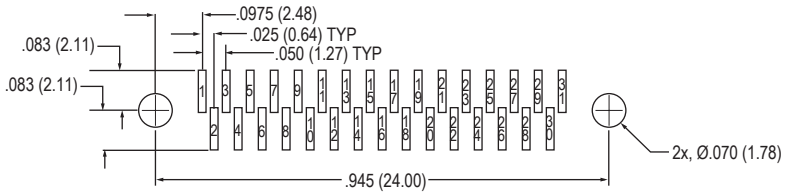


Pad Footprint Detail

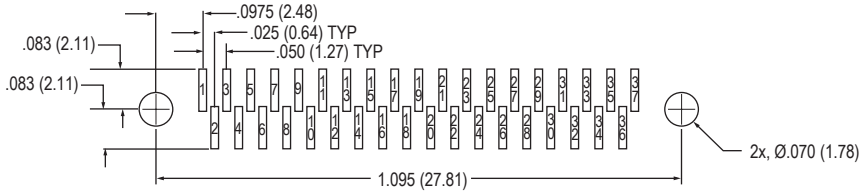
25 Contacts



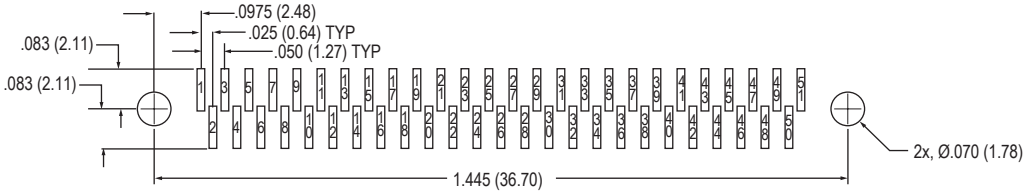
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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Single-Row Rectangular Connectors

890-017 and 890-018 Vertical Surface Mount PCB Connectors with Jackscrews



Vertical Surface Mount PCB Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female mounting threads and #0-80 jackscrew threads.

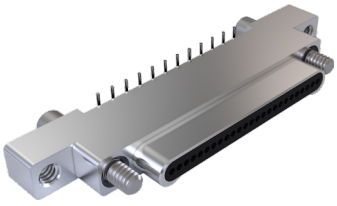
Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability. Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	890-017	-25P	A2	-BSS	J

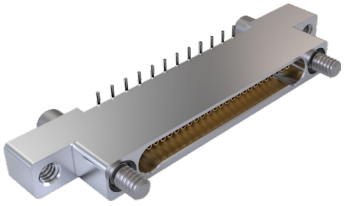
Series	**890-017** = Vertical, Surface Mount PCB Plug **890-018** = Vertical, Surface Mount PCB Receptacle
Insert Arrangement/ Contact Type	Plugs (890-017): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P,** Receptacles (890-018): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BSS** = Board Straight Surface Mount
Hardware	**J** = Hex Head Jackscrew

PLUG HARDWARE



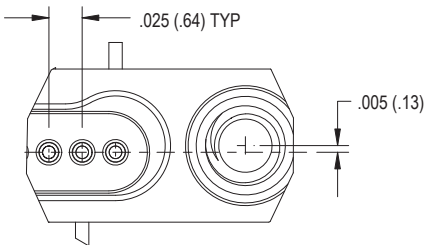
J - Jackscrew

RECEPTACLE HARDWARE

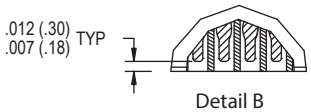


J - Jackscrew

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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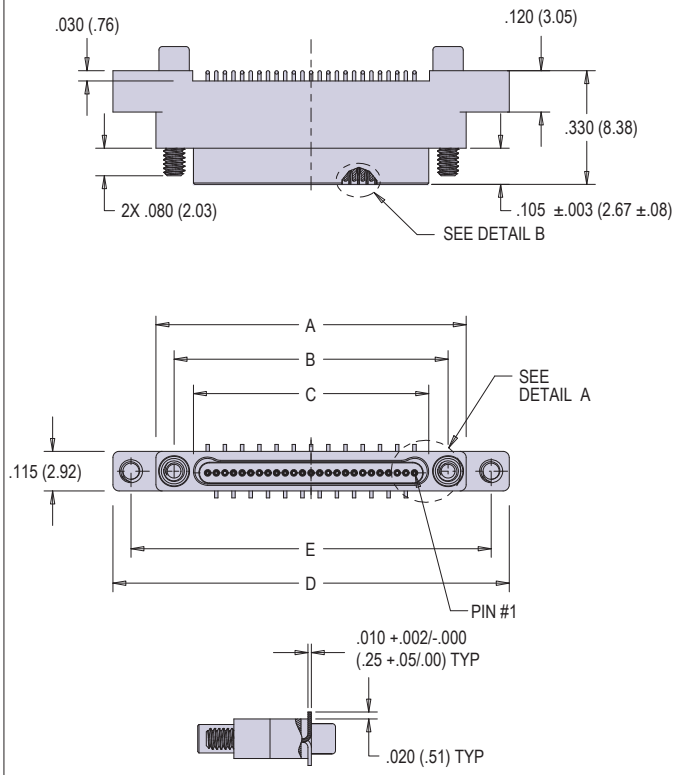
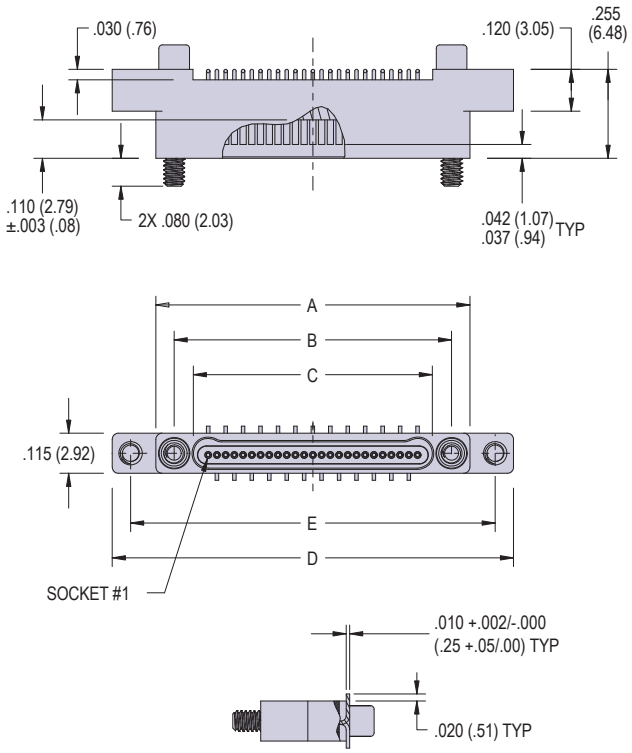
890-017 and 890-018 Vertical Surface Mount PCB Connectors with Jackscrews

DIMENSIONS

890-017 Plug (Pin) Connectors



890-018 Receptacle (Socket) Connectors



Layout	A ± .005(0.13)	B BSC.	C BSC.	D	E BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)	.650 (16.51)	.545 (13.84)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)	.650 (16.51)	.545 (13.84)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	.750 (19.05)	.645 (16.38)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)	.750 (19.05)	.645 (16.38)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)	.900 (22.86)	.795 (20.19)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	.900 (22.86)	.795 (20.19)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	1.050 (26.67)	.945 (24.00)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	1.050 (26.67)	.945 (24.00)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)	1.150 (29.21)	1.045 (26.54)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)	1.150 (29.21)	1.045 (26.54)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)	1.300 (33.02)	1.195 (30.35)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)	1.300 (33.02)	1.195 (30.35)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	1.450 (36.83)	1.345 (34.16)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)	1.450 (36.83)	1.345 (34.16)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.800 (45.72)	1.695 (43.05)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)	1.800 (45.72)	1.695 (43.05)

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

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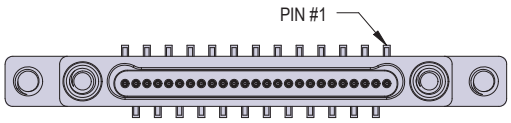
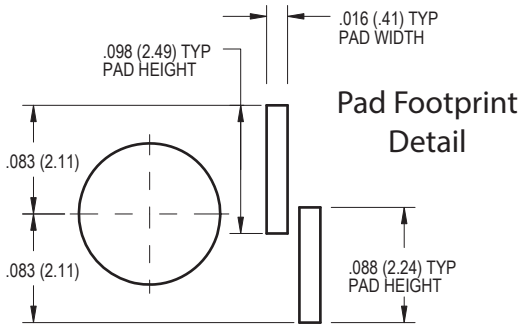
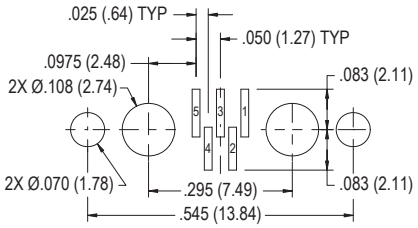
890-017 Vertical Surface Mount PCB with Jackscrews - Plug Footprints





5 Contacts



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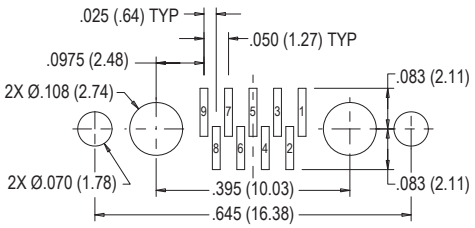

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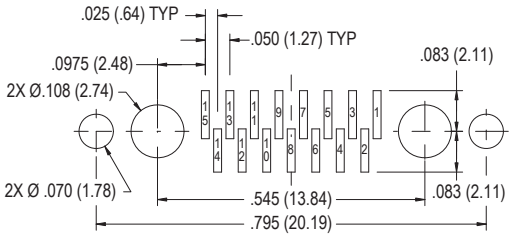

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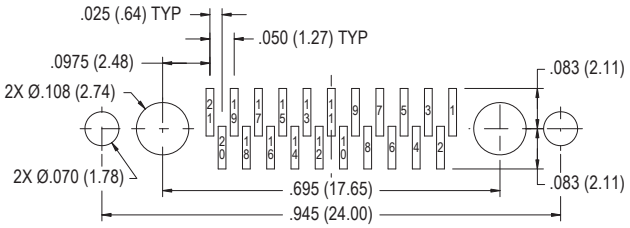

Layouts shown are for connector mounting side of PC Board.

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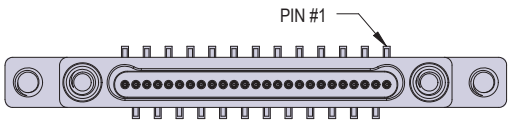
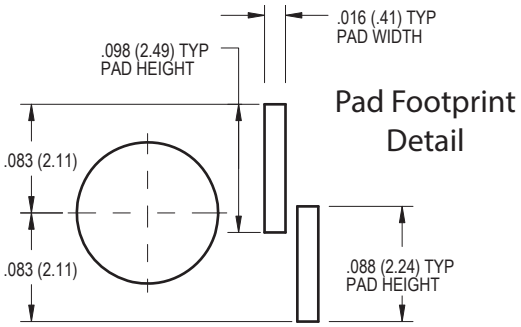
890-017 Vertical Surface Mount PCB with Jackscrews - Plug Footprints





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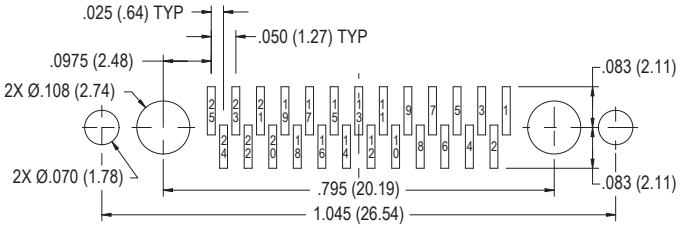

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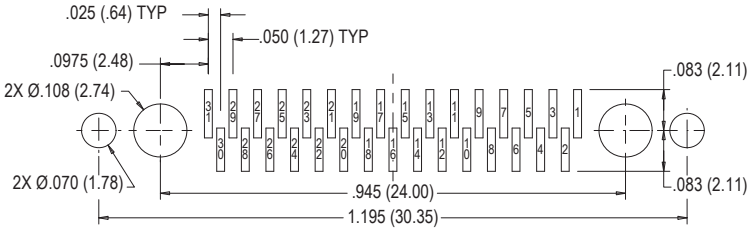
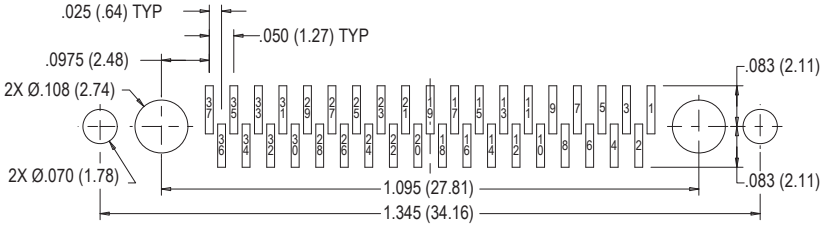


37 Contacts



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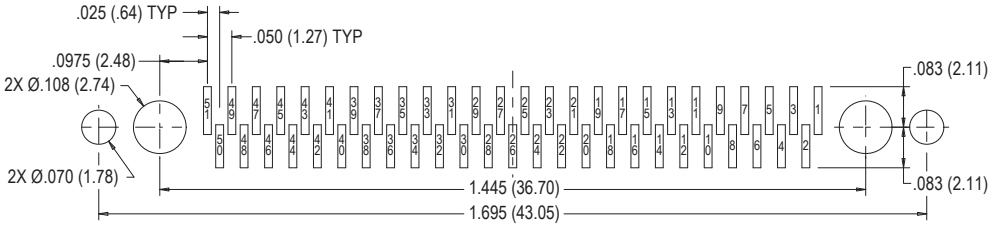

Layouts shown are for connector mounting side of PC Board.

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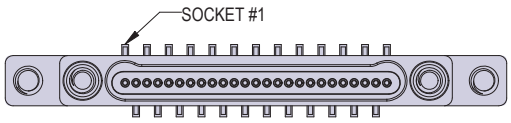
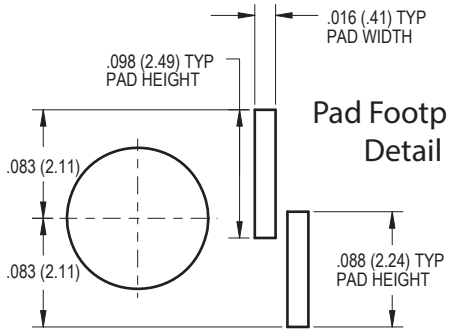
890-018 Vertical Surface Mount PCB with Jackscrews - Receptacle Footprints





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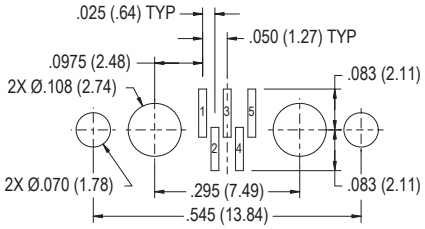

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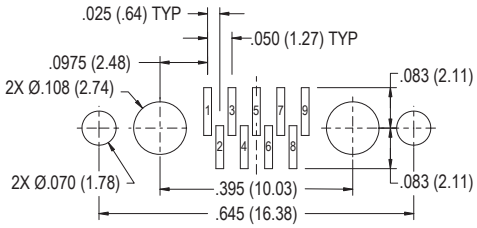

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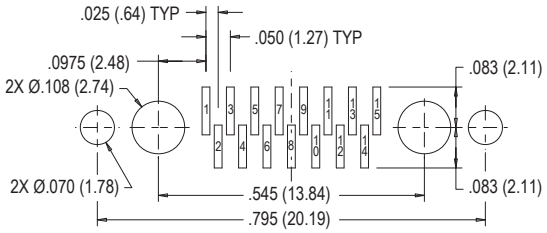

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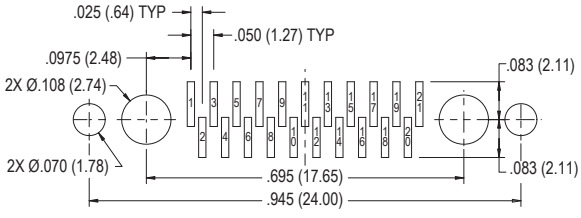

Layouts shown are for connector mounting side of PC Board.

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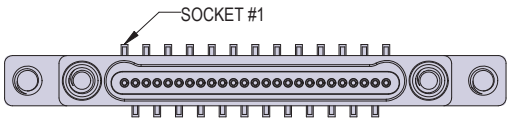
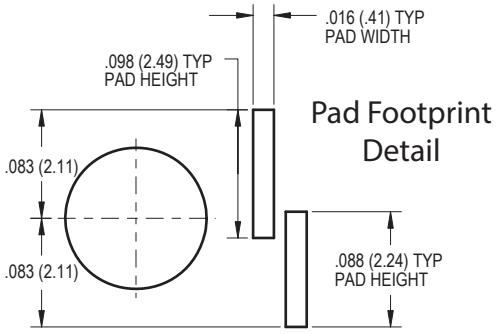
890-018 Vertical Surface Mount PCB with Jackscrews - Receptacle Footprints





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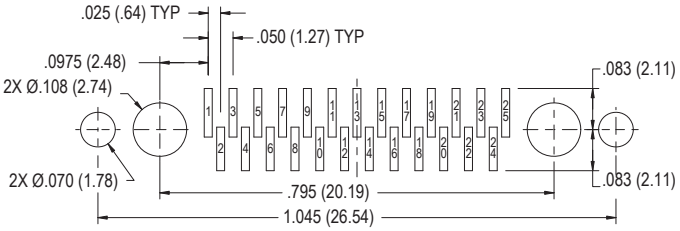

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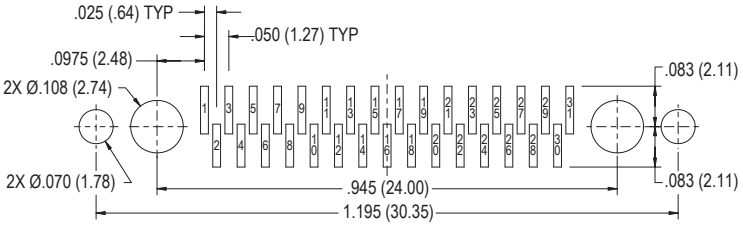

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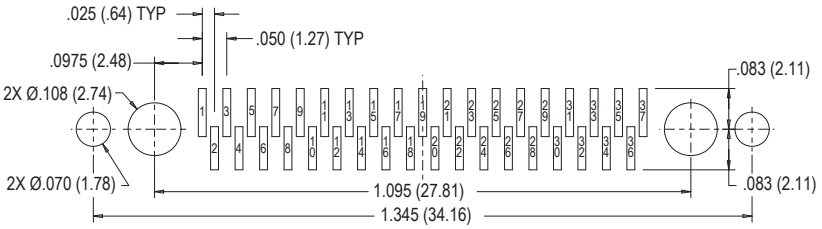

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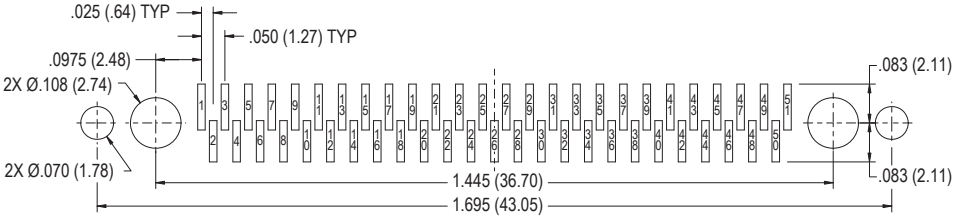

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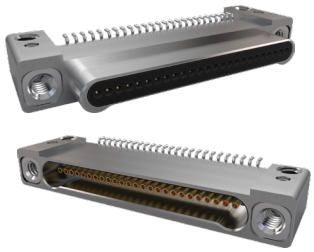
Single-Row Rectangular Connectors

890-012 and 890-013 Right-Angle, Surface Mount PCB Connectors



Right-Angle SMT PCB Nano Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female mounting threads. Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	890-012	-25P	A2	-BRS	T

Series	**890-012** = Plug, Pin Contacts, Single Row, Right-Angle SMT Nanominiature **890-013** = Receptacle, Socket Contacts, Single Row, Right-Angle SMT Nanominiature
Insert Arrangement/ Contact Type	Plugs (890-012): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P,** Receptacles (890-013): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BRS** = Board Right-Angle Surface Mount
Hardware	**T** = Female Thread, #0-80 (Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells)

PLUG HARDWARE	RECEPTACLE HARDWARE
	
T - Female Thread	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

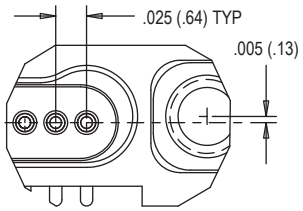
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

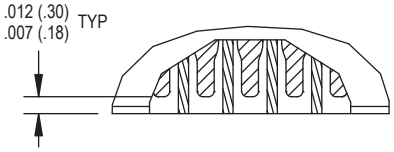
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

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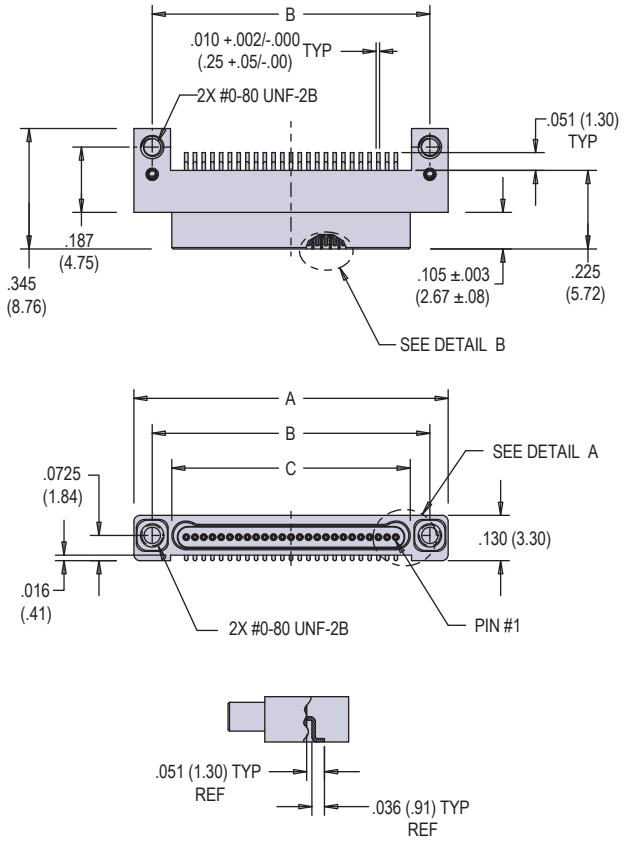
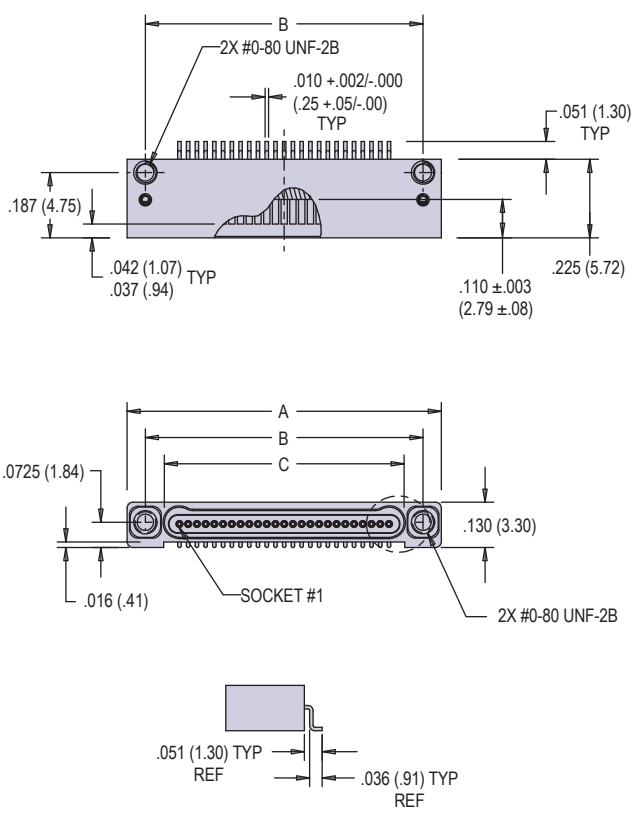
890-012 and 890-013 Right-Angle, Surface Mount PCB Connectors

DIMENSIONS

890-012 Plug (Pin) Connectors



890-013 Receptacle (Socket) Connectors



Layout	A ± .005(0.13)	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

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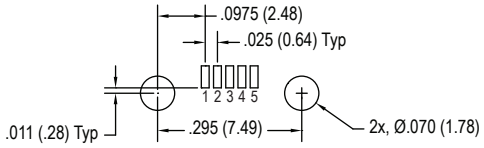
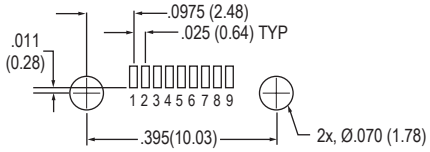
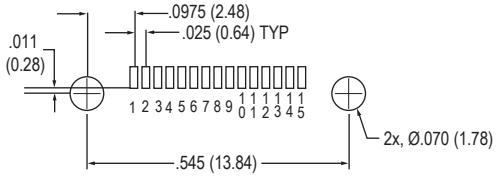
890-012 Right-Angle, Surface Mount PCB Connectors - Plug Footprints



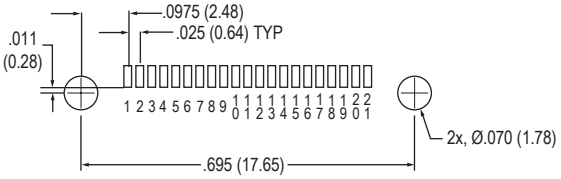
5 Contacts



9 Contacts



15 Contacts



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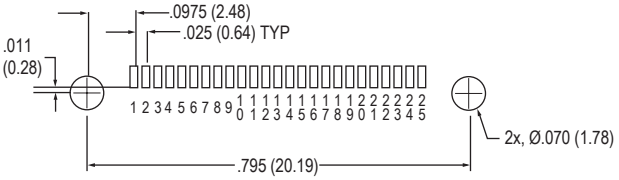

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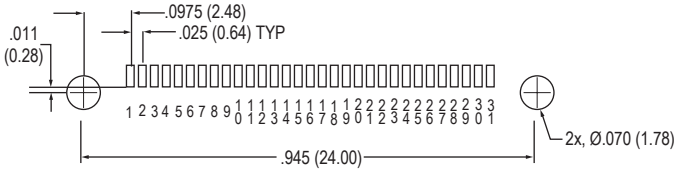
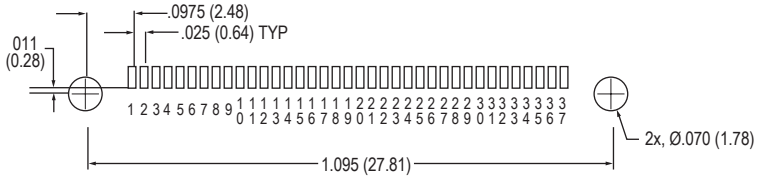
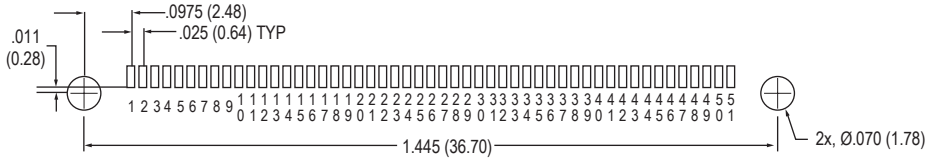


31 Contacts



37 Contacts



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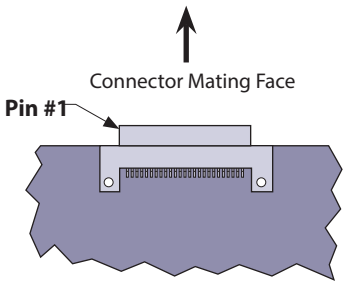

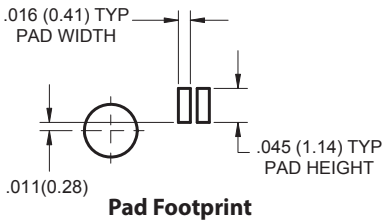

Pad Footprint Detail

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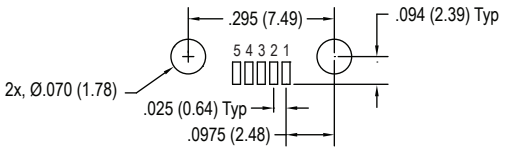
890-013 Right-Angle, Surface Mount PCB Connectors - Receptacle Footprints



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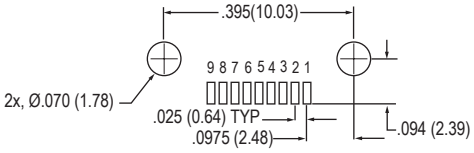

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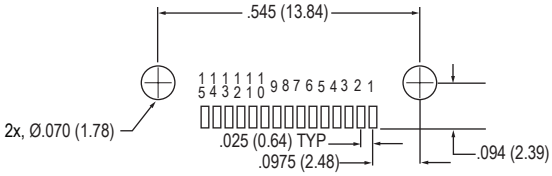

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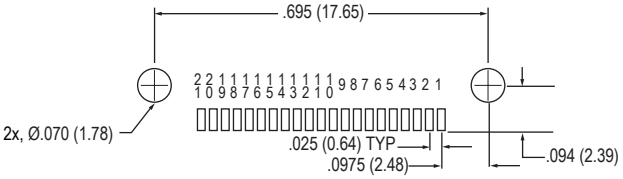
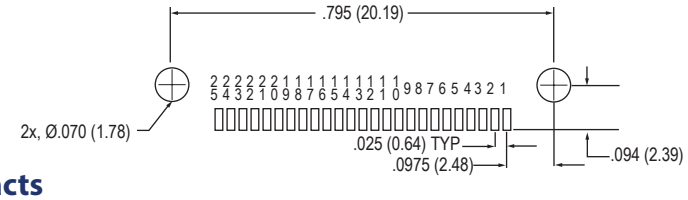
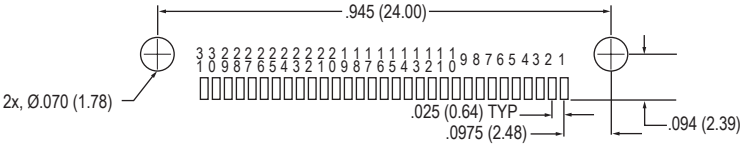


21 Contacts



25 Contacts



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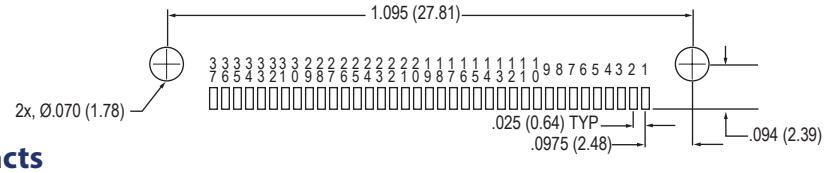

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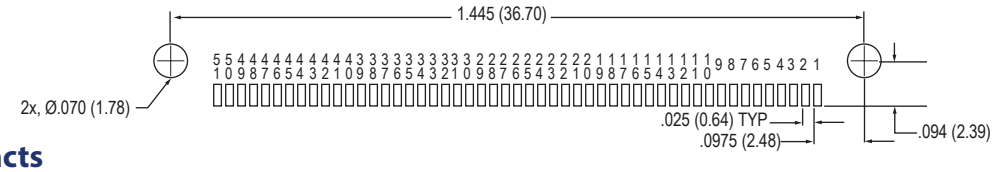
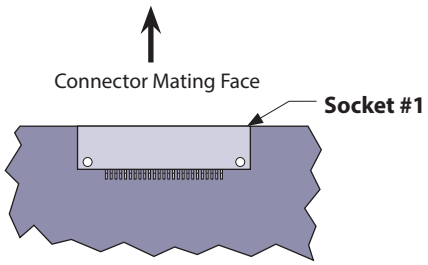
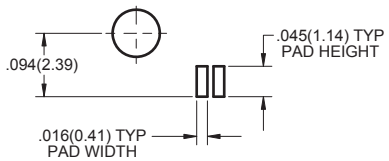


51 Contacts





Pad Footprint Detail

Layouts shown are for connector mounting side of PC Board.

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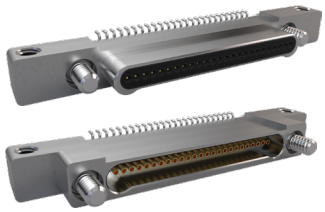
Single-Row Rectangular Connectors

890-019 and 890-020 Right-Angle, Surface Mount PCB Connectors with Jackscrews



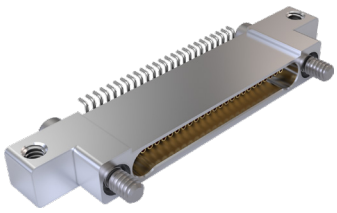
Right-Angle SMT PCB Nano Connectors feature gold alloy TwistPin contacts. These nanomimiature connectors offer premium performance and reliability for demanding applications. Available with #0-80 female mounting threads and #0-80 jackscrew threads. Pre-Tinned PC Tails are coated with Sn60Pb40 or Sn63Pb37 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connectors.

HOW TO ORDER

Sample Part Number	890-019	-25P	A2	-BRS	J

Series	**890-019** = Right-Angle, Surface Mount PCB Plug **890-020** = Right-Angle, Surface Mount PCB Receptacle
Insert Arrangement/ Contact Type	Plugs (890-019): **5P, 9P, 15P, 21P, 25P, 31P, 37P, 51P,** Receptacles (890-020): **5S, 9S, 15S, 21S, 25S, 31S, 37S, 51S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A31** = Aluminum Shell, Zinc Nickel Plating **S** = Stainless Steel Shell, Passivated **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated
Termination Type	**BRS** = Board Right-Angle Surface Mount
Hardware	**J** = Hex Head Jackscrew

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	J - Jackscrew

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

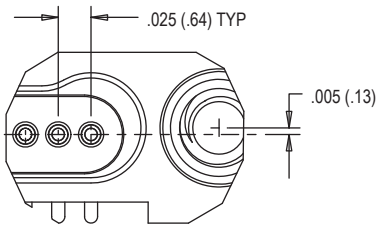
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

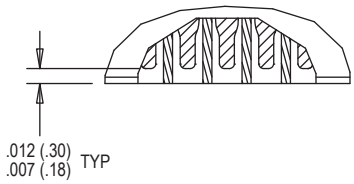
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2

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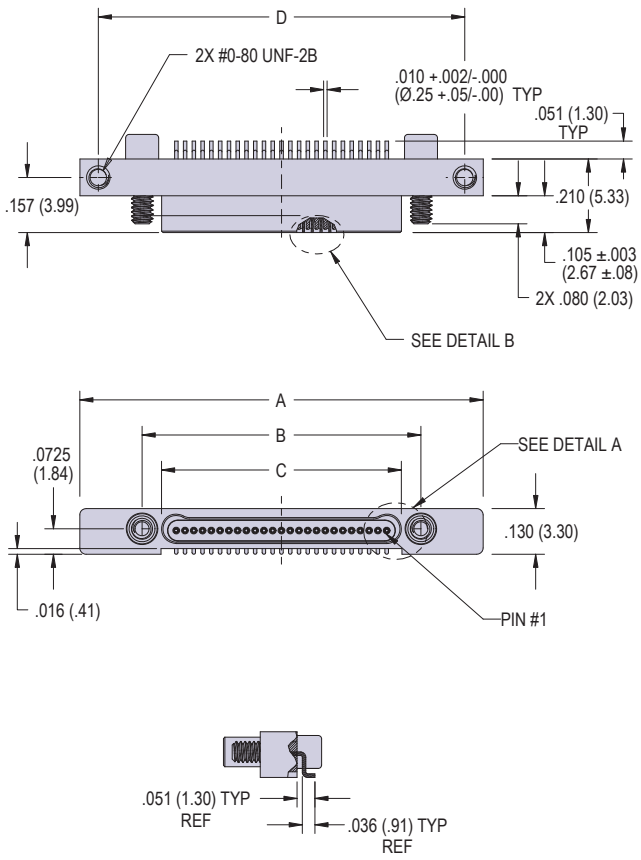
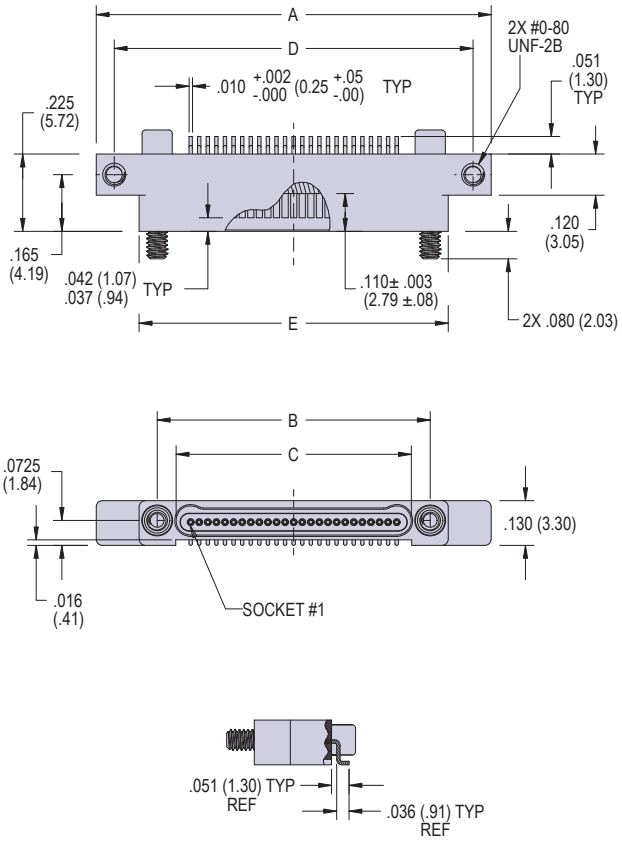
890-019 and 890-020 Right-Angle, Surface Mount PCB Connectors with Jackscrews

DIMENSIONS

890-019 Plug (Pin) Connectors



890-020 Receptacle (Socket) Connectors



Layout	A ± .005(0.13)	B BSC.	C BSC.	D BSC	E
5P	.650 (16.51)	.295 (7.49)	.184 (4.67)	.545 (13.84)	-
5S	.650 (16.51)	.295 (7.49)	.185 (4.70)	.545 (13.84)	.400 (10.16)
9P	.750 (19.05)	.395 (10.03)	.284 (7.21)	.645 (16.38)	-
9S	.750 (19.05)	.395 (10.03)	.285 (7.24)	.645 (16.38)	.500 (12.70)
15P	.900 (22.86)	.545 (13.84)	.434 (11.02)	.795 (20.19)	-
15S	.900 (22.86)	.545 (13.84)	.435 (11.05)	.795 (20.19)	.650 (16.51)
21P	1.050 (26.67)	.695 (17.65)	.584 (14.83)	.945 (24.00)	-
21S	1.050 (26.67)	.695 (17.65)	.585 (14.86)	.945 (24.00)	.800 (20.32)
25P	1.150 (29.21)	.795 (20.19)	.684 (17.37)	1.045 (26.54)	-
25S	1.150 (29.21)	.795 (20.19)	.685 (17.40)	1.045 (26.54)	.900 (22.86)
31P	1.300 (33.02)	.945 (24.00)	.834 (21.18)	1.195 (30.35)	-
31S	1.300 (33.02)	.945 (24.00)	.835 (21.21)	1.195 (30.35)	1.050 (26.67)
37P	1.450 (36.83)	1.095 (27.81)	.984 (24.99)	1.345 (34.16)	-
37S	1.450 (36.83)	1.095 (27.81)	.985 (25.02)	1.345 (34.16)	1.200 (30.48)
51P	1.800 (45.72)	1.445 (36.70)	1.334 (33.88)	1.695 (43.05)	-
51S	1.800 (45.72)	1.445 (36.70)	1.335 (33.91)	1.695 (43.05)	1.550 (39.37)

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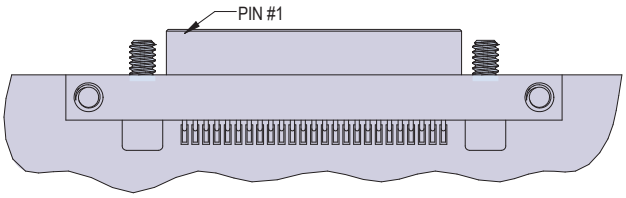
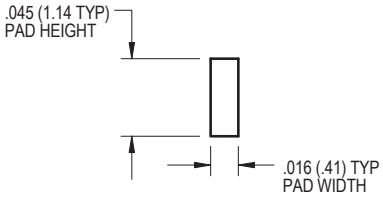
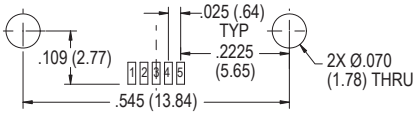
890-019 Right-Angle Surface Mount PCB with Jackscrews - Plug Footprints



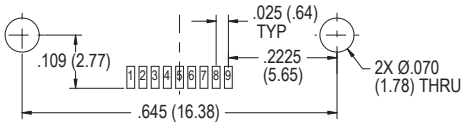


PAD FOOTPRINT DETAIL

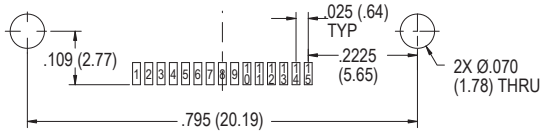
5 Contacts



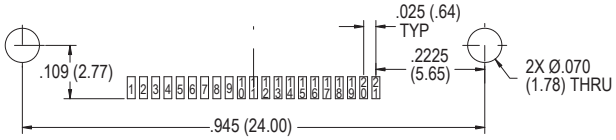
9 Contacts



15 Contacts



21 Contacts



Layouts shown are for connector mounting side of PC Board.

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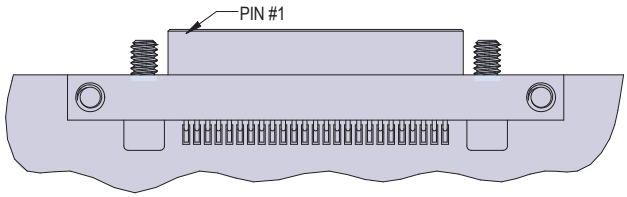
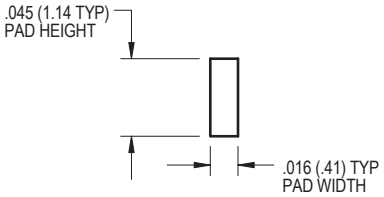
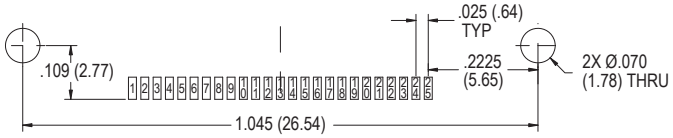
890-019 Right-Angle Surface Mount PCB with Jackscrews - Plug Footprints



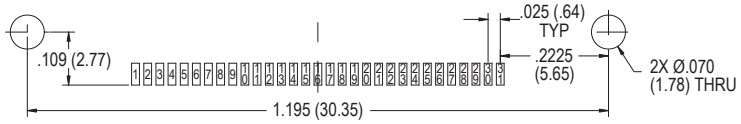


PAD FOOTPRINT DETAIL

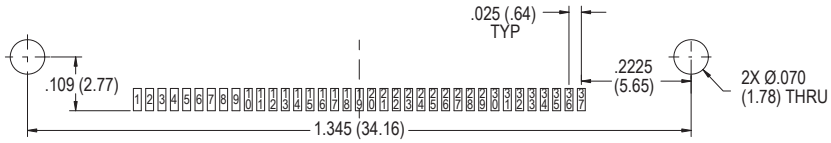
25 Contacts



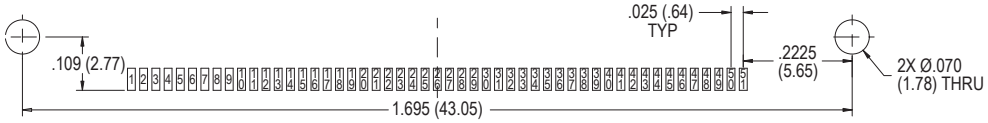
31 Contacts



37 Contacts



51 Contacts



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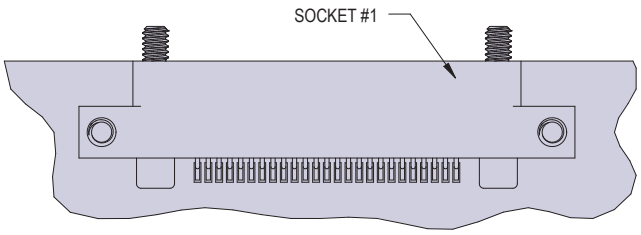
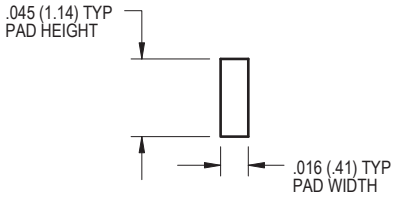
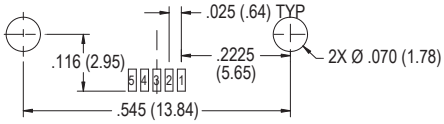
890-020 Right-Angle Surface Mount PCB with Jackscrews - Receptacle Footprints



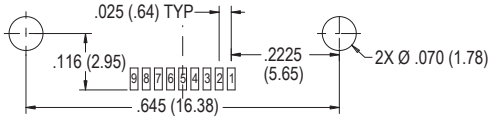


PAD FOOTPRINT DETAIL

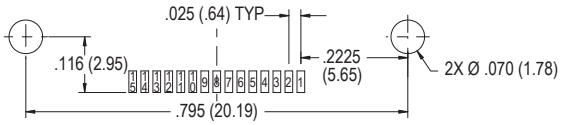
5 Contacts



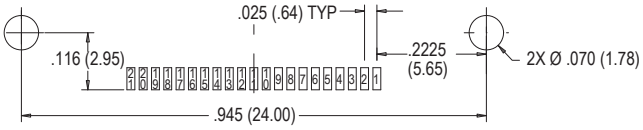
9 Contacts



15 Contacts



21 Contacts



Layouts shown are for connector mounting side of PC Board.

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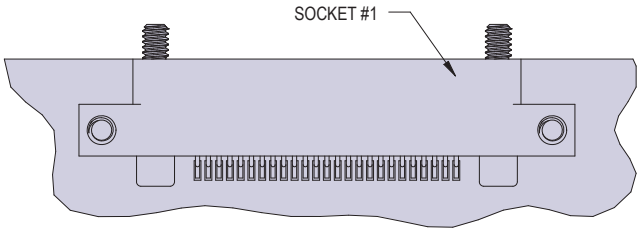
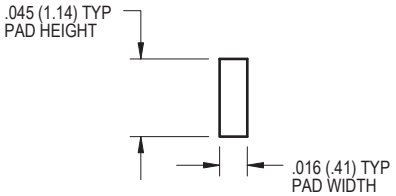
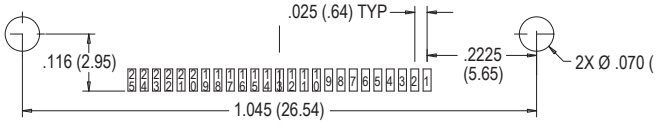
890-020 Right-Angle Surface Mount PCB with Jackscrews - Receptacle Footprints



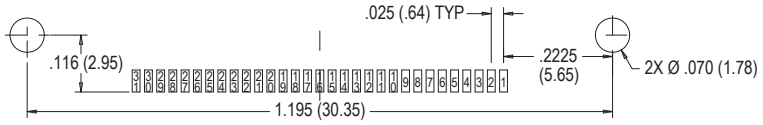


PAD FOOTPRINT DETAIL

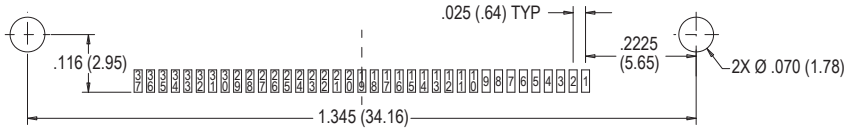
25 Contacts



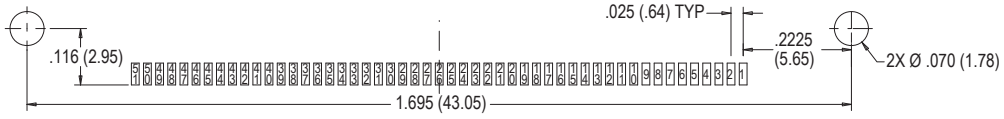
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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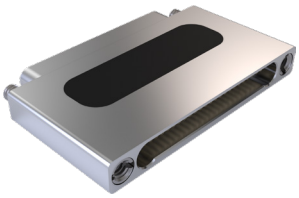
890-016 Sav-Con® Connector Saver





Glenair Connector Savers protect expensive connector contacts with Glenair Connector Savers. Once installed, this device will reduce wear on vital contacts and eliminate downtime due to fouled or damaged connectors.

HOW TO ORDER

Sample Part Number	890-016	-15	US	P1
Series	**890-016** = Single Row, Connector Saver			
Number of Contacts	**5**, **9**, **15**, **21**, **25**, **31**, **37**, **51**			
Connector Type	**US** = Plug to Receptacle One Piece Shell			
Hardware	**P1** = Permanently Installed Jackscrew/Jackpost Male thread on Plug side **S1** = Permanently Installed Jackscrew/Jackpost Male thread on Receptacle side			

NOTES

1. Jackscrew/jackpost head has a slot drive. Use a slotted blade miniature screwdriver with a .018 thick X .080" wide blade to turn.
2. Jackscrew/jackpost recommended torque: 0.5 - 1.0 In-lbs.
3. Materials/finishes
   - Aluminum alloy, electroless nickel plated
   - Socket insulator - liquid crystal polymer (LCP)
   - Plug insulator - liquid crystal polymer (LCP)
   - Plug contact - gold alloy/unplated
   - Socket contact - gold alloy/unplated
   - Wire - 30 AWG gold plated copper alloy (not shown)
   - Conductive epoxy
   - Jackscrew/jackpost combination - passivated stainless steel
   - Jackscrew retainer - passivated stainless steel

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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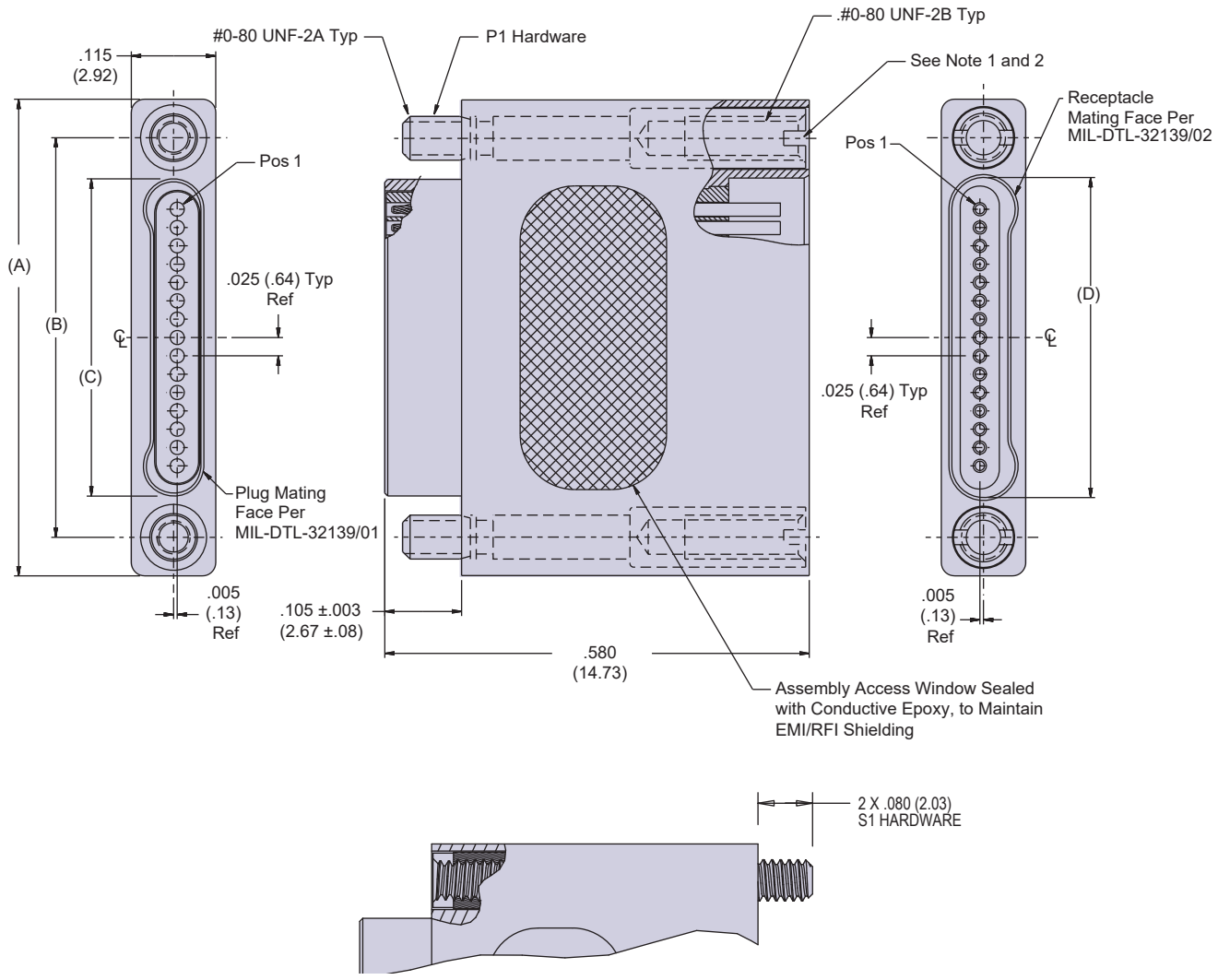
890-016 Sav-Con® Connector Saver

DIMENSIONS

15 Position Connector Is Shown



Number Of Contacts	A	B Ref	C Ref	D Ref
5	.400 (10.16)	.295 (7.49)	.184 (4.67)	.185 (4.70)
9	.500 (12.70)	.395 (10.03)	.284 (7.21)	.285 (7.24)
15	.650 (16.51)	.545 (13.84)	.434 (11.02)	.435 (11.05)
21	.800 (20.32)	.695 (17.65)	.584 (14.83)	.585 (14.86)
25	.900 (22.86)	.795 (20.19)	.684 (17.37)	.685 (17.40)
31	1.050 (26.67)	.945 (24.00)	.834 (21.18)	.835 (21.21)
37	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	.985 (25.02)
51	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.335 (33.91)

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Single-Row Rectangular Connectors

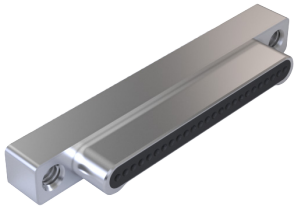
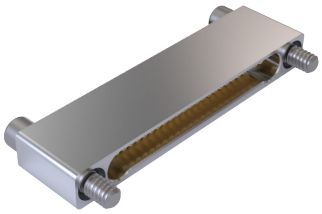
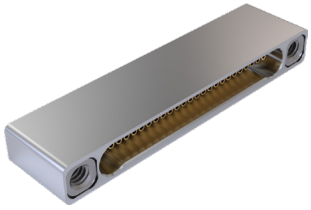
890-037 and 890-038 Plug and Receptacle Shorting Connectors



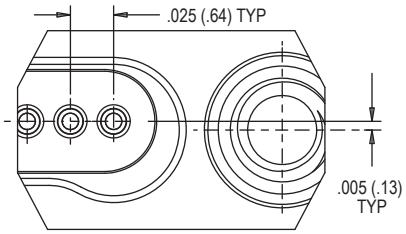
Nano Plug, Single Row Shorting Connectors feature gold alloy TwistPin contacts. These nanomimiature shorting connectors provide ESD protection for sensitive instrumentation. Available with #0-80 female threads or #0-80 jackscrew threads. Choose Aluminum, Titanium or Stainless Steel Shells in eight layouts from 5 to 51 contacts. These connectors are intermateable with any corresponding Glenair Series 890 single row metal shell nanominiature connector.

HOW TO ORDER

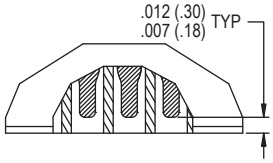
Sample Part Number	890-037	-25P	A2	-C	-J
Series	**890-037** = Shorting Plug **890-038** = Shorting Receptacle				
Insert Arrangement/ Contact Type	Plugs (890-037): **5P**, **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **51P**, Receptacles (890-038): **5S**, **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **51S**				
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **S** = Stainless Steel Shell, Passivated		**A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated		
Shorting Combination	**C** = All Contacts Shorted Together, Isolated from the Shell **G** = All Contacts Shorted Together, and Grounded to the Shell				
Hardware	**J** = Hex Head Jackscrew *Stainless Steel Inserts installed In Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells		**T** = Female Thread*		

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

DETAIL A



DETAIL B



NOTES

1. Inspect and Test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/1 and MIL-DTL-32139/2
3. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: Gold alloy/unplated
   - Wire: single strand copper wire, uninsulated, with gold plating, 30 AWG
   - Hardware: stainless steel, passivated

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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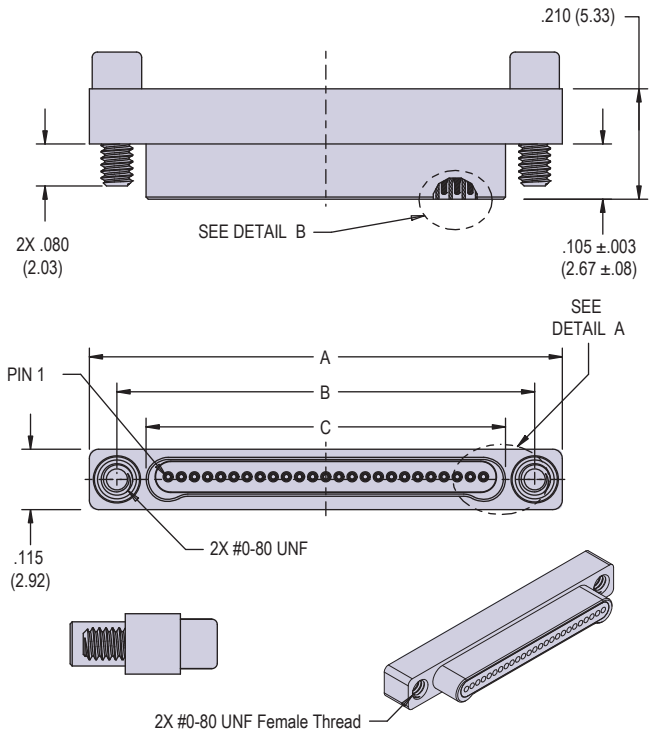
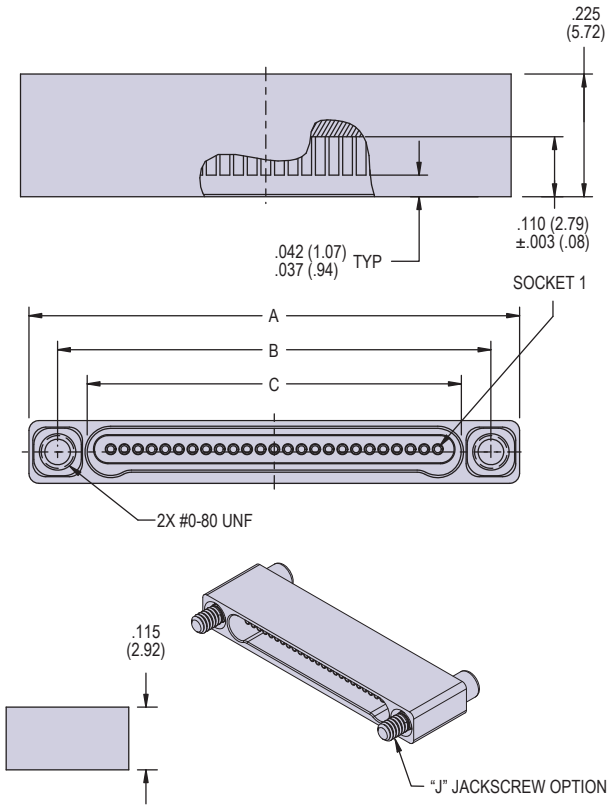
890-037 and 890-038 Plug and Receptacle Shorting Connectors

DIMENSIONS

890-037 Plug (Pin) Connectors



890-038 Receptacle (Socket) Connectors



Layout	A	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
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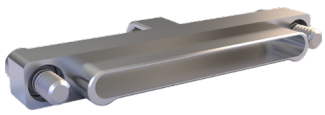
899-010 EMI Cover



Glenair EMI Covers offer the same EMI protection as mated connectors, from electro- magnetic interferance, as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. These covers feature a solid one piece construction machined from your choice of aluminum, stainless steel or titanium. Standard aluminum finishes include cadmium or electroless nickel plating. Available with or without lanyard attachment. Covers are in accordance with MIL-DTL-32139/1 and MIL-DTL-32139/2

HOW TO ORDER

Sample Part Number	899-010	-25	P	A2	J	F	3	-126

Series	**899-010** = EMI Single Row, Nanominiature Cover
Insert Arrangement	**5**, **9**, **15**, **21**, **25**, **31**, **37**, **51**
Body Style	**P** = Plug **S** = Receptacle
Cover Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Hardware	**J** = Jacksrew **T** = Female Thread (Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells)
Attachment Type	**N** = No Lanyard **K** = No Lanyard/No Eyelet Attachment Point **F** = Stainless Steel Wire Rope, Nylon jacket, Black, Ø .034 (0.86) **G** = Flexible Dacron Cord, MIL-DTL-5040 Type 1 Ø.0625 (1.59), Natural **H** = Stainless Steel Wire Rope, Fluoropolymer Jacket, Black, Ø .034 (0.86)
Attachment Length	Attachment Length in Inches (Omit for No Lanyard)
Attachment Diameter	**-098**, **-126**, **-140**, **-156**, **-167**, **-188**, **-197**, **-218** For Dimensions See Table I; (Omit for No Lanyard)

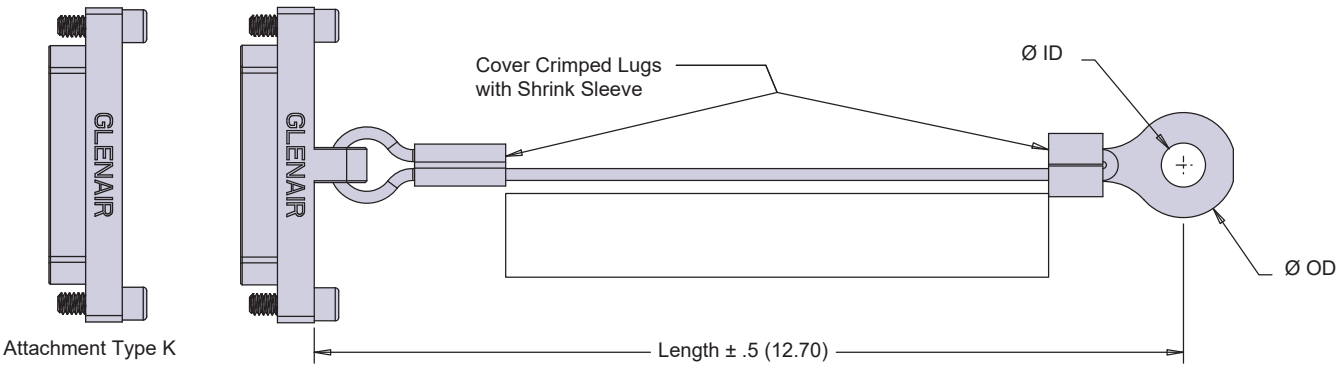


TABLE I: ATTACHMENT DIAMETER

Dash No.	-098	-126	-140	-156	-167	-188	-197	-218
ID	.098 (2.49)	.126 (3.20)	.140 (3.56)	.156 (3.96)	.167 (4.24)	.188 (4.78)	.197 (5.00)	.223 (5.66)/.218 (5.54)
OD	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)

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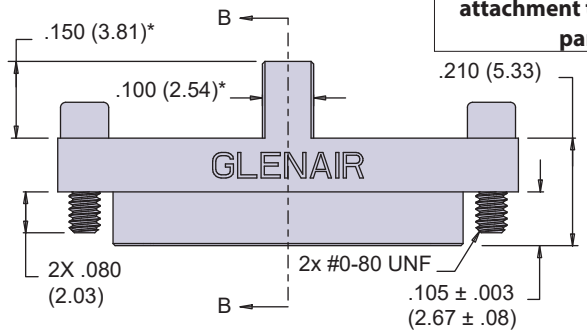
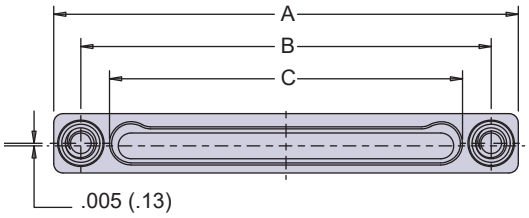
899-010 EMI Cover

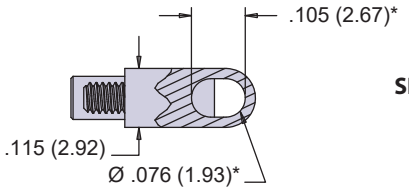
DIMENSIONS

Plug Cover

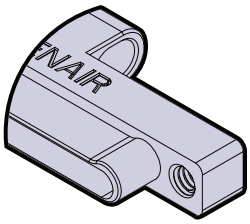
*** Dimensions are not applicable if attachment type "K" is chosen in part number.**





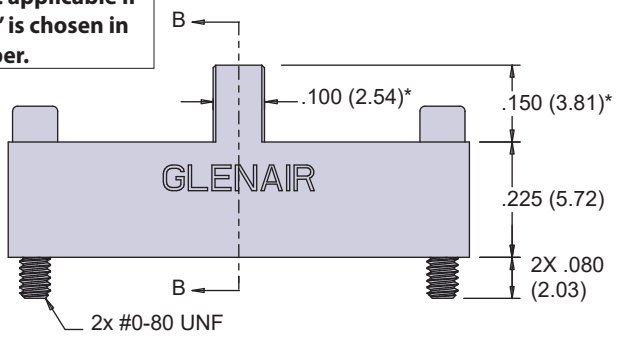


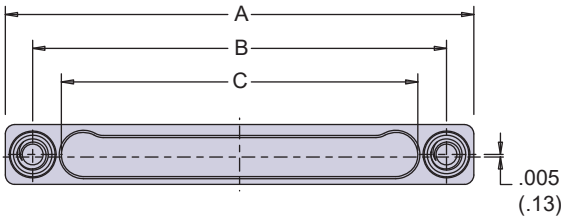
SECTION B-B
Plug

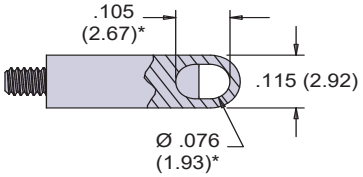


Plug with "T" Female Thread Option

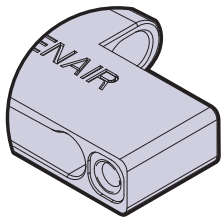
Receptacle Cover







SECTION B-B
Receptacle



Receptacle With "T" Female Thread Option

Size	A	B BSC.	C BSC.	Size	A	B BSC.	C BSC.
5P	.400 (10.16)	.295 (7.49)	.184 (4.67)	25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
5S	.400 (10.16)	.295 (7.49)	.185 (4.70)	25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
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15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

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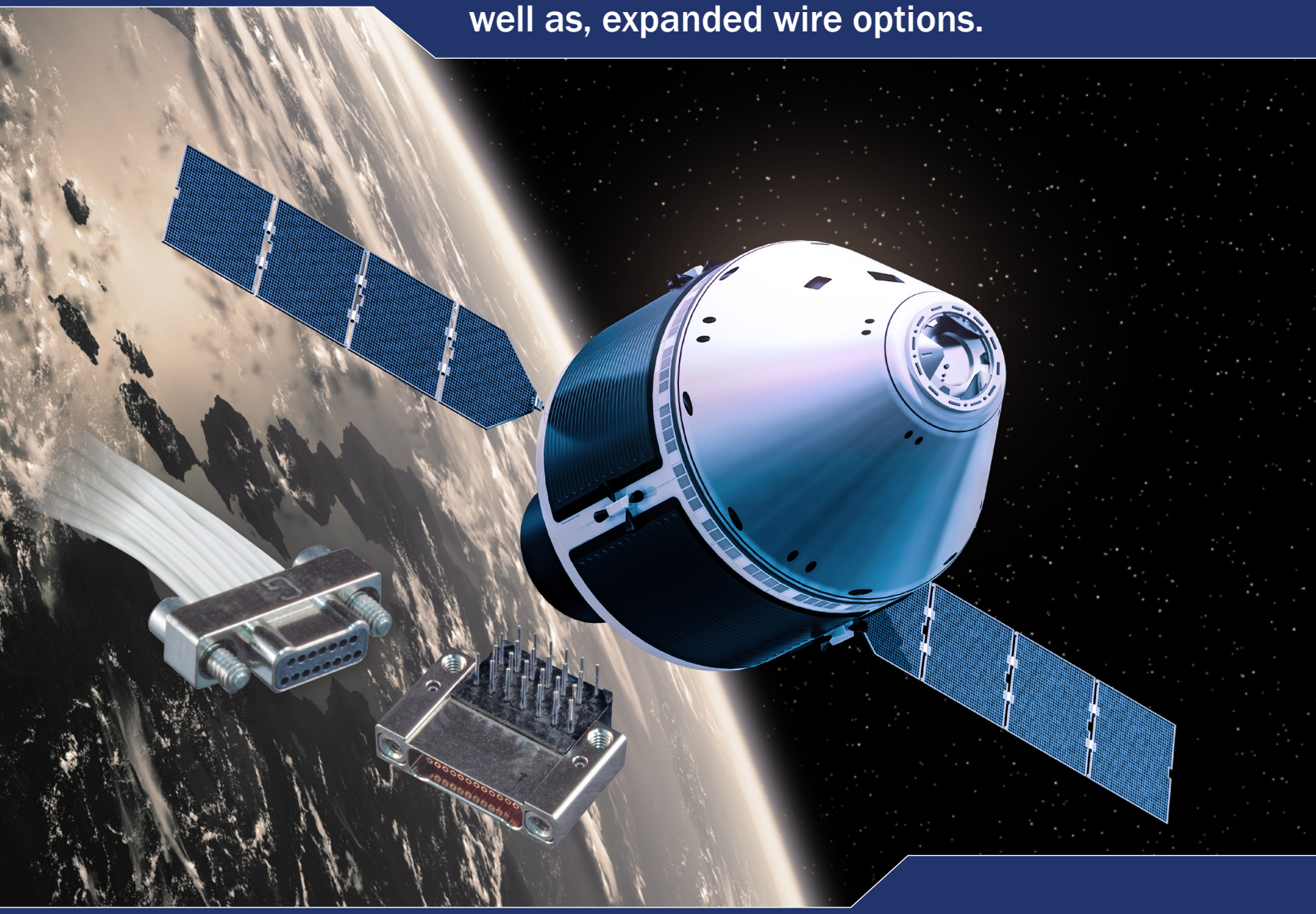
SERIES 89

nano miniature™

Nanominiature Dual-Row Connectors

MIL-DTL-32139 type TwistPin contact connectors. Prewired and PCB options with expanded material and finish options, as well as, expanded wire options.



Series 89 Dual-Row Nanominiature connectors with TwistPin contacts provide dependable performance under harsh mechanical conditions. Glenair TwistPin contacts are precision crimped to uninsulated solid or insulated stranded wire — available in #30 or #32 AWG. Plug and receptacle rectangulars are offered in stainless steel, aluminum, or titanium shells. Connectors are configured with .025 inch contact spacing and DWV rating of 250 volts AC, twelve layouts available from 9–91 way. Pre-wired assemblies are available with ultra lightweight XLETFE insulated silver-coated high-strength copper wire, extruded PTFE insulated silver-coated copper wire, or crosslink modified ETFE insulated silver-coated high-strength copper wire in 1 inch increments. Connector hardware includes jackscrew or female threaded shells. Applications include downhole, missile systems, launch vehicles and satellites.

- **Dual-row, 9–91 way**
- **Metal shell: aluminum, titanium or stainless steel**
- **High vibration and shock gold alloy TwistPin contact system**
- **Straight and right-angle thru-hole and surface-mount PCB versions**

SERIES 89 NANOMINIATURE

Dual-Row Rectangular Connectors

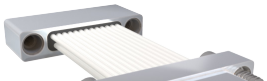
Product Selection Guide



891-001 and 891-002 Connectors with Insulated Wire C-4



891-031 Straight, 45°, or 90° Angle Connector with Factory-Installed Backshell and Insulated Wire C-6



891-005 Back-to-Back Cable Assembly C-10



891-032 Back-to-Back Cable with Straight, 45°, or 90° Angle Factory-Installed Backshell and Insulated Wire C-12



891-025 and 891-026 Rear Panel Mount Connectors with Insulated Wire and Gasket Seal C-18



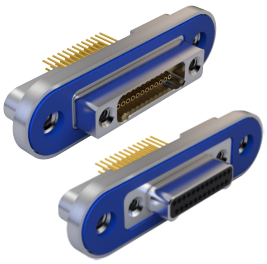
891-054 Rear Panel Mount Connectors with backshell, Insulated Wire and Gasket seal C-20



891-050 Front Panel Mount Receptacle with Insulated Wire C-24



891-003 and 891-004 Connectors with Uninsulated Wire C-26



891-060 and 891-061 Rear Panel Mount Connectors with Uninsulated Wire and Gasket Seal C-28



891-053 Front Panel Mount Receptacle with Uninsulated Wire C-30



891-006 and 891-007 Vertical Mount Thru-Hole PCB Connectors C-32



891-039 and 891-040 Vertical Mount Thru-Hole PCB Connectors with Mounting Ears C-38

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Dual-Row Rectangular Connectors

Product Selection Guide



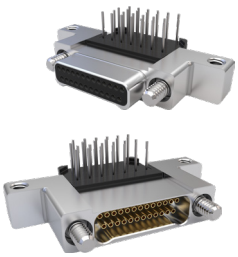
891-029 and 891-030 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Connectors **C-44**



891-062 and 891-063 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount Connectors **C-50**



891-008 and 891-009 Right-Angle Mount Thru-Hole PCB Connectors **C-56**



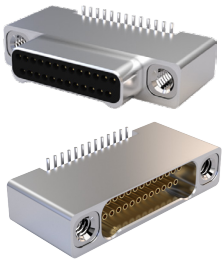
891-043 and 891-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears **C-62**



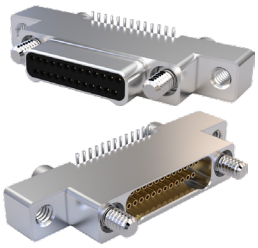
891-027 and 891-028 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB Connector **C-68**



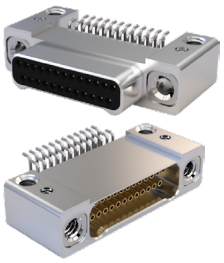
891-064 and 891-065 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB Mount Connector with threaded PCB mounting hole **C-74**



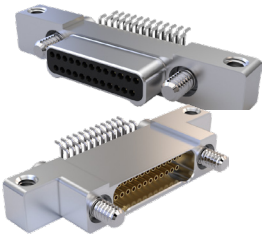
891-010 and 891-011 Vertical Surface Mount PCB Connectors **C-80**



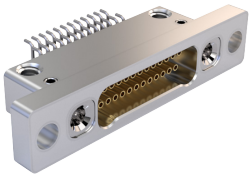
891-017 and 891-018 Vertical Surface Mount PCB Connectors with Jackscrews **C-86**



891-012 and 891-013 Right-Angle Surface Mount PCB Connector **C-92**



891-019 and 891-020 Right-Angle Surface Mount PCB Connector with Jackscrews **C-98**



891-052 Front Panel Mount, Right-Angle Surface Mount PCB Receptacle, Thru-hole or threaded panel mount **C-104**



891-014 and 891-015 Straddle Mount Connector **C-108**

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

Product Selection Guide



891-035 and 891-036
Rear Panel Mount, Gasket-Sealed, Straddle Mount Connector
C-114



891-051
Front Panel Mount, Straddle Mount Receptacle, Thru hole or threaded panel mount
C-120



891-016
Sav-Con® Connector Saver
C-124



891-037 and 891-038
Plug and Receptacle Shorting Connector
C-125



899-011
EMI Cover
C-127



899 -015
Rear Panel Mount Replacement Gasket
C-129

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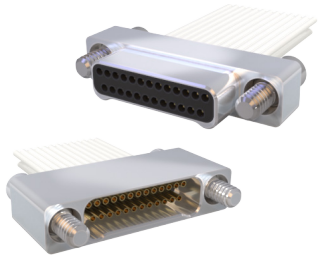
Dual-Row Rectangular Connectors

891-001 and 891-002 Plug and Receptacle Connectors with Insulated Wire



Nanominiature Connectors with insulated wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG.

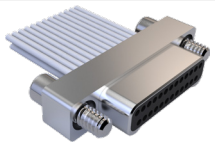
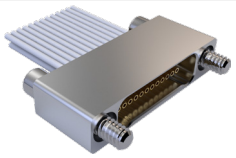
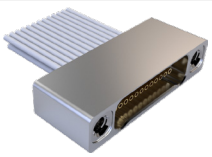
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical applications include UAV's, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-002	-25S	A2	-0	B	7	-12	J

Series	**891-001** = Plug **891-002** = Receptacle
Contact Layout	Plugs (891-001): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Receptacles (891-002): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium **A2** = Aluminum Shell, Electroless Nickel **A31** = Aluminum Shell, Zinc Nickel, Black **A33** = Aluminum Shell, Nickel PTFE **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (wire type A is striped, types B, C, E, and F are solid colors)
Wire Length	**12** = 12.00 inches; as required in one inch increments.
Hardware	**J** = Hex Head Jackscrew **T** = Female Threads* *Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and Finishes:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Hardware: passivated stainless steel
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

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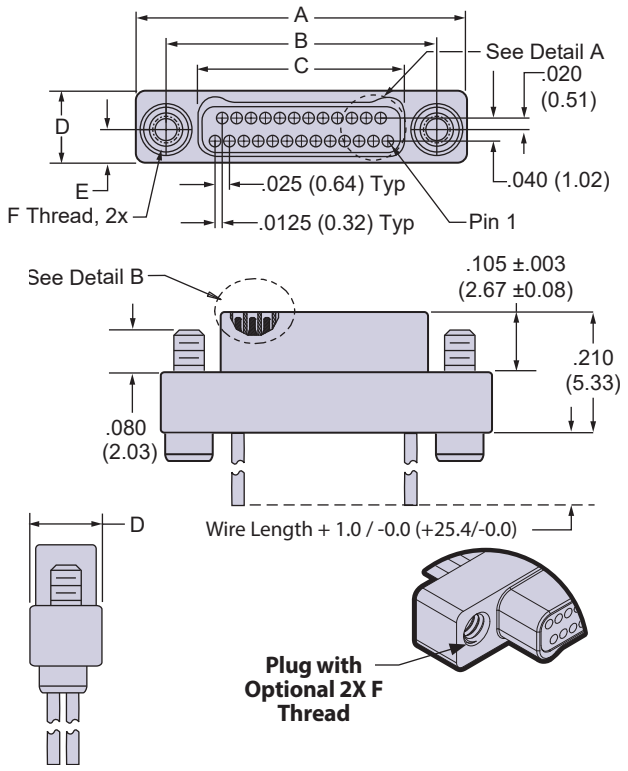
Dual-Row Rectangular Connectors

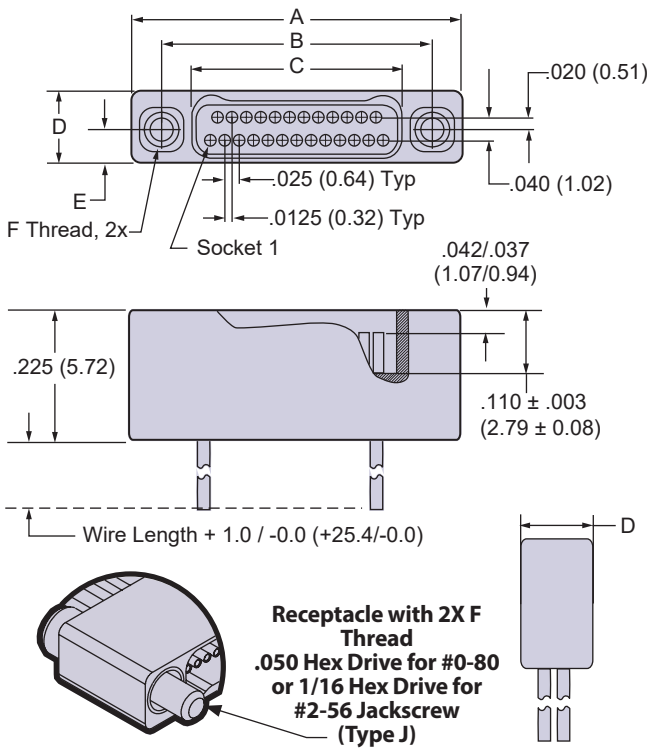
891-001 and 891-002 Plug and Receptacle Connectors with Insulated Wire

DIMENSIONS

891-001 Plug (pin) Connector

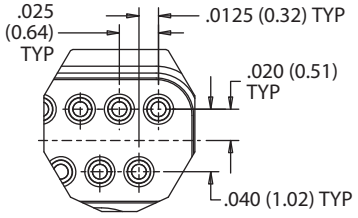


891-002 Receptacle (socket) Connector

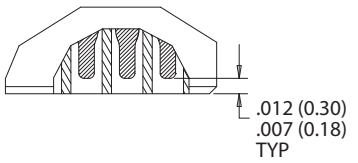


Layout	A ± .005(0.13)	B BSC.	C BSC.	D ± .005(0.13)	E BSC.	F Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

DETAIL A



DETAIL B



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

Dual-Row Rectangular Connectors

891-031 Straight, 45°, or 90° with Factory-Installed Backshell and Insulated Wire



Nano Connectors with Pre-installed Backshell and Insulated Wires. Factory terminated to provide premium performance, reliability and functionality for demanding applications. .025" contact spacing. 1 amp current rating, 250 volts AC DWV rating.

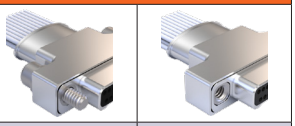
Wire Type and Shield/Jacket Options Size 30 and 32 wire gage. Ultra lightweight XLETFE insulation, extruded PTFE insulation and cross linked modified ETFE insulation available. Shield options include Amberstrand®, AmorLite™ and nickel plated copper with or without E-CTFE halar jacket

HOW TO ORDER

Sample Part Number	891-031	-25P	A2	N	-0	B	7	-12	J	C

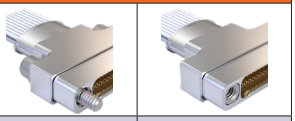
Series	**891-031** = Plug or Receptacle
Contact Layout	Plugs: **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Receptacles: **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Backshell/ Shell Material and Finish	**A1** = Aluminum Shell, Cadmium **A2** = Aluminum Shell, Electroless Nickel **A31=** Aluminum Shell, Zinc Nickel, Black **A33** = Aluminum Shell, Nickel PTFE **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Backshell Orientation	**N** = Straight, No Orientation **H** = 45°, Lobe Side Exit **L** = 90°, Lobe Side Exit **K** = 45°, Major Side Exit **M** = 90°, Major Side Exit
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (wire type A is striped, types B, C, E, and F are solid colors)
Wire Length	Wire Length in Inches, i.e. **12** = 12 inches
Hardware	**J** = Jackscrew **T** = Female Thread
Shield/ Jacket Options	**N** = No Shield, No Jacket **A** = Braided Shield Installed (Nickel Plated Copper) **C** = Braided Shield Installed (Nickel Plated Copper), with E- CTFE Halar "Expando" Jacket (+150° C) **D** = No Shield, with E-CTFE Halar "Expando" Jacket (+150° C) **S** = 100% Braided Amberstrand Shield Installed **T** = 100% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150° C) **V** = 75% Braided Amberstrand Shield Installed **W** = Armorlite Braided Microfilament SST Shield Installed **X** = Armorlite Braided Microfilament SST Shield Installed with E-CTFE Halar "Expando" Jacket (+150° C) **Z** = 75% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150° C)

PLUG HARDWARE



J - Jackscrew | T - Female Thd

RECEPTACLE HARDWARE



J - Jackscrew | T - Female Thd

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Hardware: stainless steel, passivated
   - Band clamp: (shield termination when applicable) stainless steel
2. Inspected and tested IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and MIL-DTL-32139/4

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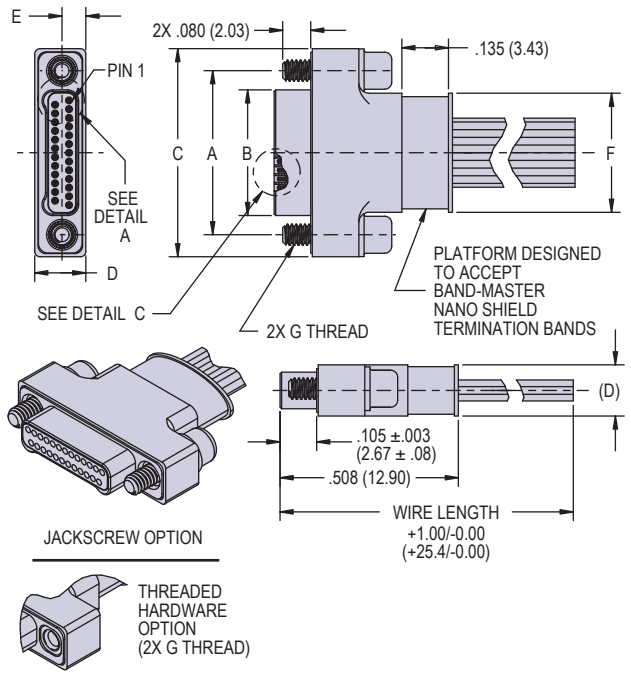
Dual-Row Rectangular Connectors

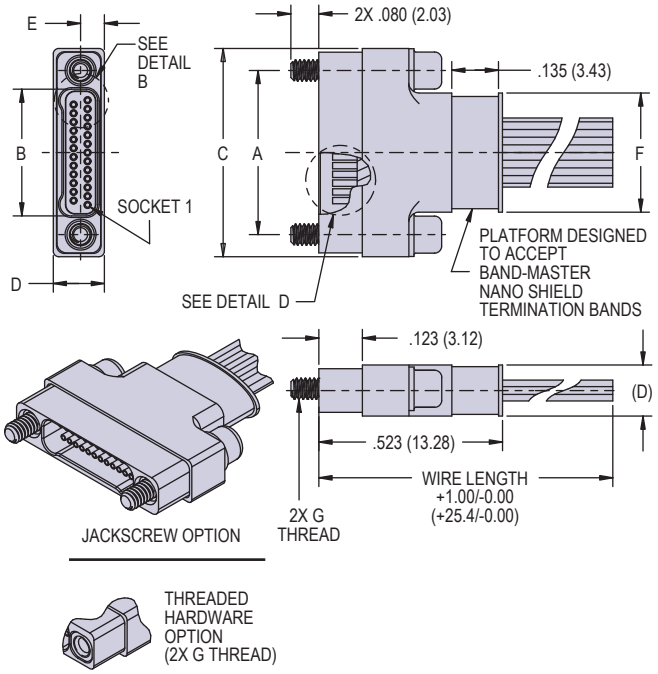
891-031 Straight, 45°, or 90° with Factory-Installed Backshell and Insulated Wire

DIMENSIONS

891-031 Plug (Pin), Straight Backshell



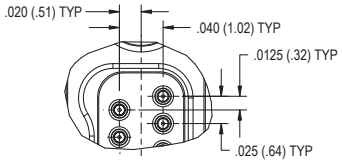
891-031 Straight Receptacle (Socket), Straight Backshell



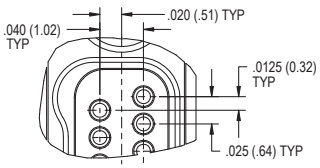
Layout	A BSC.	B BSC.	C	D	E	F	G
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC

Layout	A BSC.	B BSC.	C	D	E	F	G
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC

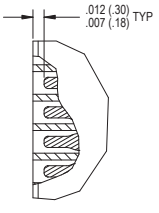
DETAIL A



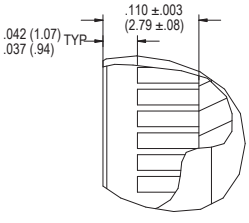
DETAIL B



DETAIL C



DETAIL D



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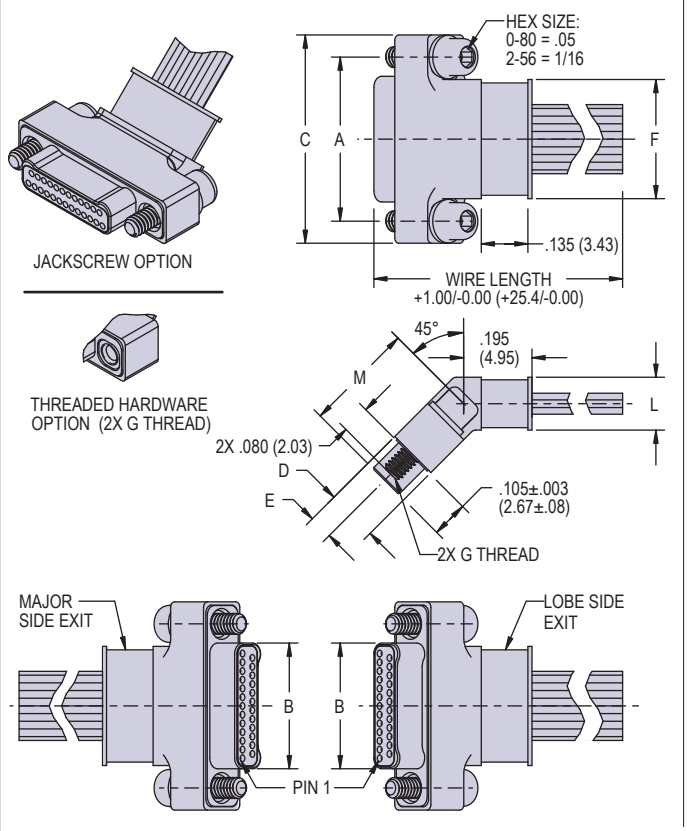
Dimensions in Inches (millimeters) are subject to change without notice.

Dual-Row Rectangular Connectors

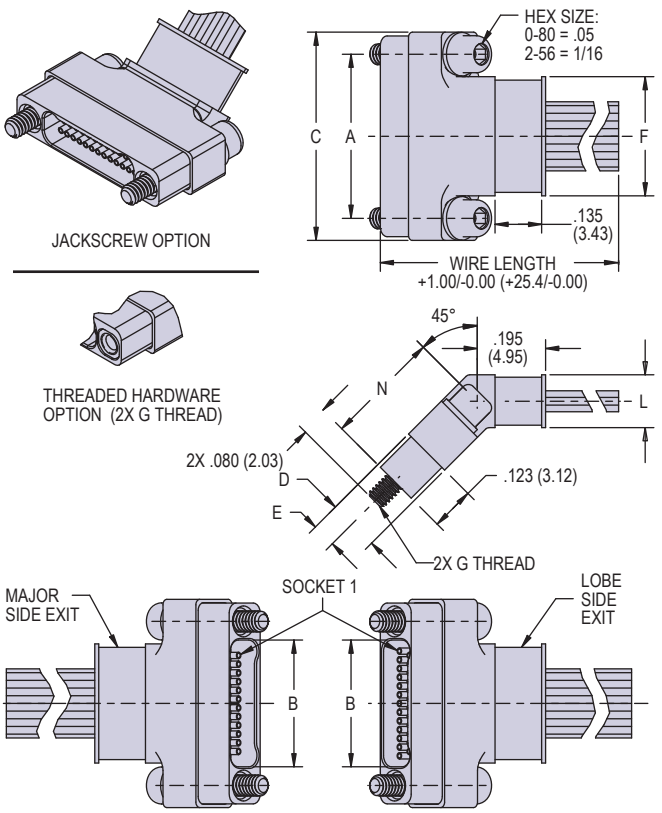
891-031 Straight, 45°, or 90° with Factory-Installed Backshell and Insulated Wire

DIMENSIONS

891-031 Plug (Pin), 45° Backshell



891-031 Straight Receptacle (Socket), 45° Backshell



SPECIFY EXIT SIDE IN P/N

Layout	A BSC.	B BSC.	C	D	E	F	G	L	M
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.150 (3.81)	.313 (7.94)
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.150 (3.81)	.313 (7.94)
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.150 (3.81)	.313 (7.94)
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.150 (3.81)	.313 (7.94)
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.150 (3.81)	.313 (7.94)
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.150 (3.81)	.313 (7.94)
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.150 (3.81)	.313 (7.94)
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.150 (3.81)	.313 (7.94)
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.150 (3.81)	.313 (7.94)
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.150 (3.81)	.313 (7.94)
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.176 (4.47)	.318 (8.08)
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.176 (4.47)	.318 (8.08)

Layout	A BSC.	B BSC.	C	D	E	F	G	L	N
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.150 (3.81)	.328 (8.33)
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.150 (3.81)	.328 (8.33)
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.150 (3.81)	.328 (8.33)
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.150 (3.81)	.328 (8.33)
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.150 (3.81)	.328 (8.33)
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.150 (3.81)	.328 (8.33)
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.150 (3.81)	.328 (8.33)
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.150 (3.81)	.328 (8.33)
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.150 (3.81)	.328 (8.33)
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.150 (3.81)	.328 (8.33)
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.176 (4.47)	.333 (8.46)
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.176 (4.47)	.333 (8.46)

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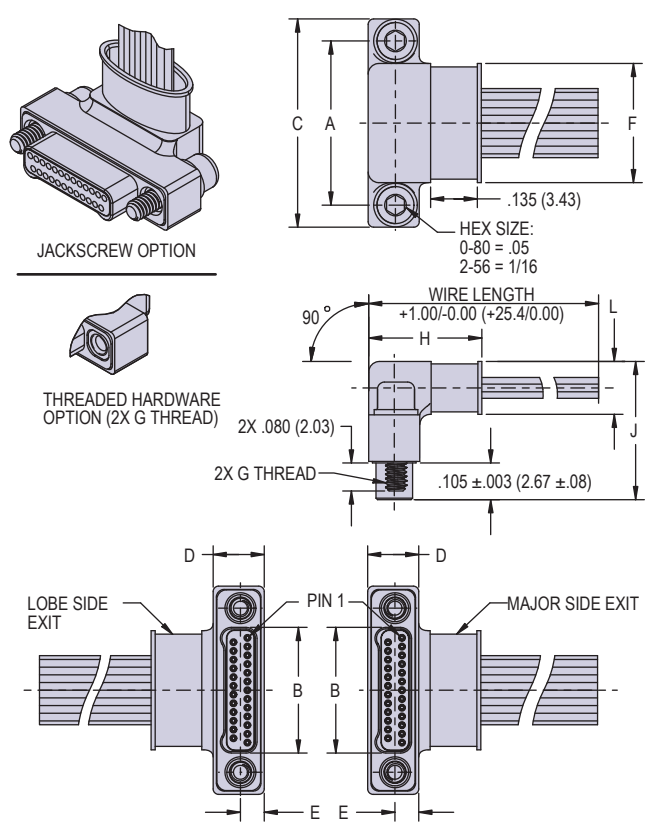
Dual-Row Rectangular Connectors

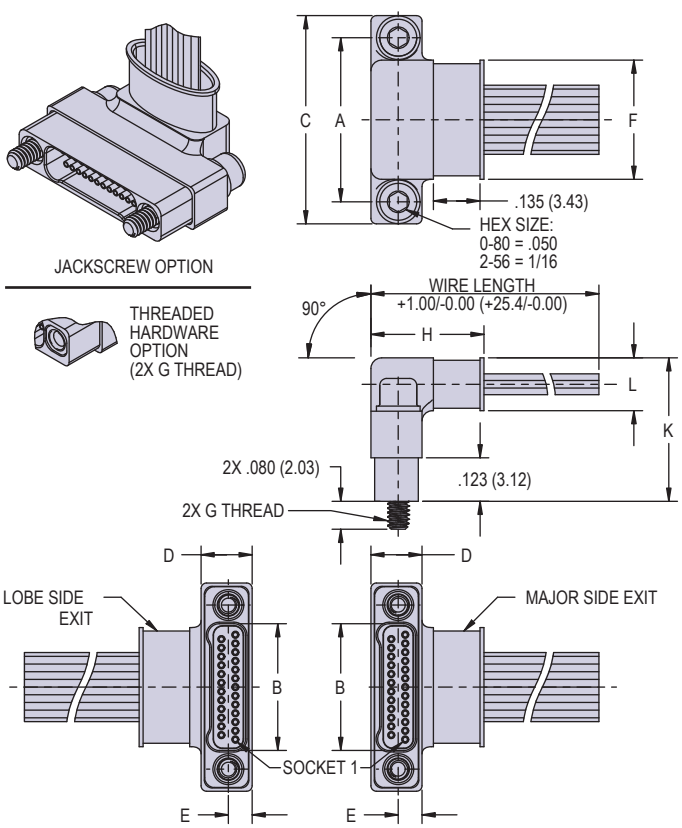
891-031 Straight, 45°, or 90° with Factory-Installed Backshell and Insulated Wire

DIMENSIONS

891-031 Plug (Pin), 90° Backshell



891-031 Straight Receptacle (Socket), 90° Backshell



SPECIFY EXIT SIDE IN P/N

Layout	A BSC.	B BSC.	C	D	E	F	G	H	J	L
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.323 (8.20)	.395 (10.03)	.150 (3.81)
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.348 (8.84)	.421 (10.69)	.176 (4.47)
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.348 (8.84)	.421 (10.69)	.176 (4.47)

Layout	A BSC.	B BSC.	C	D	E	F	G	H	K	L
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.323 (8.20)	.408 (10.36)	.150 (3.81)
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.348 (8.84)	.433 (11.00)	.176 (4.47)
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.348 (8.84)	.433 (11.00)	.176 (4.47)

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Dual-Row Rectangular Connectors

891-005 Back-to-Back Cable Assembly



Glenair Back-To-Back Cable Assemblies are offered in three configurations and feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. Connectors are wired 1 to 1, 2 to 2, 3 to 3 etc.

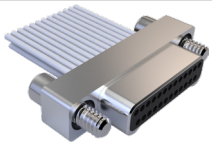
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

HOW TO ORDER

Sample Part Number	891-005	-9	GP	A1	-0	A	1	-12	JJ

Series	**891-005** Back-To-Back Cables, Dual-Row, Nanominiature
Contact Layout	**9**, **15**, **21**, **25**, **31**, **37**, **41**, **51**, **65**, **69**, **85**, **91**
Connector Type	**TYPE** / **SIDE 1** / **SIDE 2** **GP** Plug Plug **GS** Receptacle Receptacle **CS** Plug Receptacle
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color Code	**1**= White **2** = Yellow **7** = 10 Color Repeating (wire type **A** is striped, types **B**, **C**, **E**, and **F** are solid colors)
Overall Length	In Inches Including Connectors; Example: "**12**" specifies 12 inches OAL; 2" minimum
Hardware	**JJ** = Jackscrews on both ends (GP, GS, CS) **JR** = Jackscrews on receptacle, threaded holes on receptacle (GS) **JT** = Jackscrews on plug, threaded holes on receptacle (CS) **TJ** = Jackscrews on receptacle, threaded holes on plug (CS) **JP** = Jackscrews on plug, threaded holes on plug (GP) **TT** = Threaded holes both ends (GP, CS) (Stainless steel threaded inserts installed in aluminum shells, tapped directly into stainless steel and titanium)

PLUG HARDWARE

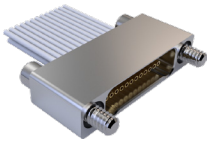


J - Jackscrew

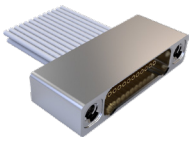


T - Female Thread

RECEPTACLE HARDWARE



J - Jackscrew



T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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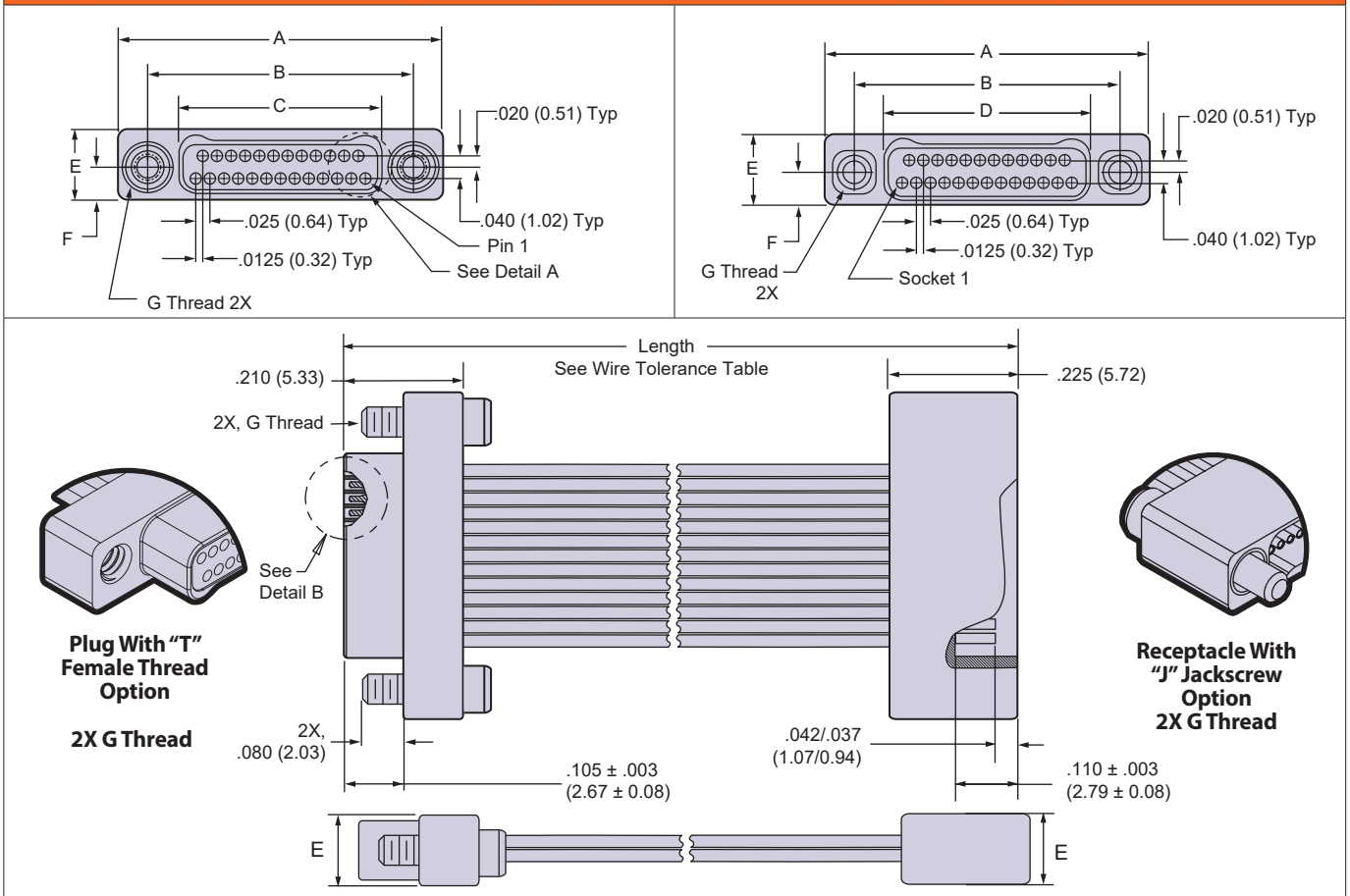
Dual-Row Rectangular Connectors

891-005 Back-to-Back Cable Assembly

BACK-TO-BACK PLUG AND RECEPTACLE CONNECTOR DIMENSIONS



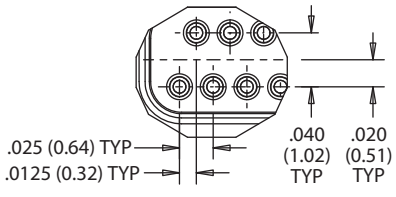
Layout	A ± .005(0.13)	B BSC.	C BSC. (Plug)	D BSC (Receptacle)	E ± .005(0.13)	F	G Thread
9	.375 (9.52)	.270 (6.86)	.160 (4.06)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15	.450 (11.43)	.345 (8.76)	.235 (5.97)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21	.525 (13.34)	.420 (10.67)	.310 (7.87)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25	.575 (14.60)	.470 (11.94)	.360 (9.14)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31	.650 (16.51)	.545 (13.84)	.435 (11.05)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37	.725 (18.42)	.620 (15.75)	.510 (12.95)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41	.775 (19.68)	.670 (17.02)	.560 (14.22)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51	.900 (22.86)	.795 (20.19)	.685 (17.40)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65	1.075 (27.30)	.970 (24.64)	.860 (21.84)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

WIRE LENGTH TOLERANCE	
Length Range	**Tolerance**
3″ - 48″ (76.20 - 1219.20)	+0.50/-0.00 (+ 12.70/-0.00)
>48″ - 72″ (>1219.20 - 1828.80)	+1.00/-0.00 (+25.4/-0.00)
>72″ - 120″ (>1828.80 - 3048.00)	+2.00/-0.00 (+50.80/-0.00)

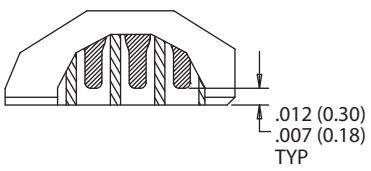
NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and MIL-DTL-32139/4
4. Connectors Wired 1 to 1, 2 to 2, 3 to 3, etc.

DETAIL A (PLUG)



DETAIL B (PLUG)



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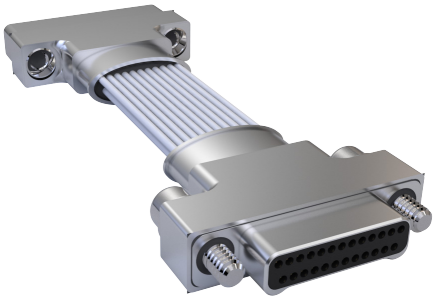
Dimensions in Inches (millimeters) are subject to change without notice.

Dual-Row Rectangular Connectors

891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

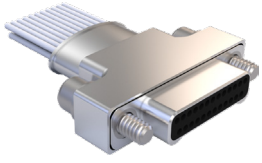
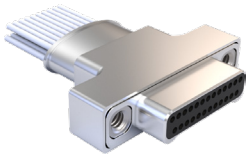
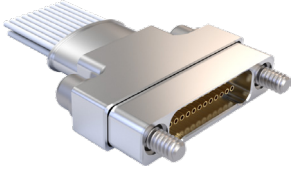
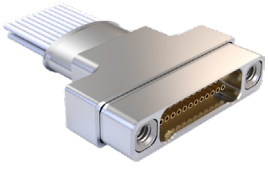


Cable assemblies with Factory-Installed backshell and shield/jacket option feature nano connectors with gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG. Connectors are wired 1 to 1, 2 to 2, 3 to 3, etc.

Wire Type and shield/jacket options include ultra lightweight XLETFE insulation, Extruded PTFE insulation and cross linked modified ETFE insulation. Shield options include Amberstrand®, AmorLite™ and nickel plated copper with or without E-CTFE halar jacket. Typical Applications include UAV's, satellites, missile systems and geophysical instruments

HOW TO ORDER

Sample Part Number	891-032	-25	CS	N	L	A2	-0	B	7	-12	T	J	-N
Series	**891-032** = Plug or Receptacle												
Contact Arrangement	**9**, **15**, **21**, **25**, **31**, **37**, **41**, **51**, **65**, **69**, **85**, **91**												
Connector Type	**TYPE** / **SIDE 1** / **SIDE 2**: **GP** Plug Plug; **GS** Receptacle Receptacle; **CS** Plug Receptacle			SIDE 1	SIDE 2						SIDE 1	SIDE 2	
Backshell Accessory	**N** = Straight, No Orientation **H** = 45°, Lobe Side Exit **L** = 90°, Lobe Side Exit; **K** = 45°, Major Side Exit **M** = 90°, Major Side Exit												
Backshell/Shell Material and Finish	**A1** = Al Shell, Cadmium Plating **A2** = Al Shell, Electroless Nickel Plating; **A31** = Al Shell, Zinc Nickel Plating, Black **A33** = Al Shell, Nickel PTFE Plating; **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated												
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B only)												
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30												
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is Striped, Types B, C, E and F are Solid Colors)												
Length	Wire Length in Inches, i.e. **12** = 12 inches; 3 inches minimum												
Hardware	**J** = Jackscrew **T** = Female Thread												
Shield/Jacket Opt	**N**, **A**, **C**, **D**, **S**, **T**, **V**, **W**, **X**, **Z**; See Shield / Jacket Options table												

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

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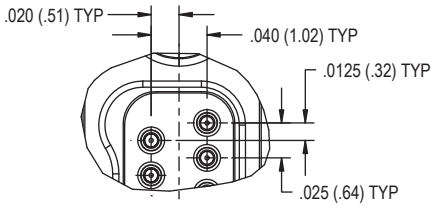
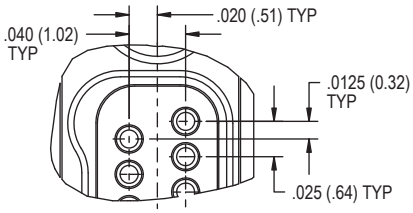
Dual-Row Rectangular Connectors

891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

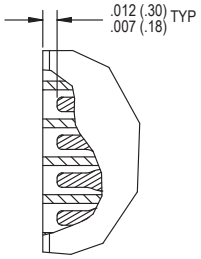
DETAIL A (PLUG)



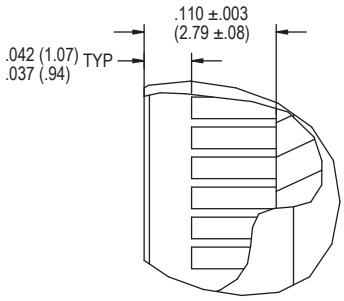
DETAIL B (RECEPTACLE)



DETAIL C (PLUG)



DETAIL D (RECEPTACLE)



Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

SHIELD/JACKET OPTIONS TABLE

Code	Description
N	No Shield, No Jacket
A	Braided Shield Installed (Nickel Plated Copper)
C	Braided Shield Installed (Nickel Plated Copper), with E-CTFE Halar "Expando" Jacket (+150° C)
D	No Shield, with E-CTFE Halar "Expando" Jacket (+150° C)
S	100% Braided Amberstrand Shield Installed
T	100% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150° C)
V	75% Braided Amberstrand Shield Installed
W	Armorlite Braided Microfilament Stainless Steel Shield Installed
X	Armorlite Braided Microfilament Stainless Steel Shield Installed with E-CTFE Halar "Expando" Jacket (+150°C)
Z	75% Braided Amberstrand Shield Installed, with E-CTFE Halar "Expando" Jacket (+150 C)

WIRE LENGTH TOLERANCE

Length Range	Tolerance
3" - 48" (76.20 - 1219.20)	+0.50/-0.00 (+ 12.70/-0.00)
>48" - 72" (>1219.20 - 1828.80)	+1.00/-0.00 (+25.4/-0.00)
>72" - 120" (>1828.80 - 3048.00)	+2.00/-0.00 (+50.80/-0.00)

NOTES

1. Material/Finishes:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Hardware: stainless steel, passivated
   - Band clamp: (Shield termination when applicable) stainless steel
2. Inspected and tested IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and MIL-DTL-32139/4

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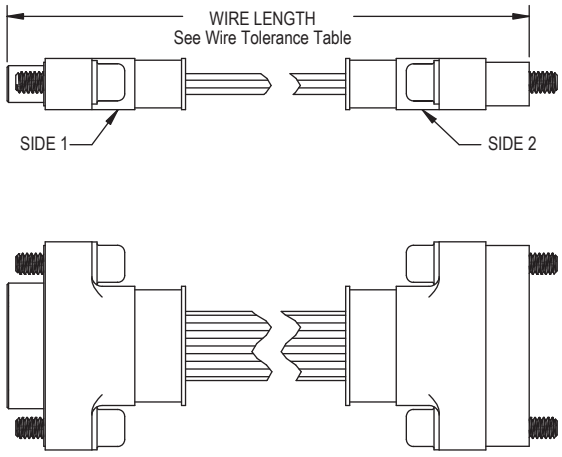
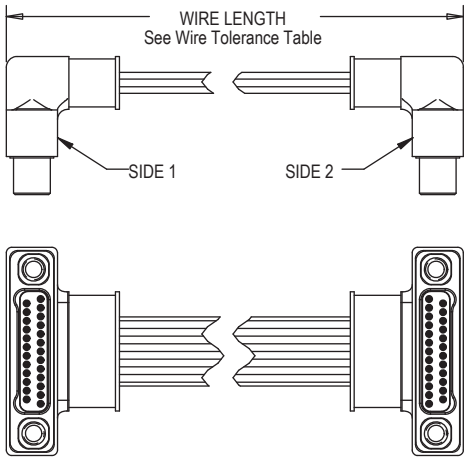
891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

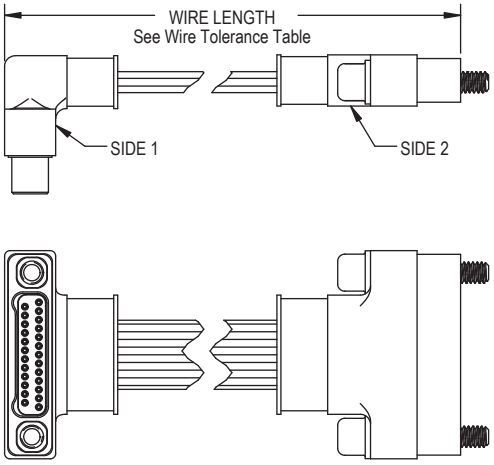
CS STRAIGHT CABLE ASSEMBLY



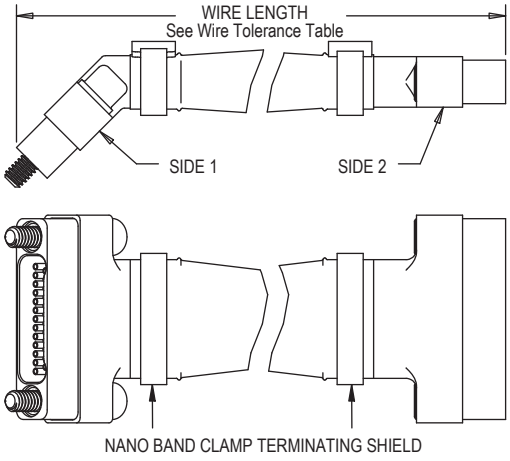
GP RIGHT ANGLE CABLE ASSEMBLY



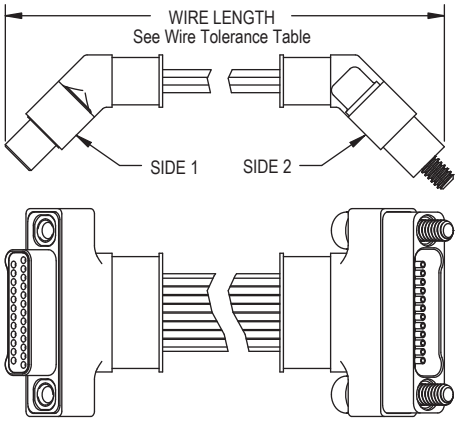
CS 90° TO STRAIGHT CABLE ASSEMBLY



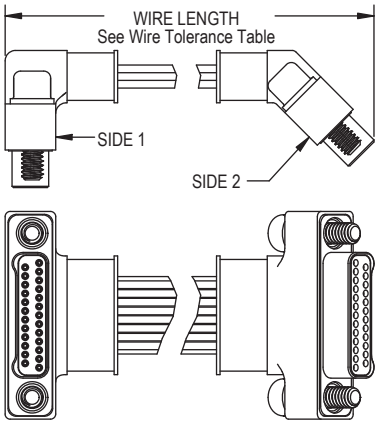
GS 45° TO STRAIGHT CABLE ASSEMBLY



CS 45° TO 45° CABLE ASSEMBLY



GP 90° TO 45° CABLE ASSEMBLY



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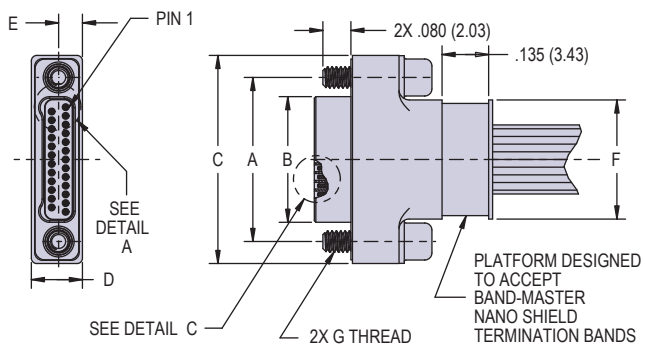
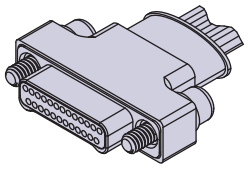
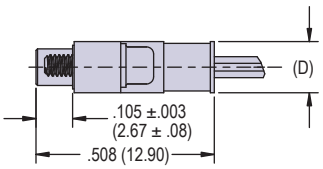
891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

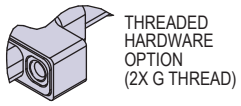
DIMENSION

890-032 Plug (Pin), Straight Backshell



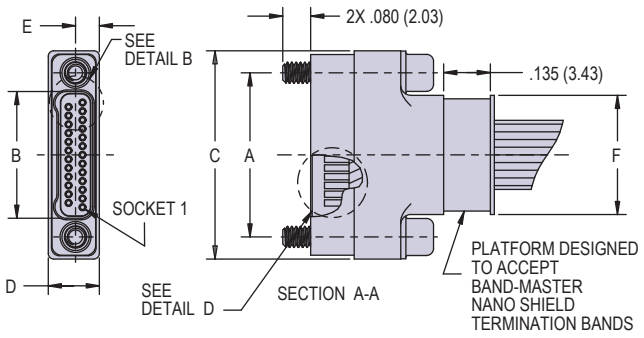


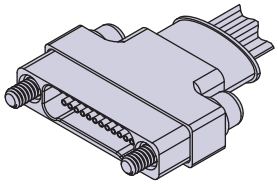


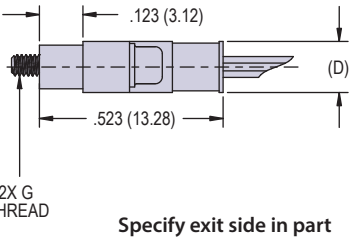


Specify exit side in part number

890-032 Receptacle (Socket), Straight Backshell









Specify exit side in part number

Layout	A BSC.	B BSC.	C	D	E	F	G
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC

Layout	A BSC.	B BSC.	C	D	E	F	G
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC

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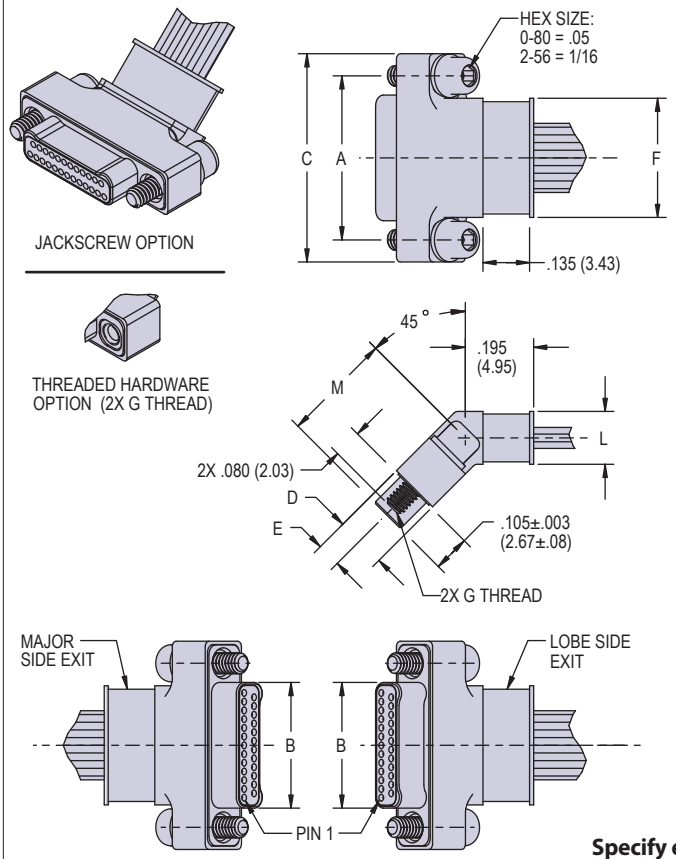
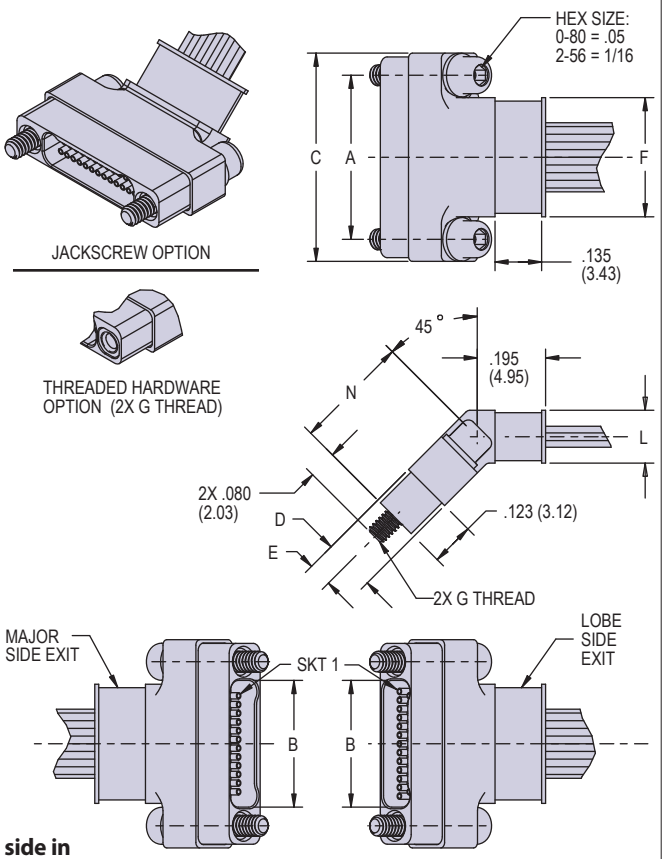
891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

DIMENSION

890-032 Plug (Pin), 45° Backshell



890-032 Receptacle (Socket), 45° Backshell



Specify exit side in part number

Layout	A BSC.	B BSC.	C	D	E	F	G	L	M
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.150 (3.81)	.313 (7.94)
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.150 (3.81)	.313 (7.94)
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.150 (3.81)	.313 (7.94)
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.150 (3.81)	.313 (7.94)
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.150 (3.81)	.313 (7.94)
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.150 (3.81)	.313 (7.94)
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.150 (3.81)	.313 (7.94)
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.150 (3.81)	.313 (7.94)
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.150 (3.81)	.313 (7.94)
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.150 (3.81)	.313 (7.94)
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.176 (4.47)	.318 (8.08)
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.176 (4.47)	.318 (8.08)

Layout	A BSC	B BSC	C	D	E	F	G	L	N
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.150 (3.81)	.328 (8.33)
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.150 (3.81)	.328 (8.33)
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.150 (3.81)	.328 (8.33)
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.150 (3.81)	.328 (8.33)
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.150 (3.81)	.328 (8.33)
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.150 (3.81)	.328 (8.33)
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.150 (3.81)	.328 (8.33)
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.150 (3.81)	.328 (8.33)
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.150 (3.81)	.328 (8.33)
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.150 (3.81)	.328 (8.33)
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.176 (4.47)	.333 (8.46)
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.176 (4.47)	.333 (8.46)

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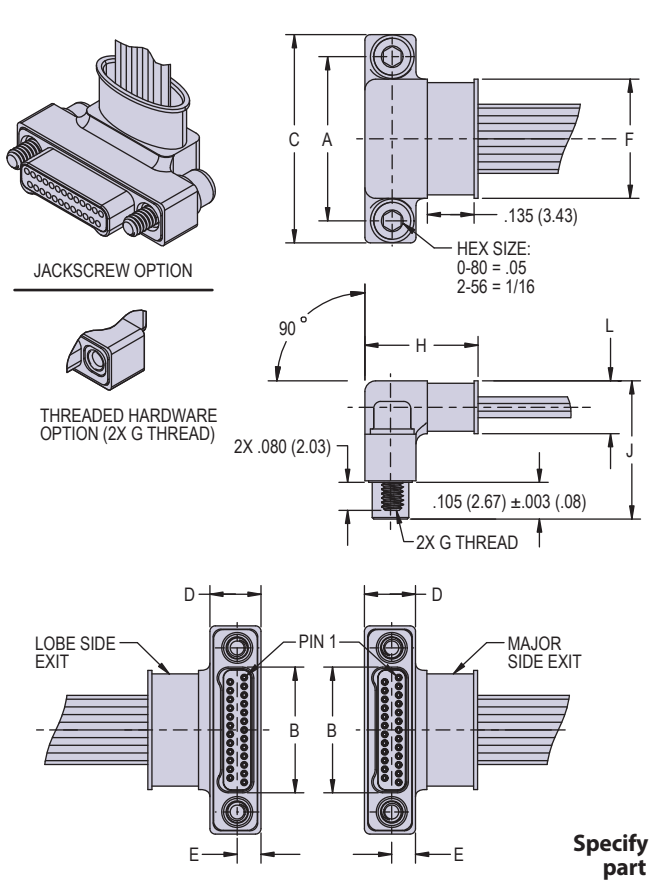
Dual-Row Rectangular Connectors

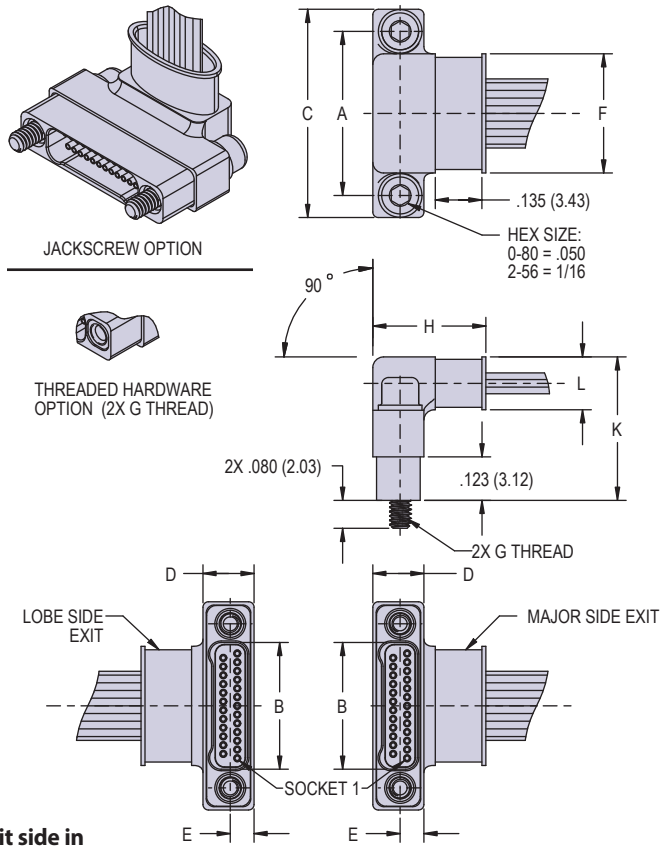
891-032 Straight, 45°, or 90° Back-to-Back Cable with Backshell and Insulated Wire

DIMENSION

890-032 Plug (Pin), 90° Backshell



890-032 Receptacle (Socket), 90° Backshell



Specify exit side in part number

Layout	A BSC.	B BSC.	C	D	E	F	G	H	L
9	.270 (6.86)	.160 (4.06)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.323 (8.20)	.150 (3.81)
15	.345 (8.76)	.235 (5.97)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.323 (8.20)	.150 (3.81)
21	.420 (10.67)	.310 (7.87)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.323 (8.20)	.150 (3.81)
25	.470 (11.94)	.360 (9.14)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.323 (8.20)	.150 (3.81)
31	.545 (13.84)	.435 (11.05)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.323 (8.20)	.150 (3.81)
37	.620 (15.75)	.510 (12.95)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.323 (8.20)	.150 (3.81)
41	.670 (17.02)	.560 (14.22)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.323 (8.20)	.150 (3.81)
51	.795 (20.19)	.685 (17.40)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.323 (8.20)	.150 (3.81)
65	.970 (24.64)	.860 (21.84)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.323 (8.20)	.150 (3.81)
69	1.020 (25.91)	.910 (23.11)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.323 (8.20)	.150 (3.81)
85	1.246 (31.65)	1.110 (28.19)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.348 (8.84)	.176 (4.47)
91	1.321 (33.55)	1.185 (30.10)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.348 (8.84)	.176 (4.47)

Layout	A BSC.	B BSC.	C	D	E	F	G	H	L
9	.270 (6.86)	.163 (4.14)	.395 (10.03)	.145 (3.68)	.068 (1.73)	.140 (3.56)	#0-80 UNF	.323 (8.20)	.150 (3.81)
15	.345 (8.76)	.238 (6.05)	.470 (11.94)	.145 (3.68)	.068 (1.73)	.215 (5.46)	#0-80 UNF	.323 (8.20)	.150 (3.81)
21	.420 (10.67)	.313 (7.95)	.545 (13.84)	.145 (3.68)	.068 (1.73)	.290 (7.37)	#0-80 UNF	.323 (8.20)	.150 (3.81)
25	.470 (11.94)	.363 (9.22)	.595 (15.11)	.145 (3.68)	.068 (1.73)	.340 (8.64)	#0-80 UNF	.323 (8.20)	.150 (3.81)
31	.545 (13.84)	.438 (11.13)	.670 (17.02)	.145 (3.68)	.068 (1.73)	.415 (10.54)	#0-80 UNF	.323 (8.20)	.150 (3.81)
37	.620 (15.75)	.513 (13.03)	.745 (18.92)	.145 (3.68)	.068 (1.73)	.490 (12.45)	#0-80 UNF	.323 (8.20)	.150 (3.81)
41	.670 (17.02)	.563 (14.30)	.795 (20.19)	.145 (3.68)	.068 (1.73)	.540 (13.72)	#0-80 UNF	.323 (8.20)	.150 (3.81)
51	.795 (20.19)	.688 (17.48)	.920 (23.37)	.145 (3.68)	.068 (1.73)	.665 (16.89)	#0-80 UNF	.323 (8.20)	.150 (3.81)
65	.970 (24.64)	.863 (21.92)	1.095 (27.81)	.145 (3.68)	.068 (1.73)	.840 (21.34)	#0-80 UNF	.323 (8.20)	.150 (3.81)
69	1.020 (25.91)	.913 (23.19)	1.145 (29.08)	.145 (3.68)	.068 (1.73)	.890 (22.61)	#0-80 UNF	.323 (8.20)	.150 (3.81)
85	1.246 (31.65)	1.113 (28.27)	1.397 (35.48)	.170 (4.32)	.081 (2.06)	1.091 (27.71)	#2-56 UNC	.348 (8.84)	.176 (4.47)
91	1.321 (33.55)	1.188 (30.18)	1.472 (37.39)	.170 (4.32)	.081 (2.06)	1.166 (29.62)	#2-56 UNC	.348 (8.84)	.176 (4.47)

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Dual-Row Rectangular Connectors

891-025 and 891-026 Rear Panel Mount Connectors with Insulated Wire and Gasket Seal



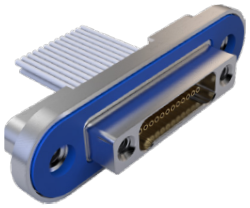
Rear Panel Mount Nano Connectors with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

Gasket Seals are available in fluorosilicone, passivated silver plated aluminum filled fluorosilicone or nickel plated aluminum filled fluorosilicone. For replacement gaskets, see 899-015.

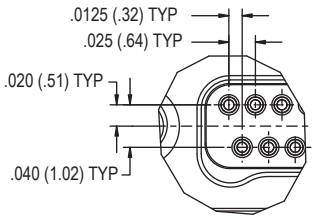
HOW TO ORDER

Sample Part Number	891-025	-25P	S	-0	B	7	-12	T	-01	M

Series	**891-025** = Plug **891-026** = Receptacle
Insert Arrangement/ Contact Type	Plugs (891-025): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Receptacles (891-026): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver-Coated Copper, SAE AS22759/52
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length	**12** = 12.00 + 1.00 inches; as required in one inch increments.
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85 & 91)
Gasket Material	**Omit** for no gasket **01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type "D" (Cho-seal 1298 or Equivalent) **03** = Nickel Plated, Aluminum Filled Fluorosilicone (Cho-Seal 6503 or Equivalent)
Mounting Thread	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	T - Female Thread

DETAIL A



NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139, plug (/3)Receptacle (/4)
3. Panel cutout sized to allow lobe up or lobe down mounting orientation
4. Recommended Panel thickness .100 (2.54) max

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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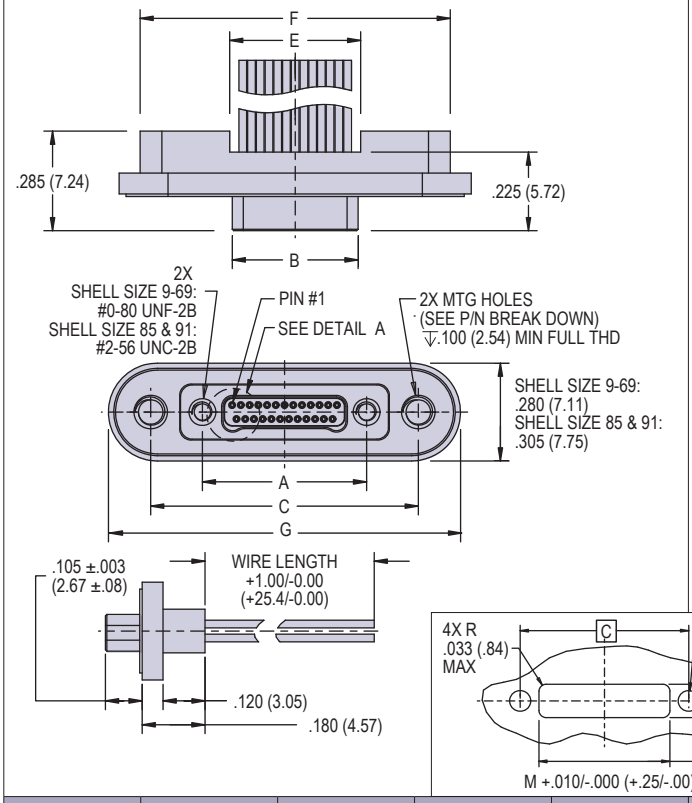
Dual-Row Rectangular Connectors

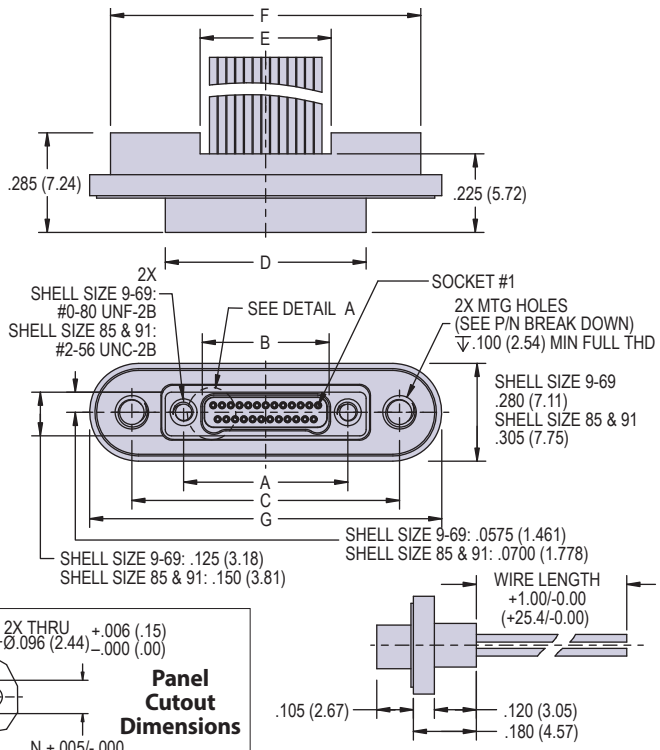
891-025 and 891-026 Rear Panel Mount Connectors with Insulated Wire and Gasket Seal

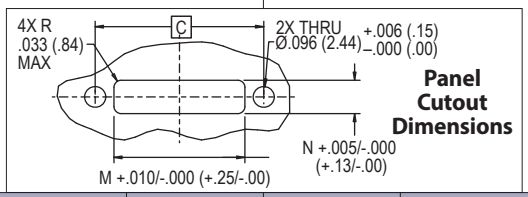
DIMENSIONS

891-025 Plug (Pin) Connectors



891-026 Receptacle (Socket) Connectors





Layout	A BSC.	B BSC.	C BSC.	D	E	F	G	M	N
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	--	.175 (4.45)	.688 (17.48)	.808 (20.52)	.395 (10.03)	.155 (3.94)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.175 (4.45)	.688 (17.48)	.808 (20.52)	.395 (10.03)	.155 (3.94)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	--	.250 (6.35)	.763 (19.38)	.883 (22.43)	.470 (11.94)	.155 (3.94)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.250 (6.35)	.763 (19.38)	.883 (22.43)	.470 (11.94)	.155 (3.94)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	--	.325 (8.26)	.838 (21.29)	.958 (24.33)	.545 (13.84)	.155 (3.94)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.325 (8.26)	.838 (21.29)	.958 (24.33)	.545 (13.84)	.155 (3.94)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	--	.375 (9.53)	.888 (22.56)	1.008 (25.60)	.595 (15.11)	.155 (3.94)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.375 (9.53)	.888 (22.56)	1.008 (25.60)	.595 (15.11)	.155 (3.94)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	--	.450 (11.43)	.963 (24.46)	1.083 (27.51)	.670 (17.02)	.155 (3.94)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.450 (11.43)	.963 (24.46)	1.083 (27.51)	.670 (17.02)	.155 (3.94)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	--	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	.745 (18.92)	.155 (3.94)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	.745 (18.92)	.155 (3.94)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	--	.575 (14.61)	1.088 (27.64)	1.208 (30.68)	.795 (20.19)	.155 (3.94)
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.775 (19.69)	.575 (14.61)	1.088 (27.64)	1.208 (30.68)	.795 (20.19)	.155 (3.94)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	--	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	.920 (23.37)	.155 (3.94)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	.920 (23.37)	.155 (3.94)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	--	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	1.095 (27.81)	.155 (3.94)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	1.095 (27.81)	.155 (3.94)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	--	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	1.145 (29.08)	.155 (3.94)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	1.145 (29.08)	.155 (3.94)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	--	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	1.397 (35.48)	.180 (4.57)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	1.397 (35.48)	.180 (4.57)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	--	1.200 (30.48)	1.765 (44.83)	1.885 (47.88)	1.472 (37.39)	.180 (4.57)
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.452 (36.88)	1.200 (30.48)	1.765 (44.83)	1.885 (47.88)	1.472 (37.39)	.180 (4.57)

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891-054 Rear Panel Mount, Gasket-Sealed Connector with Insulated Wire and Backshell

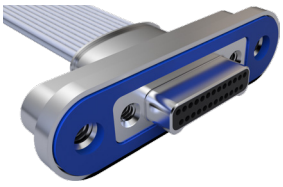
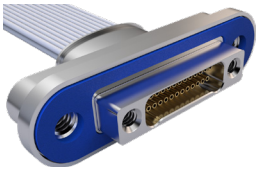


Rear Panel Mount Nano Connectors with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating DWV rating 250 volts AC.

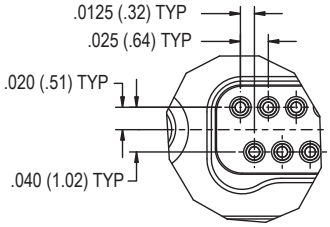
Gasket Seals are available in fluorosilicone, passivated silver plated aluminum filled fluorosilicone or nickel plated aluminum filled fluorosilicone. For replacement gaskets, see 899-015.

HOW TO ORDER

Sample Part Number	891-054	-25	P	S	N	-0	B	7	-12	T	-01	M	-C
Series	**891-054** = Prewired RPM, Gasket-Sealed Connector												
Insert Arrangement	**9, 15, 21, 25, 31, 37, 41, 51, 65, 69, 85, 91**												
Contact Type	**P** = Plug (pins); **S** = Receptacle (Sockets)												
Shell / Backshell Material / Finish	**S** = Stainless Steel, Passivated **T** = Titanium, Unplated												
Backshell Orientation	**N** = Straight, no orientation **H** = 45°, lobe side exit **L** = 90°, lobe side ext **K** = 45°, major side exit **M** = 90 °, major side exit												
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B Only)												
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. SAE AS22759/33 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, SC High Strength Copper Alloy. SAE AS22759/51 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, SC Copper, SAE AS22759/52												
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)												
Wire Length	**12** = 12.00 inches; as required in one inch increments.												
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85 & 91)												
Gasket Material	**Omit** for no gasket **01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type "D" (Cho-seal 1298 or Equivalent) **03** = Nickel Plated, Aluminum Filled Fluorosilicone (Cho-Seal 6503 or Equivalent)												
Mounting Thread	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H												
Shield / Jacket	**N, A, C, D, S, T, V, W, X, Z**; see shield / jacket options table												

PLUG HARDWARE	RECEPTACLE HARDWARE
	
w - Female Thread	T - Female Thread

DETAIL A



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891-054 Rear Panel Mount, Gasket-Sealed Connector with Insulated Wire and Backshell

SHIELD / JACKET OPTIONS TABLE			
Code	Description	Code	Description
N	No shield, no jacket	T	100% braided Ambstraind shield installed, with E-CTFE Halar "Expando" jacket (+150° C)
A	Braided shield installed (nickel plated copper)	V	75% braided microfilament stainless steel shield installed
C	Braided shield installed (nickel plated copper), with E-CTFE Halar "Expando" jacket (+150° C)	W	Armorlite braided microfilament stainless steel shield installed
D	No shield, with E-CTFE Halar "Epando" jacket (+150°C)	X	Armorlite braided microfilament stainless steel shield installed with E-CTFE Halar "Expando" jacket (+150° C)
S	100% braided Amberstrand shield installed	Z	75% braided amberstrand shield installed, with E-CTFE Halar "Expando" jacket (+150° C)

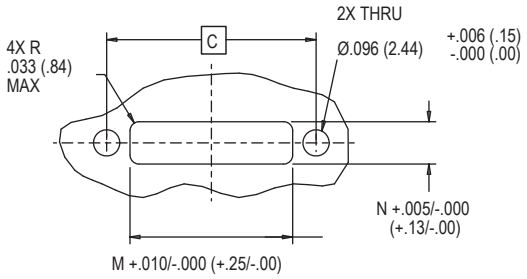
PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material / Finishes:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Gasket: see part number break down
   - Band clamp: (shield termination when applicable) stainless steel.
2. Inspect and test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/9 and MIL-DTL-32139/10
4. Panel cutout is sized to allow connector mounting with either lobes up or down orientation.
5. Recommended panel thickness .100 max
6. Backshell to shell connection via conductive epoxy, filled with Hysol EE4215/HD3561 encapsulant.
7. See 899-015 for replacement gaskets

PANEL MOUNT DIMENSIONS



PANEL MOUNT DIMENSIONS			
Shell Size	C	M	N
SIZE-9	.566 (14.38)	.395 (10.03)	.155 (3.94)
SIZE-15	.641 (16.28)	.470 (11.94)	.155 (3.94)
SIZE-21	.716 (18.19)	.545 (13.84)	.155 (3.94)
SIZE-25	.766 (19.46)	.595 (15.11)	.155 (3.94)
SIZE-31	.841 (21.36)	.670 (17.02)	.155 (3.94)
SIZE-37	.916 (23.27)	.745 (18.92)	.155 (3.94)
SIZE-41	.966 (24.54)	.795 (20.19)	.155 (3.94)
SIZE-51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
SIZE-65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
SIZE-69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
SIZE-85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
SIZE-91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

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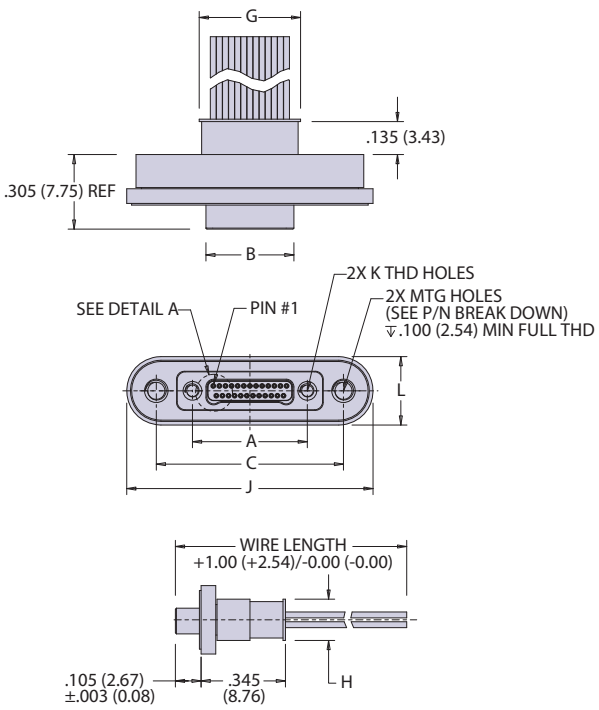
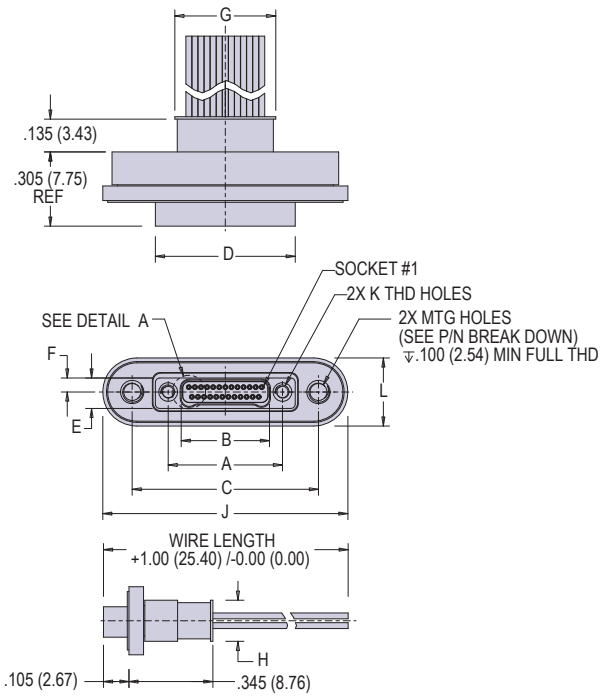
891-054 Rear Panel Mount, Gasket-Sealed Connector with Insulated Wire and Backshell

DIMENSIONS

891-054 Plug (Pin) Connectors



891-054 Receptacle (Socket) Connectors



Layout	A BSC.	B BSC.	C BSC.	D	E	F	G	H	J	K	L
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	--	--	--	.215 (5.46)	.169 (4.29)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.125 (3.18)	.0575 (1.46)	.215 (5.46)	.169 (4.29)	.808 (20.52)		.280 (7.11)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	--	--	--	.290 (7.37)	.169 (4.29)	.883 (22.43)		.280 (7.11)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.290 (7.37)	.169 (4.29)	.883 (22.43)		.280 (7.11)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	--	--	--	.365 (9.27)	.169 (4.29)	.958 (24.33)		.280 (7.11)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.365 (9.27)	.169 (4.29)	.958 (24.33)		.280 (7.11)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	--	--	--	.415 (10.54)	.169 (4.29)	1.008 (25.60)		.280 (7.11)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.125 (3.18)	.0575 (1.46)	.415 (10.54)	.169 (4.29)	1.008 (25.60)		.280 (7.11)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	--	--	--	.490 (12.45)	.169 (4.29)	1.083 (27.51)		.280 (7.11)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.490 (12.45)	.169 (4.29)	1.083 (27.51)		.280 (7.11)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	--	--	--	.565 (14.35)	.169 (4.29)	1.158 (29.41)		.280 (7.11)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.565 (14.35)	.169 (4.29)	1.158 (29.41)		.280 (7.11)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	--	--	--	.615 (15.62)	.169 (4.29)	1.208 (30.68)		.280 (7.11)
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.775 (19.69)	.125 (3.18)	.0575 (1.46)	.615 (15.62)	.169 (4.29)	1.208 (30.68)		.280 (7.11)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	--	--	--	.740 (18.80)	.169 (4.29)	1.333 (33.86)		.280 (7.11)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	.740 (18.80)	.169 (4.29)	1.333 (33.86)		.280 (7.11)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	--	--	--	.915 (23.24)	.169 (4.29)	1.508 (38.30)		.280 (7.11)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.30)	.125 (3.18)	.0575 (1.46)	.915 (23.24)	.169 (4.29)	1.508 (38.30)		.280 (7.11)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	--	--	--	.965 (24.51)	.169 (4.29)	1.558 (39.57)		.280 (7.11)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	.965 (24.51)	.169 (4.29)	1.558 (39.57)		.280 (7.11)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	--	--	--	1.165 (29.59)	.194 (4.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.165 (29.59)	.194 (4.93)	1.810 (45.97)		.305 (7.75)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	--	--	--	1.240 (31.50)	.194 (4.93)	1.885 (47.88)		.305 (7.75)
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.452 (36.88)	.150 (3.81)	.0700 (1.78)	1.240 (31.50)	.194 (4.93)	1.885 (47.88)		.305 (7.75)

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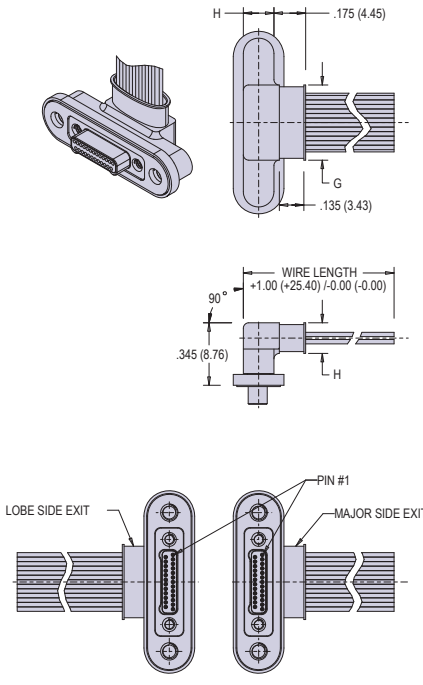
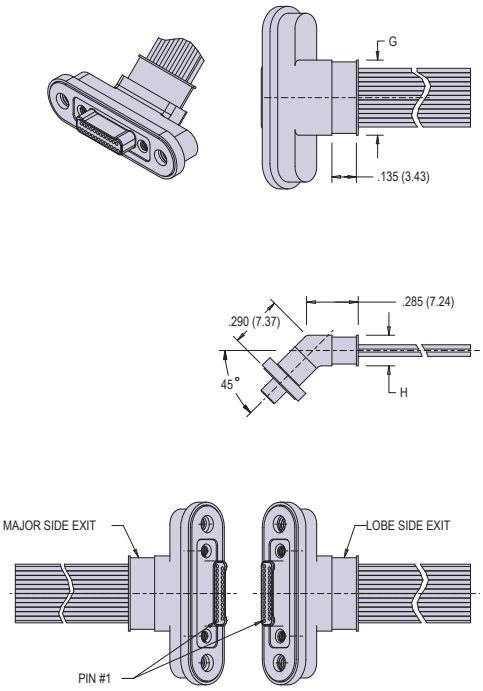
891-054 Rear Panel Mount, Gasket-Sealed Connector with Insulated Wire and Backshell

PLUG 90° AND 45° BACKSHELL DIMENSIONS

PLUG, 90 BACKSHELL, FLYING LEAD
EXAMPLE P/N: 891-054-25PSM-0B7-12T-01N

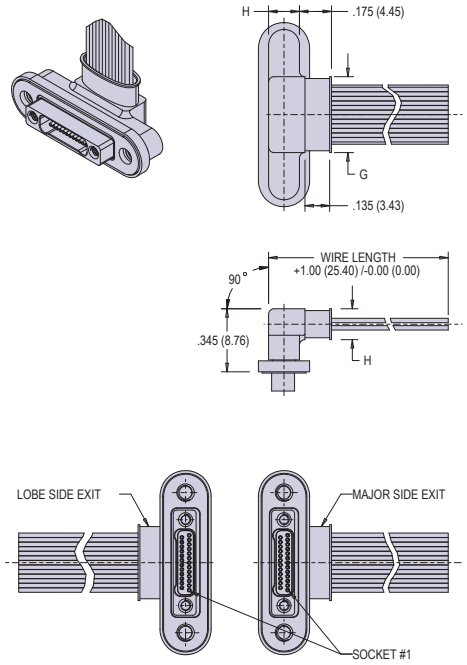


PLUG, 45 BACKSHELL, FLYING LEAD
EXAMPLE P/N: 891-054-25PSH-0B7-12T-01N



RECEPTACLE 90° AND 45° BACKSHELL DIMENSIONS

RECPTACLE, 90 BACKSHELL, FLYING LEAD
EXAMPLE P/N: 891-054-25SSM-0B7-12T-01N



RECPTACLE, 45 BACKSHELL, FLYING LEAD
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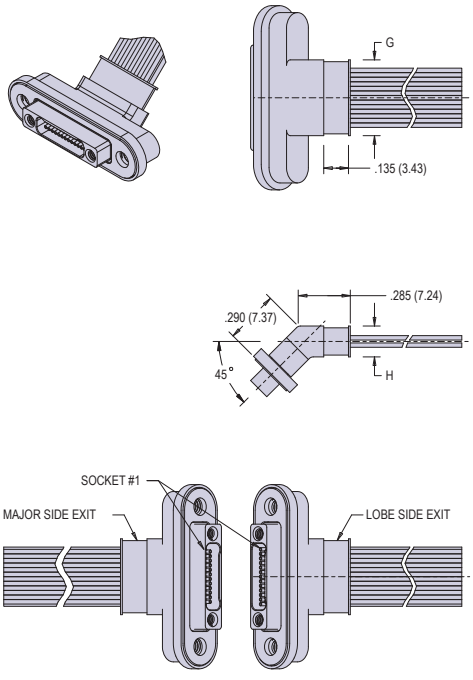

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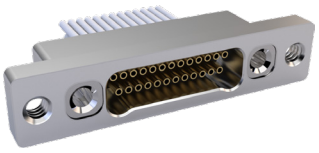
Dual-Row Rectangular Connectors

891-050 Front Panel Mount Receptacle with Insulated Wire



Nano Front Panel Mount Receptacles with Insulated Wire are precision-crimped to gold alloy socket contacts. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-050	-25S	A2	-0	B	7	-12	T	C

Series	**891-050** = Receptacle
Insert Arrangement/ Contact Type	**9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**A1** = Al Shell, Cadmium Plating **A2** = Al Shell, Electroless Nickel Plating **A31** = Al Shell, Zinc Nickel Plating, Black **A33** = Al Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG (Wire types A, B, C, E, and F) **2** = #32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra Lightweight XLETFE Insulation, Silver Coated Ultra High Strength Copper. **B** = Extruded PTFE Insulation, Silver Coated Copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross Linked Modified ETFE Insulation, Silver Coated High Strength Copper. **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, SC High Strength Copper. SAE AS22759/51 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, SC Copper, SAE AS22759/52
Wire Color Code	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, D, E, F are solid colors)
Wire Length	**12** = 12.00 inches; as required in one inch increments.
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85) Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium.
Mounting Hole Option	**C** = Thru-Hole **T** = Female Thread

RECEPTACLE HARDWARE AND MOUNT HOLE OPTIONS

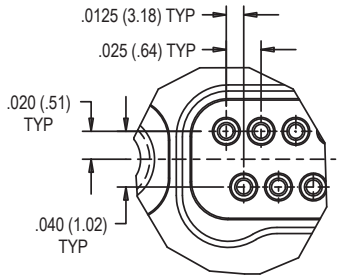


T - Female Thread Hardware with C = Thru-hole Mount



T - Female Thread with T = Thread Mount

891-050 DETAIL A



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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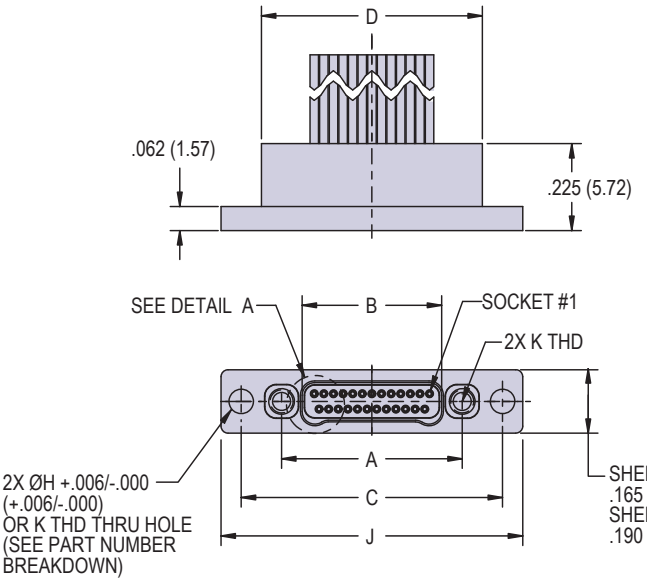
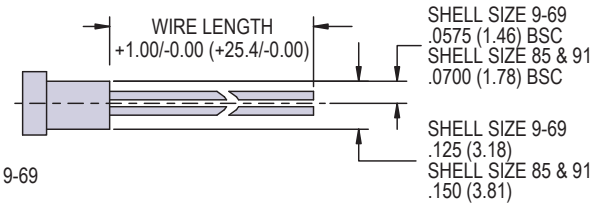
891-050 Front Panel Mount Receptacle with Insulated Wire

DIMENSIONS

891-050 Receptacle (Socket) Connector



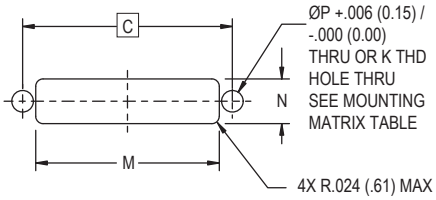
FRONT PANEL MOUNT CONNECTOR MOUNTING MATRIX		
Connector Holes	Panel Holes	Mounting Location
Tapped	Clearance	Rear Panel Mount
Clearance	Tapped	Front Panel Mount
Clearance	Clearance	Front or Rear Panel Mount with screw and nut



Layout	A BSC.	B BSC.	C BSC.	D	H	J	K
9S	.270 (6.86)	.163 (4.14)	.480 (12.19)	.375 (9.52)	.0635 (1.61)	.585 (14.86)	#0-80 UNF-2B
15S	.345 (8.76)	.238 (6.05)	.555 (14.10)	.450 (11.43)	.0635 (1.61)	.660 (16.76)	#0-80 UNF-2B
21S	.420 (10.67)	.313 (7.95)	.630 (16.00)	.525 (13.34)	.0635 (1.61)	.735 (18.67)	#0-80 UNF-2B
25S	.470 (11.94)	.363 (9.22)	.680 (17.27)	.575 (14.60)	.0635 (1.61)	.785 (19.94)	#0-80 UNF-2B
31S	.545 (13.84)	.438 (11.13)	.755 (19.18)	.650 (16.51)	.0635 (1.61)	.860 (21.84)	#0-80 UNF-2B
37S	.620 (15.75)	.513 (13.03)	.830 (21.08)	.725 (18.42)	.0635 (1.61)	.935 (23.75)	#0-80 UNF-2B
41S	.670 (17.02)	.563 (14.30)	.880 (22.35)	.775 (19.68)	.0635 (1.61)	.985 (25.02)	#0-80 UNF-2B
51S	.795 (20.19)	.688 (17.48)	1.005 (25.53)	.900 (22.86)	.0635 (1.61)	1.110 (28.19)	#0-80 UNF-2B
65S	.970 (24.64)	.863 (21.92)	1.180 (29.97)	1.075 (27.30)	.0635 (1.61)	1.285 (32.64)	#0-80 UNF-2B
69S	1.020 (25.91)	.913 (23.19)	1.230 (31.24)	1.125 (28.58)	.0635 (1.61)	1.335 (33.91)	#0-80 UNF-2B
85S	1.246 (31.65)	1.113 (28.27)	1.527 (38.79)	1.377 (34.98)	.0890 (2.26)	1.677 (42.60)	#2-56 UNC-2B
91S	1.321 (33.55)	1.188 (30.18)	1.602 (40.69)	1.452 (36.88)	.0890 (2.26)	1.752 (44.50)	#2-56 UNC-2B

PANEL MOUNT DIMENSIONS

	SIZE-9	SIZE-15	SIZE-21	SIZE-25	SIZE-31	SIZE-37	SIZE-41	SIZE-51	SIZE-65	SIZE-69	SIZE-85	SIZE-91
C	.480 (12.19)	.555 (14.10)	.630 (16.00)	.680 (17.27)	.755 (19.18)	.830 (21.08)	.880 (22.35)	1.005 (25.53)	1.180 (29.97)	1.230 (31.24)	1.527 (38.79)	1.602 (40.69)
K	#0-80 UNF-2B										#2-56 UNC-2B	
M	.395 (10.03)	.470 (11.94)	.545 (13.84)	.595 (15.11)	.670 (17.02)	.745 (18.92)	.795 (20.19)	.920 (23.37)	1.095 (27.81)	1.145 (29.08)	1.397 (35.48)	1.472 (37.39)
N	.145 (3.68)										.170 (4.32)	
P	.070 (1.78)										.096 (2.44)	



NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface receptacle dimensions per MIL-DTL-32139/4
3. Panel cutout sized to allow lobe up or lobe down mounting orientation
4. Connector may be mounted to front or back of panel depending on selected mounting hole option
5. Recommended panel thickness .100 (2.54) max
6. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts:gold alloy / unplated
   - Wire: See part number break down
   - Jacking hardware: See part number break down

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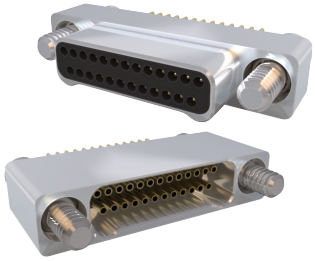
Dimensions in Inches (millimeters) are subject to change without notice.

SERIES 89 NANOMINIATURE

Dual-Row Rectangular Connectors

891-003 and 891-004 Plug and Receptacle Connectors with Uninsulated Wire



Nanominiature Connectors with uninsulated wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to uninsulated wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG.

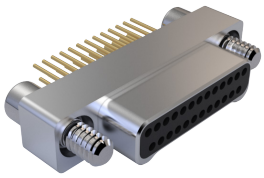
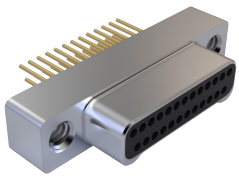
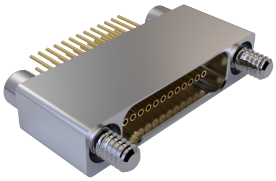
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-003	-9P	A2	-0	D3	-.125	J

Series	**891-003** = Plug **891-004** = Receptacle
Insert Arrangement/ Contact Type	Plugs (891-003): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Receptacles (891-004): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single Strand Copper Wire, Uninsulated with Gold Plating
Wire Length	**.125, .250, .375, .500**
Hardware	**J** = Jackscrew **T** = Female Thread (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

Material and Finishes:
Shell: see part number break down
Insulator: LCP/N/A
Contacts: gold alloy / unplated
Wire: see part number break down
Hardware: passivated stainless steel
Inspect and test IAW MIL-DTL-32139
Interface dimensions per MIL-DTL-32139/3 & /4

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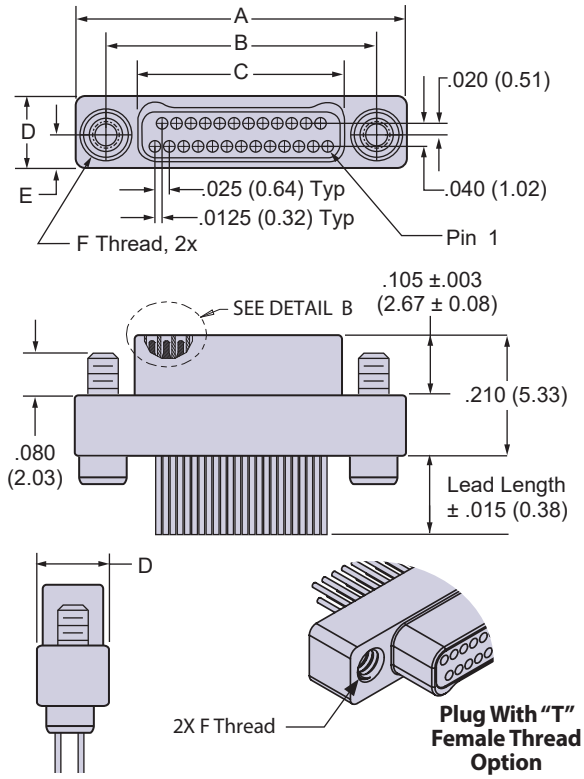
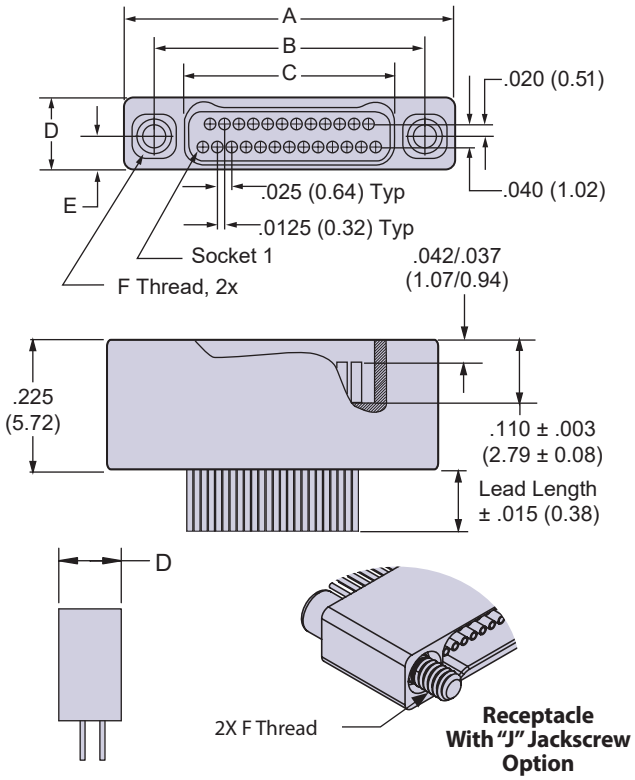
891-003 and 891-004 Plug and Receptacle Connectors with Uninsulated Wire

DIMENSIONS

891-003 Plug (Pin) Connector



891-004 Receptacle (Socket) Connector



Layout	A ± .005	B BSC.	C BSC.	D ± .005	E BSC.	F Thread
9P	.375 (9.52)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.52)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

Dual-Row Rectangular Connectors

891-060 and 891-061 Rear Panel Mount Connectors with Uninsulated Wire and Gasket Seal



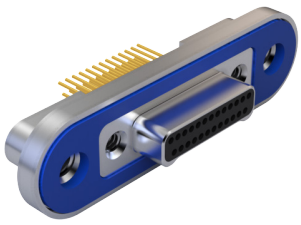
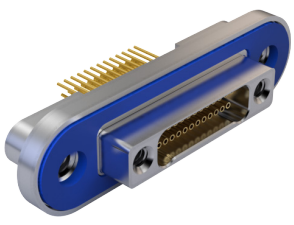
Rear Panel Mount Nano Connectors with Uninsulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to uninsulated, wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

Gasket Seals are available in fluorosilicone, passivated silver plated aluminum filled fluorosilicone or nickel plated aluminum filled fluorosilicone. For replacement gaskets, see 899-015.

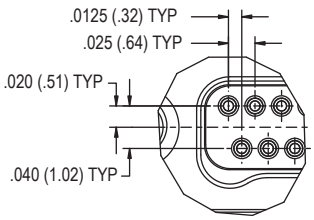
HOW TO ORDER

Sample Part Number	891-060	-9P	S	-0	D3	-12	T	-01	M

Series	**891-060** = Plug **891-061** = Receptacle
Insert Arrangement/ Contact Type	Plugs (891-025): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Receptacles (891-026): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single Strand Copper Wire, Uninsulated with gold plating
Wire Length	**.125, .250, .375, .500**
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85 & 91)
Gasket Material	**Omit** for no gasket **01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type "D" (Cho-seal 1298 or Equivalent) **03** = Nickel Plated, Aluminum Filled Fluorosilicone (Cho-Seal 6503 or Equivalent)
Mounting Thread	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H

PLUG HARDWARE	RECEPTACLE HARDWARE
	
T - Female Thread	T - Female Thread

DETAIL A



NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139, plug (/3) Receptacle (/4)
3. Panel cutout sized to allow lobe up or lobe down mounting orientation
4. Recommended Panel thickness .100 (2.54) max

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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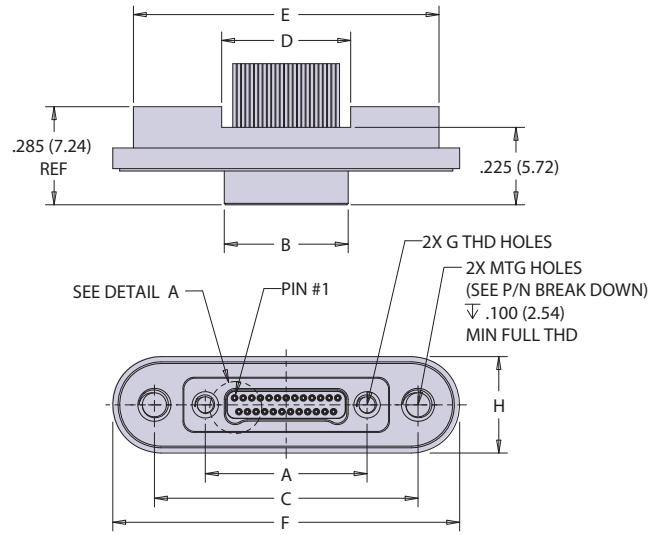
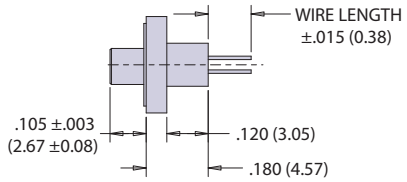
Dual-Row Rectangular Connectors

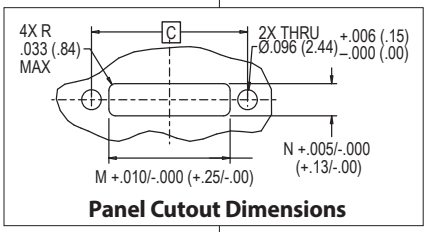
891-060 and 891-061 Rear Panel Mount Connectors with Uninsulated Wire and Gasket Seal

DIMENSIONS

891-060 Plug (Pin) Connectors

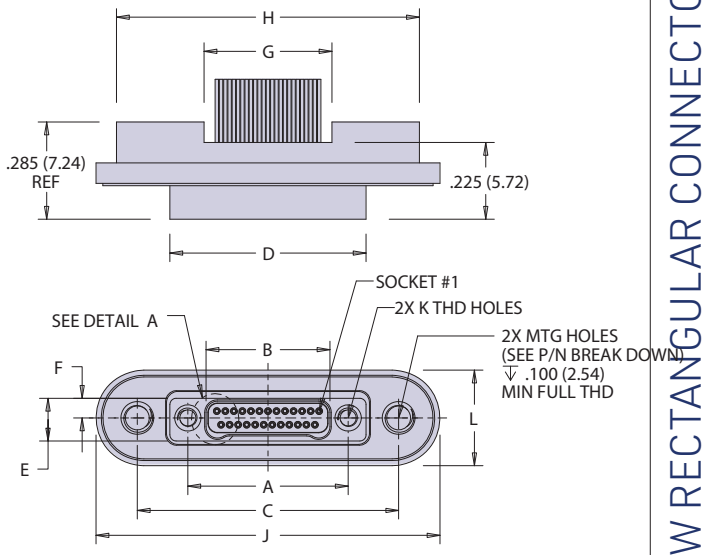


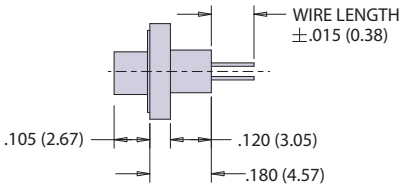




Panel Cutout Dimensions

891-061 Receptacle (Socket) Connectors





Layout	A BSC.	B BSC.	C BSC.	D	E	F	G	M	N
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	.175 (4.45)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.395 (10.03)	.155 (3.94)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B		
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	.250 (6.35)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.470 (11.94)	.155 (3.94)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B		
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	.325 (8.25)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.545 (13.84)	.155 (3.94)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B		
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	.375 (9.52)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.595 (15.11)	.155 (3.94)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B		
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	.450 (11.43)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.670 (17.02)	.155 (3.94)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B		
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.745 (18.92)	.155 (3.94)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B		
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	.575 (14.61)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B	.795 (20.19)	.155 (3.94)
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.775 (19.69)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B		
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.920 (23.37)	.155 (3.94)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B		
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	1.095 (27.81)	.155 (3.94)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B		
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	1.145 (29.08)	.155 (3.94)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B		
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	1.397 (35.48)	.180 (4.57)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B		
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	1.200 (30.48)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B	1.472 (37.39)	.180 (4.57)
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.452 (36.88)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B		

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

Dual-Row Rectangular Connectors

891-053 Front Panel Mount Receptacle with Uninsulated Wire



Front Panel Mount Receptacles with Uninsulated Wire Contacts are precision-crimped to solid wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC. Wire gages #30 and #32 AWG

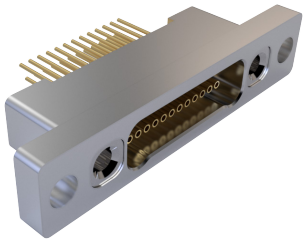
Typical Applications include UAV's, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-053	-25S	A2	-0	D3	-.125	T	C

Series	**891-053** = Receptacle
Insert Arrangement/ Contact Type	**9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single Strand Coppper Wire, Uninsulated, with Gold Plating
Wire Length	**.070**, **.125**, **.250**, **.375**, **.500**, **1.000**
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85) (Stainless steel inserts installed in aluminum shells tapped directly into stainless steel and titanium)
Mounting Hole Option	**C** = Clearance Hole **T** = Female Thread

RECEPTACLE HARDWARE AND MOUNTING HOLE

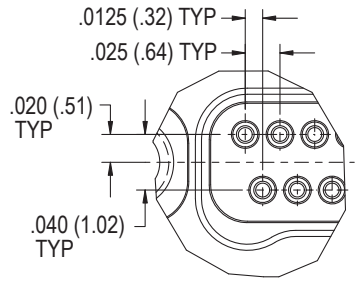


T - Female Thread and
C - Thru-Hole Mount



T - Female Thread and
T - Female Thread

891-053 DETAIL A



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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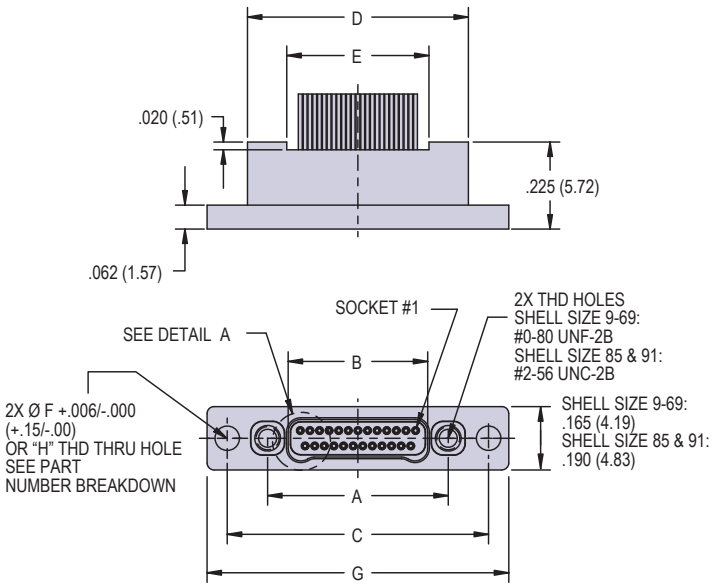
891-053 Front Panel Mount Receptacle with Uninsulated Wire

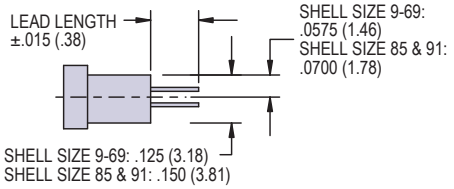
DIMENSIONS

891-053 Receptacle (Socket) Connector



PANEL MOUNT CONNECTOR MOUNTING MATRIX

Connector Holes	Panel Holes	Mounting Location
Tapped	Clearance	Rear Panel Mount
Clearance	Tapped	Front Panel Mount
Clearance	Clearance	Front or Rear Panel Mount with screw and nut

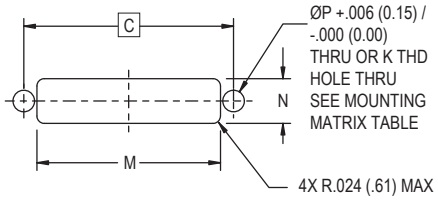


Layout	A BSC.	B BSC.	C BSC.	D	E	F	G	H
9S	.270 (6.86)	.163 (4.14)	.480 (12.19)	.375 (9.52)	.170 (4.32)	.0635 (1.61)	.585 (14.86)	#0-80 UNF-2B
15S	.345 (8.76)	.238 (6.05)	.555 (14.10)	.450 (11.43)	.245 (6.22)	.0635 (1.61)	.660 (16.76)	#0-80 UNF-2B
21S	.420 (10.67)	.313 (7.95)	.630 (16.00)	.525 (13.34)	.320 (8.13)	.0635 (1.61)	.735 (18.67)	#0-80 UNF-2B
25S	.470 (11.94)	.363 (9.22)	.680 (17.27)	.575 (14.60)	.370 (9.40)	.0635 (1.61)	.785 (19.94)	#0-80 UNF-2B
31S	.545 (13.84)	.438 (11.13)	.755 (19.18)	.650 (16.51)	.445 (11.30)	.0635 (1.61)	.860 (21.84)	#0-80 UNF-2B
37S	.620 (15.75)	.513 (13.03)	.830 (21.08)	.725 (18.42)	.520 (13.21)	.0635 (1.61)	.935 (23.75)	#0-80 UNF-2B
41S	.670 (17.02)	.563 (14.30)	.880 (22.35)	.775 (19.68)	.570 (14.48)	.0635 (1.61)	.985 (25.02)	#0-80 UNF-2B
51S	.795 (20.19)	.688 (17.48)	1.005 (25.53)	.900 (22.86)	.695 (17.65)	.0635 (1.61)	1.110 (28.19)	#0-80 UNF-2B
65S	.970 (24.64)	.863 (21.92)	1.180 (29.97)	1.075 (27.30)	.870 (22.10)	.0635 (1.61)	1.285 (32.64)	#0-80 UNF-2B
69S	1.020 (25.91)	.913 (23.19)	1.230 (31.24)	1.125 (28.58)	.920 (23.37)	.0635 (1.61)	1.335 (33.91)	#0-80 UNF-2B
85S	1.246 (31.65)	1.113 (28.27)	1.527 (38.79)	1.377 (34.98)	1.120 (28.45)	.0890 (2.26)	1.677 (42.60)	#2-56 UNC-2B
91S	1.321 (33.55)	1.188 (30.18)	1.602 (40.69)	1.452 (36.88)	1.195 (30.35)	.0890 (2.26)	1.752 (44.50)	#2-56 UNC-28

NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface receptacle dimensions per MIL-DTL-32139/4
3. Panel cutout sized to allow lobe up or lobe down mounting orientation
4. Connector may be mounted to front or back of panel depending on selected mounting hole option
5. Recommended panel thickness .100 (2.54) max
6. Materials/finishes
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts:gold alloy / unplated
   - Wire: copper alloy/gold plated
   - Jacking hardware: see part number break down

PANEL MOUNT DIMENSIONS



	SIZE-9	SIZE-15	SIZE-21	SIZE-25	SIZE-31	SIZE-37	SIZE-41	SIZE-51	SIZE-65	SIZE-69	SIZE-85	SIZE-91
C	.480 (12.19)	.555 (14.10)	.630 (16.00)	.680 (17.27)	.755 (19.18)	.830 (21.08)	.880 (22.35)	1.005 (25.53)	1.180 (29.97)	1.230 (31.24)	1.527 (38.79)	1.602 (40.69)
K	#0-80 UNF-2B										#2-56 UNC-2B	
M	.395 (10.03)	.470 (11.94)	.545 (13.84)	.595 (15.11)	.670 (17.02)	.745 (18.92)	.795 (20.19)	.920 (23.37)	1.095 (27.81)	1.145 (29.08)	1.397 (35.48)	1.472 (37.39)
N	.145 (3.68)										.170 (4.32)	
P	.070 (1.78)										.096 (2.44)	

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Dual-Row Rectangular Connectors

891-006 and 891-007 Vertical Mount Thru-Hole PCB Connectors



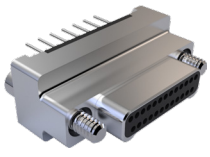
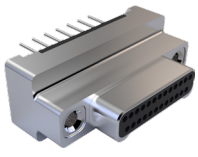
Vertical Mount Thru-Hole PCB Nano Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications. Available with female threads, or with jackscrews for use with flexible circuits. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells. Twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 891 Dual-Row metal shell nano miniature connector.

HOW TO ORDER

Sample Part Number	891-007	-25S	A2	-BST	1	T

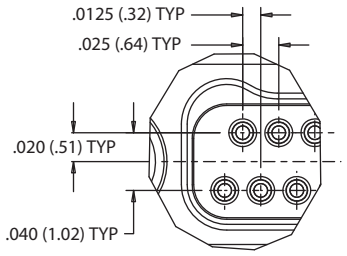
Series	**891-006** = Plug, Vertical Mount PCB Connector **891-007** = Receptacle, Vertical Mount PCB Connector
Insert Arrangement/ Contact Type	Pins (891-006 Plugs) **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-007 Receptacles) **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BST** = Board Straight Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Jackscrew **T** = Female Thread (**Stainless** steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

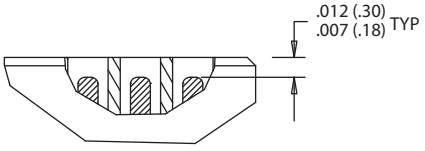
NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/3 and /4
3. Materials/finishes
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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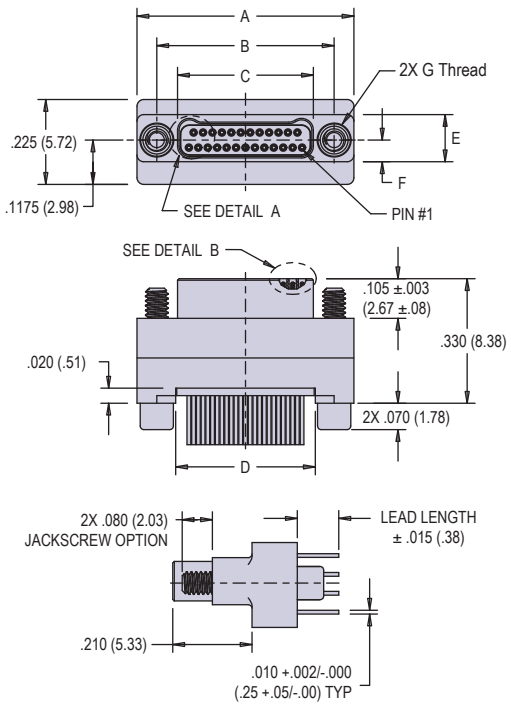
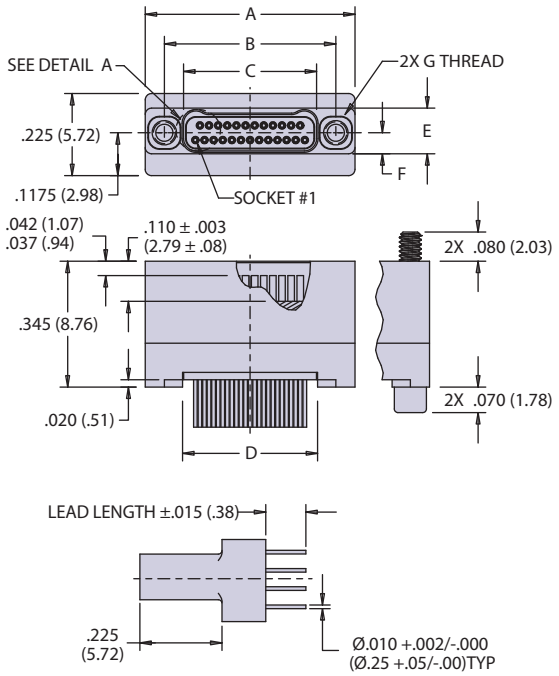
891-006 and 891-007 Vertical Mount Thru-Hole PCB Connectors

DIMENSIONS

891-006 Plug (Pin) Connectors



891-007 Receptacle (Socket) Connectors



Layout	A ± .005	B BSC.	C BSC.	D ± .005	E	F	G Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.170 (4.32)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.170 (4.32)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.245 (6.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.245 (6.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.320 (8.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.320 (8.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.370 (9.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.370 (9.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.445 (11.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.570 (14.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.570 (14.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.695 (17.65)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.120 (28.45)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.120 (28.45)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.195 (30.35)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.195 (30.35)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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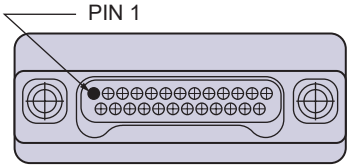
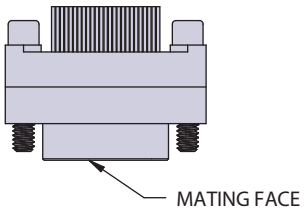
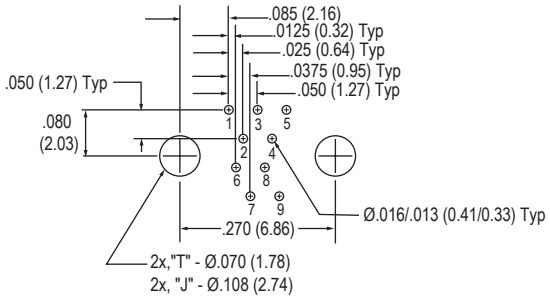
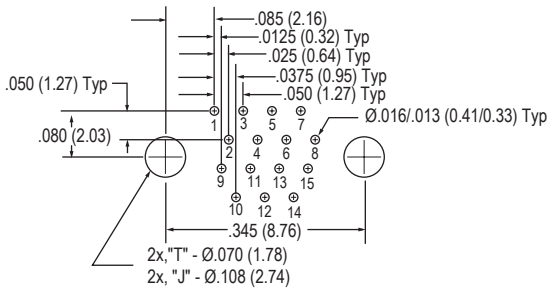
891-006 Vertical Mount Thru-Hole PCB Connectors - Plug PCB Footprint



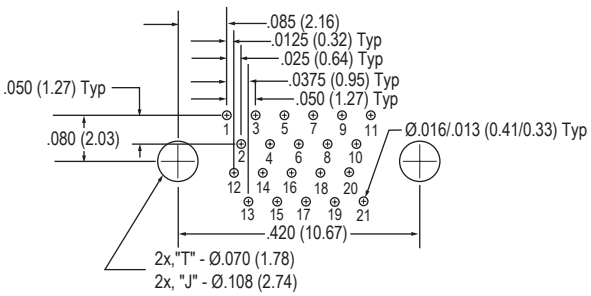




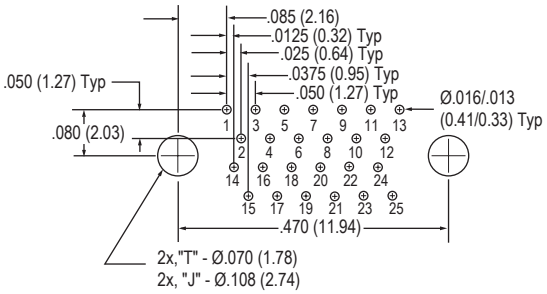
9 Contacts



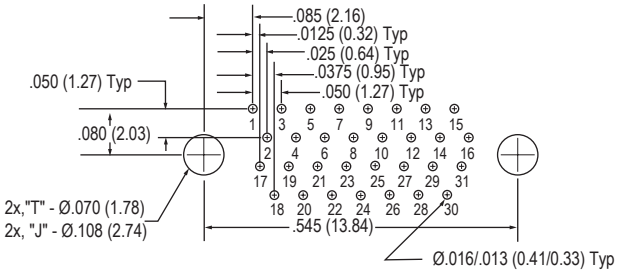
15 Contacts



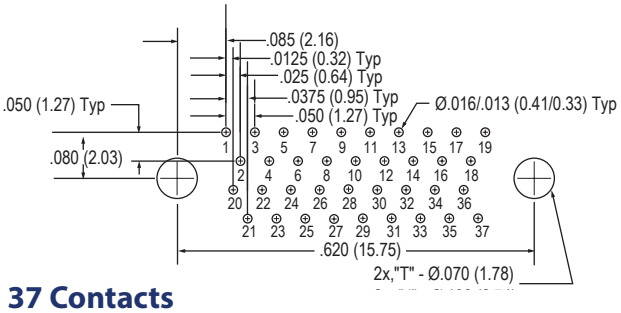
21 Contacts



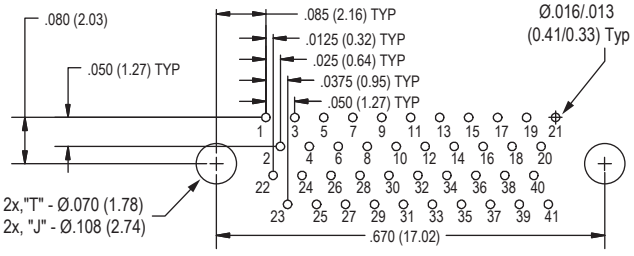
25 Contacts



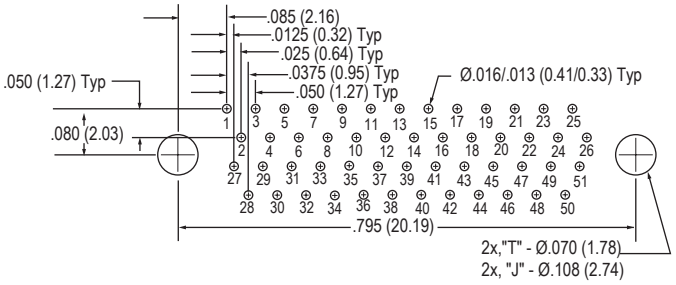
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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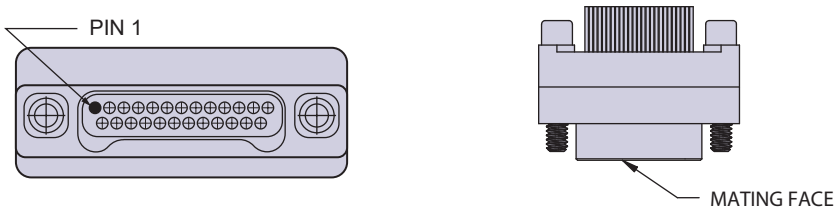
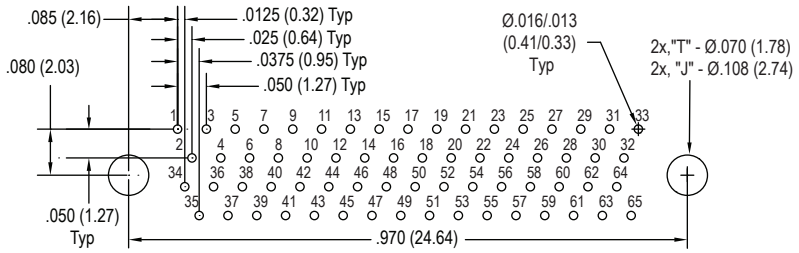
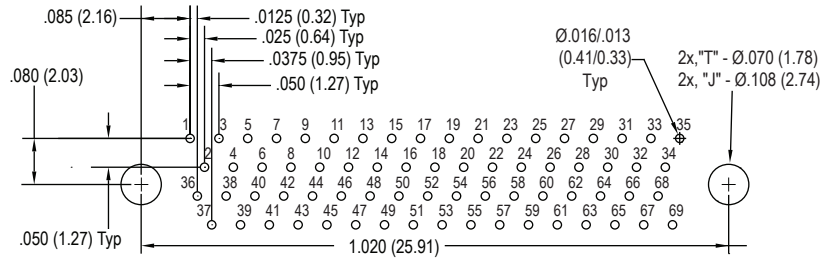
891-006 Vertical Mount Thru-Hole PCB Connectors - Plug PCB Footprint

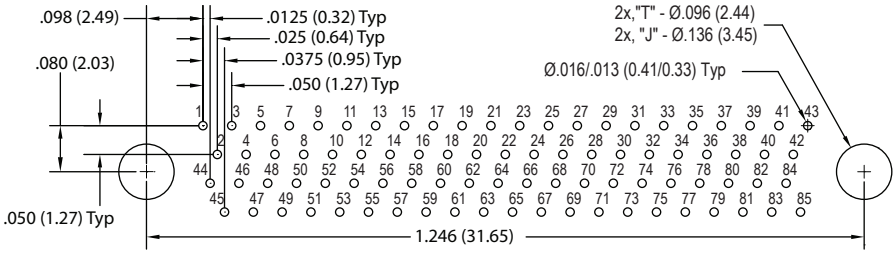




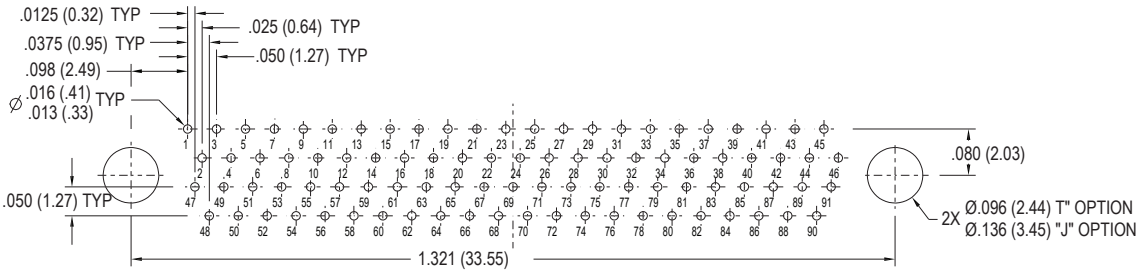
65 Contacts



69 Contacts



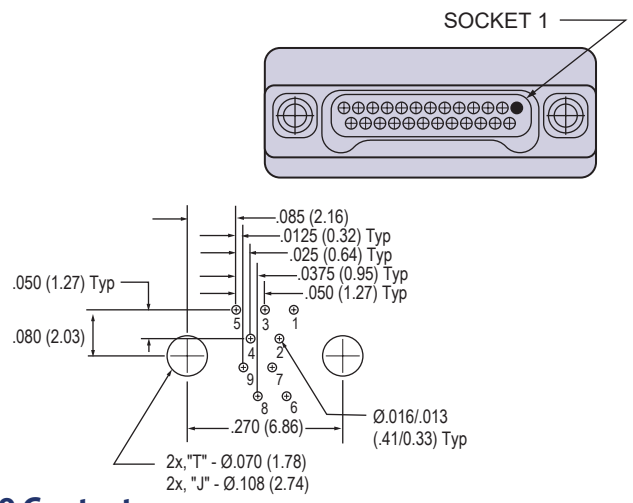
85 Contacts



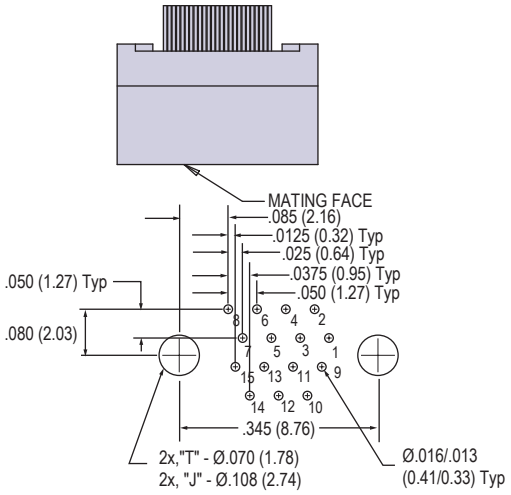
91 Contacts

Layouts shown are for connector mounting side of PC Board.

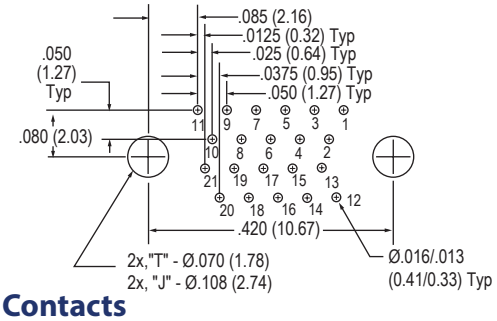
891-007 Vertical Mount Thru-Hole PCB Connectors - Receptacle PCB Footprint



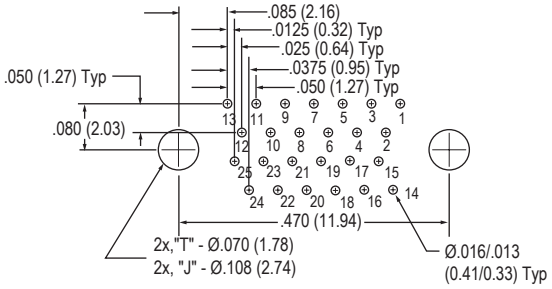
9 Contacts



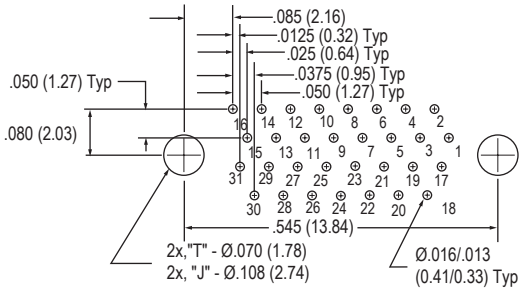
15 Contacts



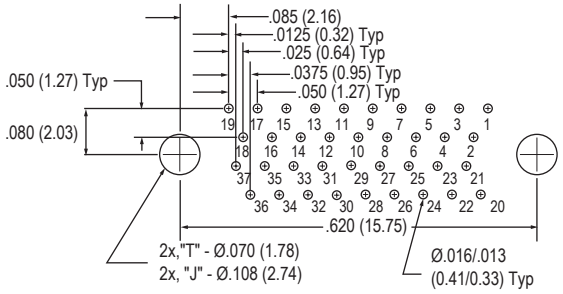
21 Contacts



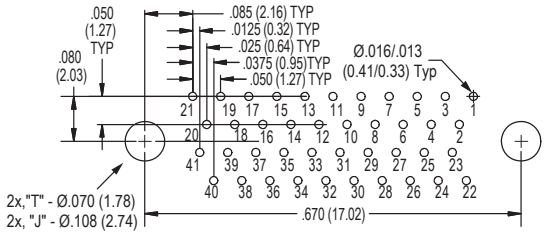
25 Contacts



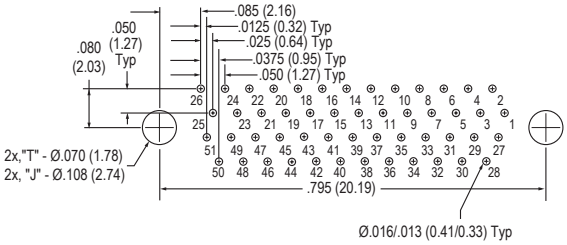
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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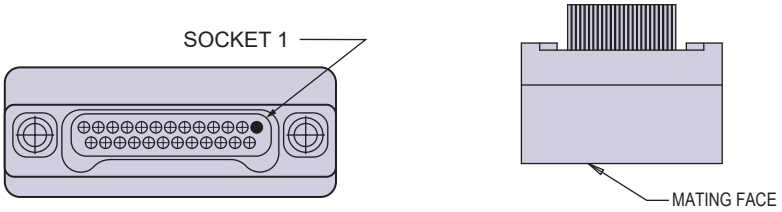
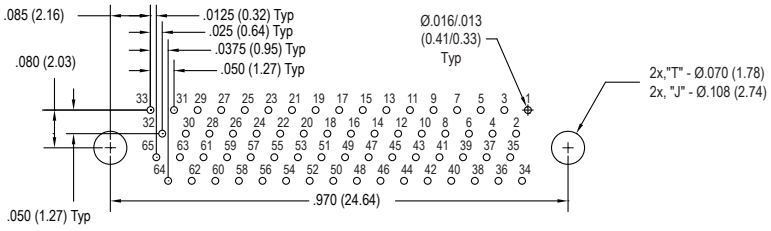
891-007 Vertical Mount Thru-Hole PCB Connectors - Receptacle PCB Footprint





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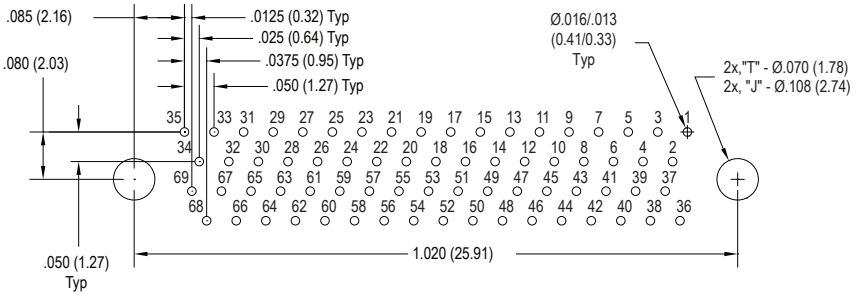
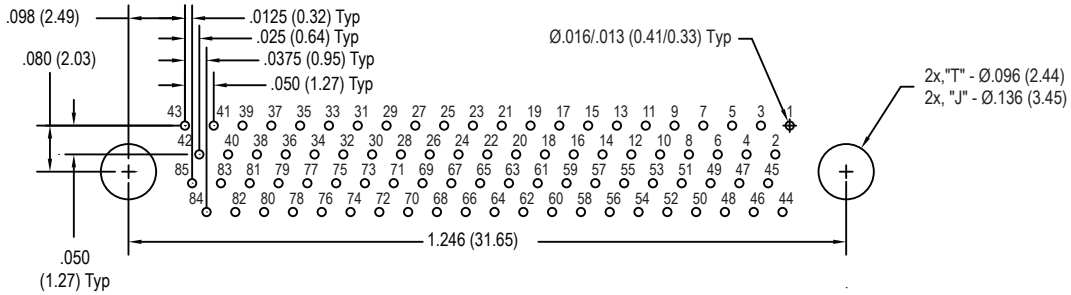
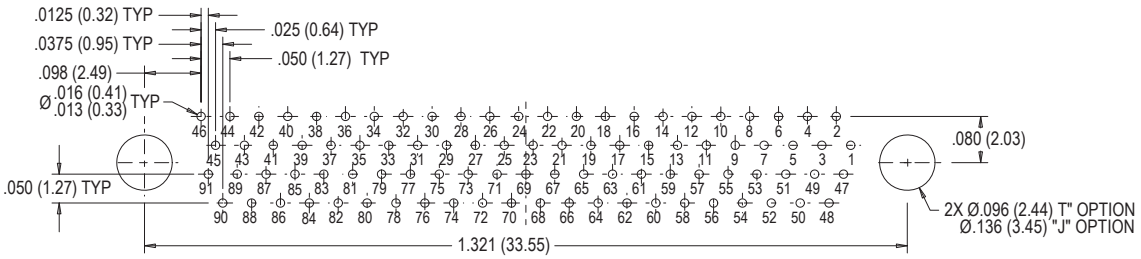


69 Contacts



25 Contacts

85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

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Dual-Row Rectangular Connectors

891-039 and 891-040 Vertical Mount Thru-Hole PCB Connectors with Mounting Ears



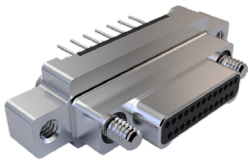
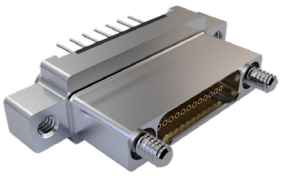
Vertical Mount PCB Nano Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications. Available with female mounting threads and jackscrews. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells. Twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

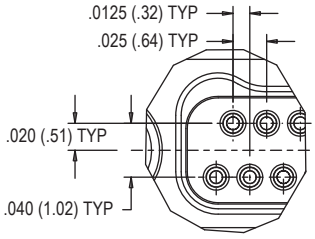
HOW TO ORDER

Sample Part Number	891-040	-25S	A2	-BST	1	J

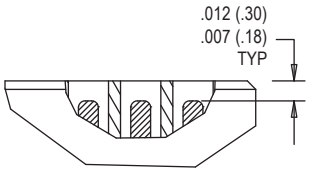
Series	**891-039** Plug, Vertical Mount Thru-Hole PCB Connector with Mounting Ears **891-040** Receptacle, Vertical Mount Thru-Hole PCB Connector with Mounting Ears
Insert Arrangement/ Contact Type	Pins (891-039 Plugs) **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Sockets (891-040 Receptacles) **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated **T** = Titanium Shell, Unplated
Termination Type	**BST** - Board Straight Thru-Hole
PC Tail Length	**1** - .110 (2.79) **2** - .172 (4.37) **3** - .140 (3.56)
Hardware	**J** = Jackscrew **T** = Female Thread (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

DETAIL A



DETAIL B



NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/3 and /4
3. Materials/finishes
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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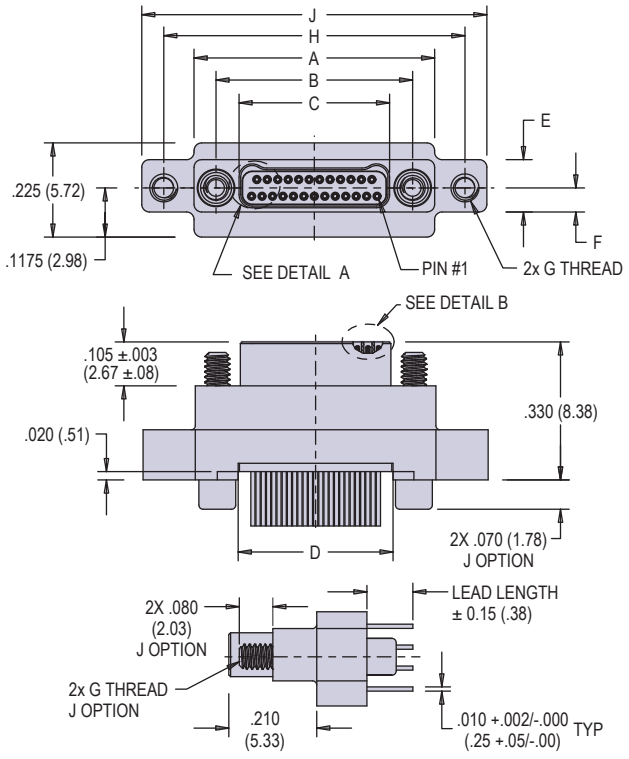
Dual-Row Rectangular Connectors

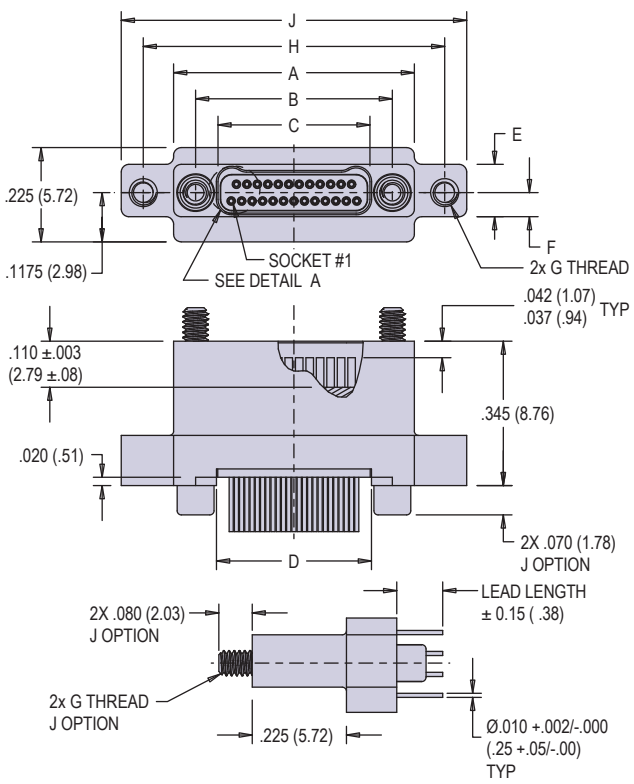
891-039 and 891-040 Vertical Mount Thru-Hole PCB Connectors with Mounting Ears

DIMENSIONS

891-039 Plug (Pin) Connector



891-040 Receptacle (Socket) Connector



Size	A	B BSC.	C BSC.	D	E	F	G Thd	H	J
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.170 (4.32)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.520 (13.21)	.625 (15.88)
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.170 (4.32)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.520 (13.21)	.625 (15.88)
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.245 (6.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.595 (15.11)	.700 (17.78)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.245 (6.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.595 (15.11)	.700 (17.78)
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.320 (8.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.670 (17.02)	.775 (19.69)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.320 (8.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.670 (17.02)	.775 (19.69)
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.370 (9.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.720 (18.29)	.825 (20.96)
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.370 (9.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.720 (18.29)	.825 (20.96)
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.795 (20.19)	.900 (22.86)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.445 (11.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.795 (20.19)	.900 (22.86)
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.870 (22.10)	.975 (24.77)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.870 (22.10)	.975 (24.77)
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.570 (14.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.920 (23.37)	1.025 (26.04)
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.570 (14.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.920 (23.37)	1.025 (26.04)
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.045 (26.54)	1.150 (29.21)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.695 (17.65)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.045 (26.54)	1.150 (29.21)
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.220 (30.99)	1.325 (33.66)
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.220 (30.99)	1.325 (33.66)
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.270 (32.26)	1.375 (34.93)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.270 (32.26)	1.375 (34.93)
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.120 (28.45)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.546 (39.27)	1.679 (42.65)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.120 (28.45)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.546 (39.27)	1.679 (42.65)
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.195 (30.35)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.621 (41.17)	1.754 (44.55)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.195 (30.35)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.621 (41.17)	1.754 (44.55)

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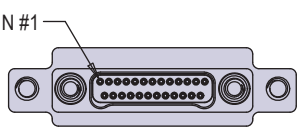
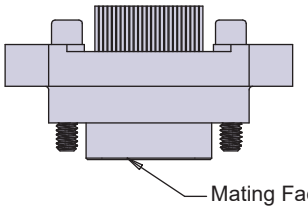
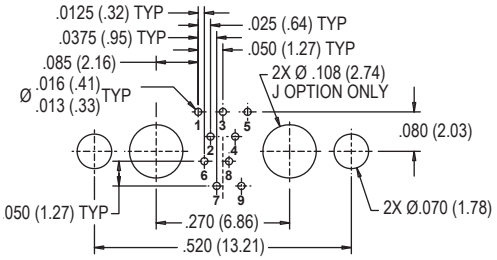
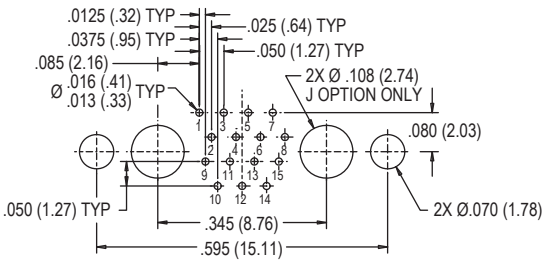
891-039 Vertical Mount Thru-Hole PCB with Mounting Ears - Plug PCB Footprint



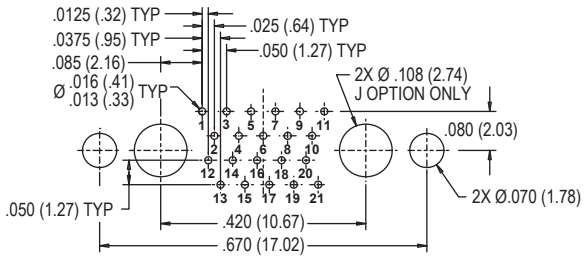




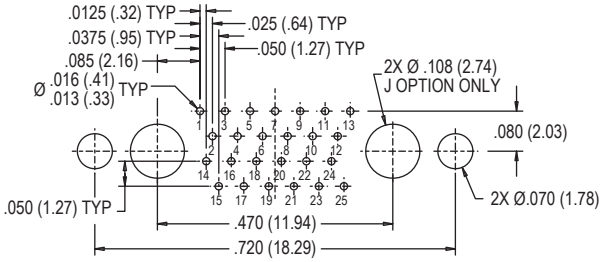
9 Contacts



15 Contacts



21 Contacts



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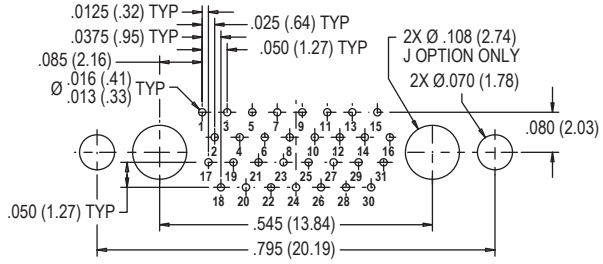
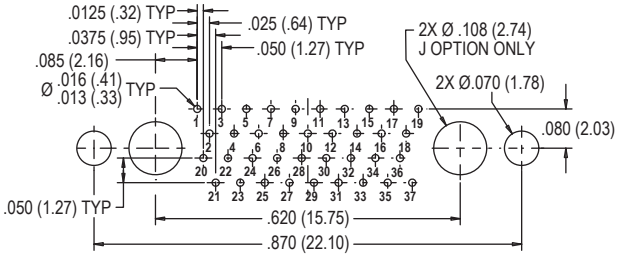
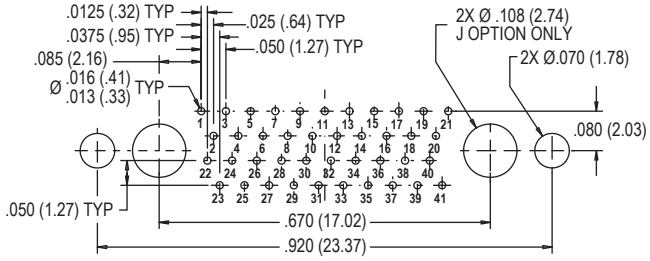


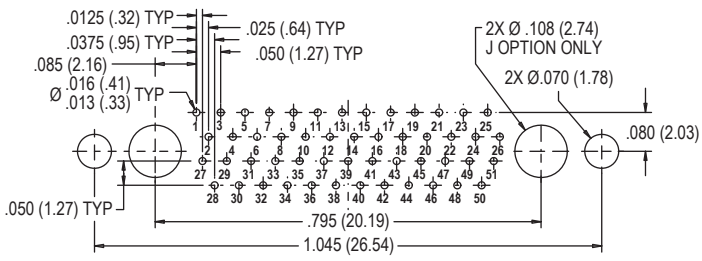
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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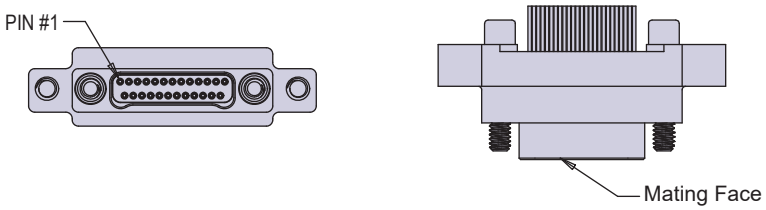
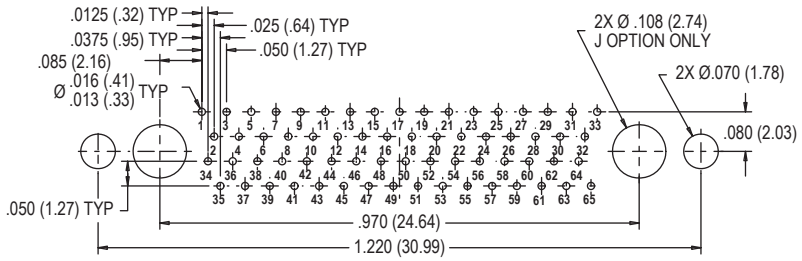
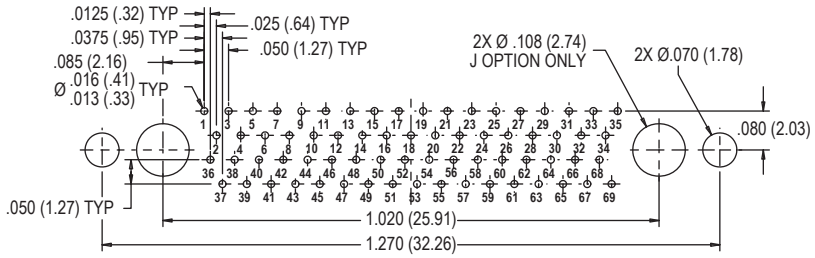
891-039 Vertical Mount Thru-Hole PCB with Mounting Ears - Plug PCB Footprint

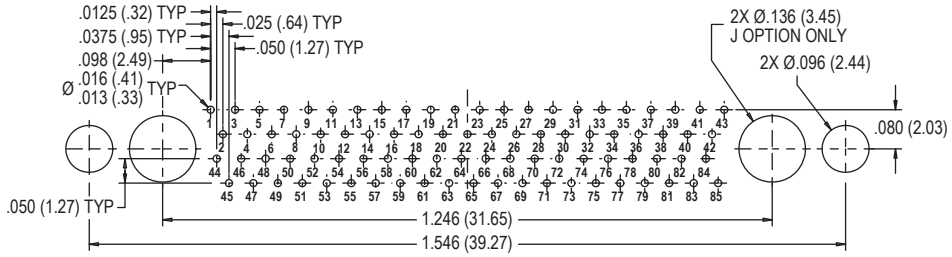




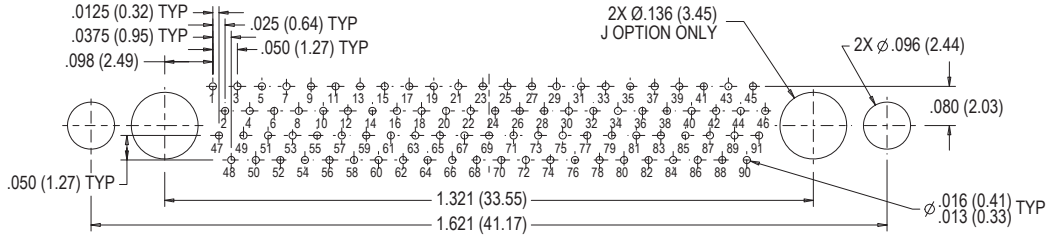
65 Contacts



69 Contacts



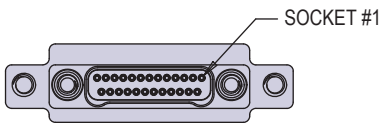
85 Contacts

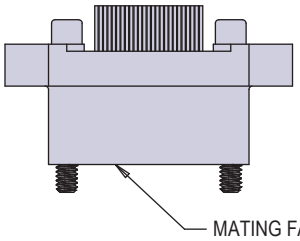


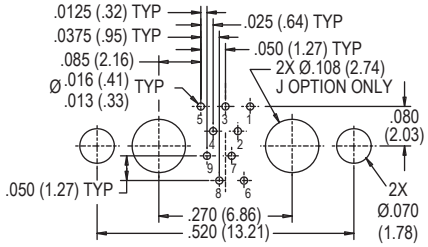
91 Contacts

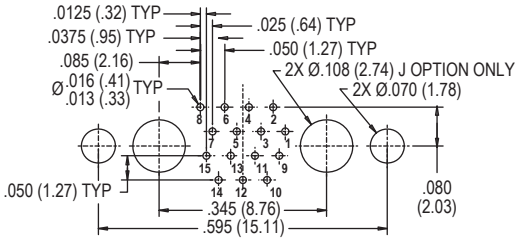
Layouts shown are for connector mounting side of PC Board.

891-040 Vertical Mount Thru-Hole PCB with Mounting Ears - Receptacle PCB Footprint

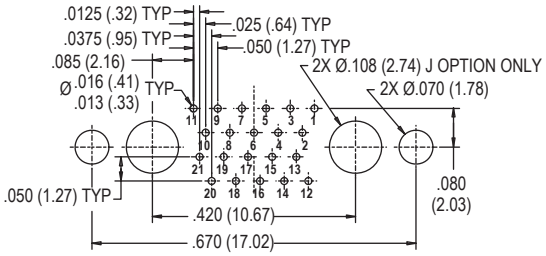




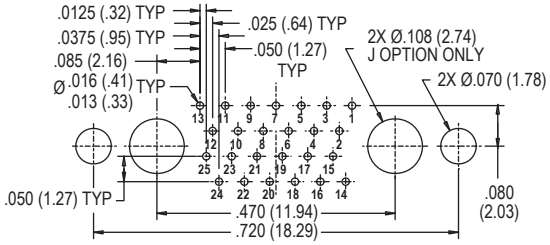




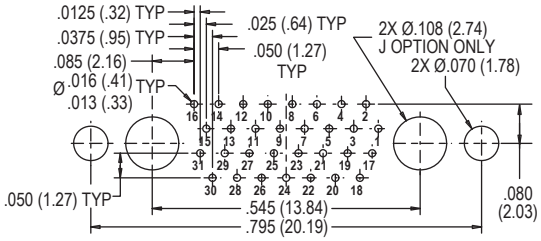
9 Contacts



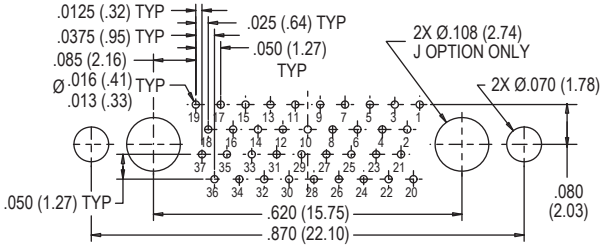
15 Contacts



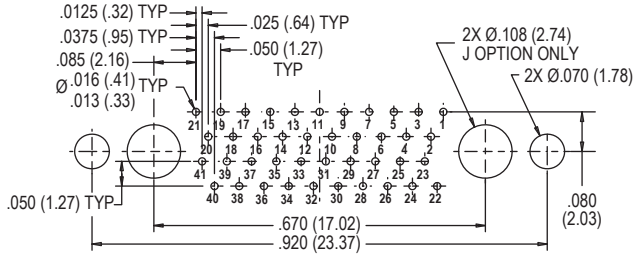
21 Contacts



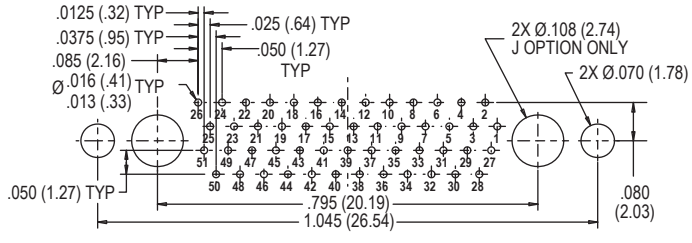
25 Contacts



31 Contacts



37 Contacts



41 Contacts

51 Contacts

Layouts shown are for connector mounting side of PC Board.

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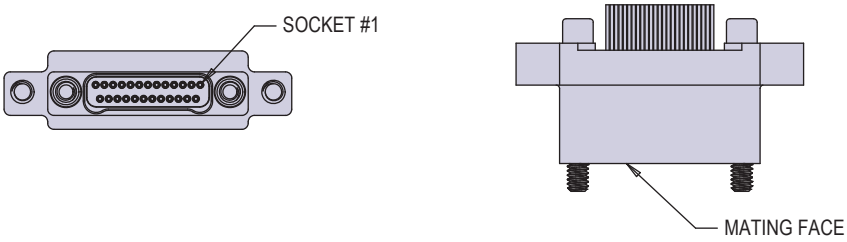
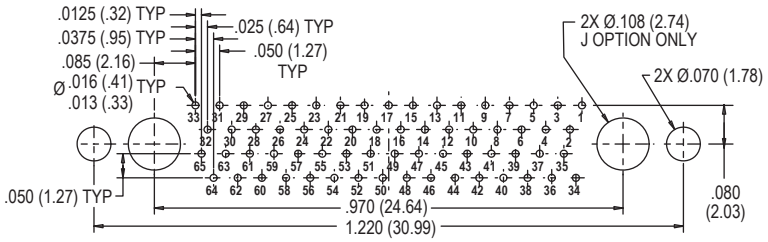
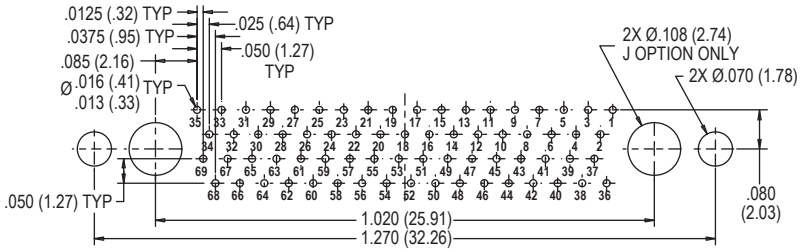
891-040 Vertical Mount Thru-Hole PCB with Mounting Ears - Receptacle PCB Footprint

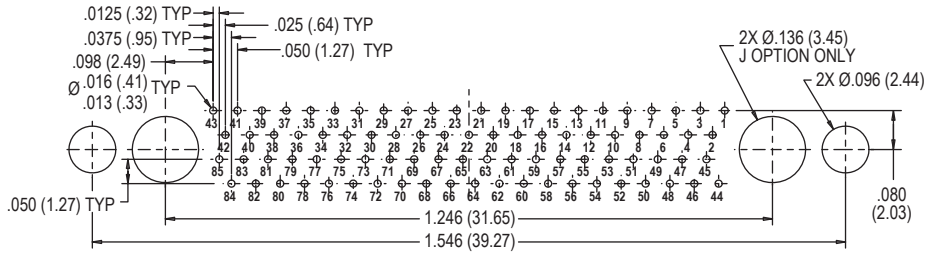




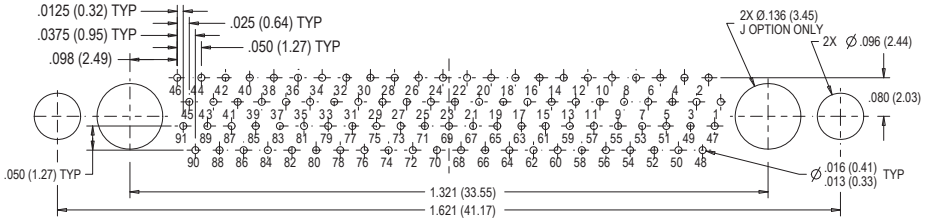
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-029 and 891-030 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Connectors



Rear Panel Mount PCB Connectors feature gold alloy TwistPin contacts, titanium or stainless steel shells offering premium performance and reliability for demanding applications. Gasket seals available in fuorosilicone, Cho-Seal 1298 or Cho-Seal 6503. For replacement gaskets see 899-015.

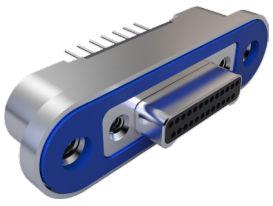
Twelve Layouts From 9 To 91 Contacts. MIL-DTL-32139 type connectors are intermateable with any M32139 compliant connector or Glenair Series 891 Dual-Row metal shell nanominiature connector. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	891-030	-25S	S	-BST	1	T	-01	M

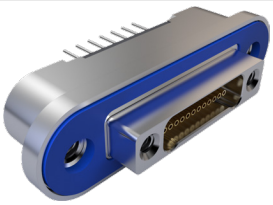
Series	**891-029** = Rear Panel Mount Plug, Vertical Thru-Hole **891-030** = Rear Panel Mount Receptacle, Vertical Thru-Hole
Insert Arrangement/ Contact Type	Pins (891-029 Plugs): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Sockets (891-030 Receptacles): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85P, 91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BST** = Board Straight Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85, #2-56 for size 85 & 91)
Gasket Material	**Omit** for No Gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type D (Cho-Seal 1298 or Equivalent) **03** = Nickel Plated Aluminum Filled Fluorosilicone, (Cho-Seal 6503 or Equivalent)
Mounting Thread Option	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H

PLUG HARDWARE



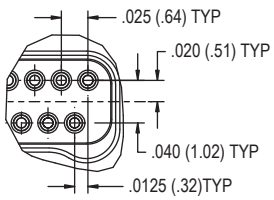
T - Female Thread

RECEPTACLE HARDWARE



T - Female Thread

DETAIL A



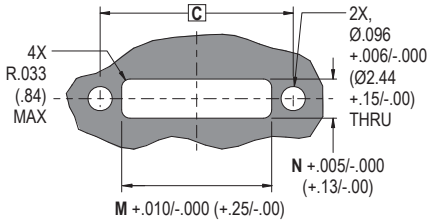
PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139, plug (/3) Receptacle (/4)

PANEL CUT-OUT DIMENSIONS



Shell Size	C	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
41	.966 (24.54)	.795 (20.19)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

• Recommended Panel thickness .100 (2.54) max
• Panel cutout sized to allow lobe up or lobe down mounting orientation

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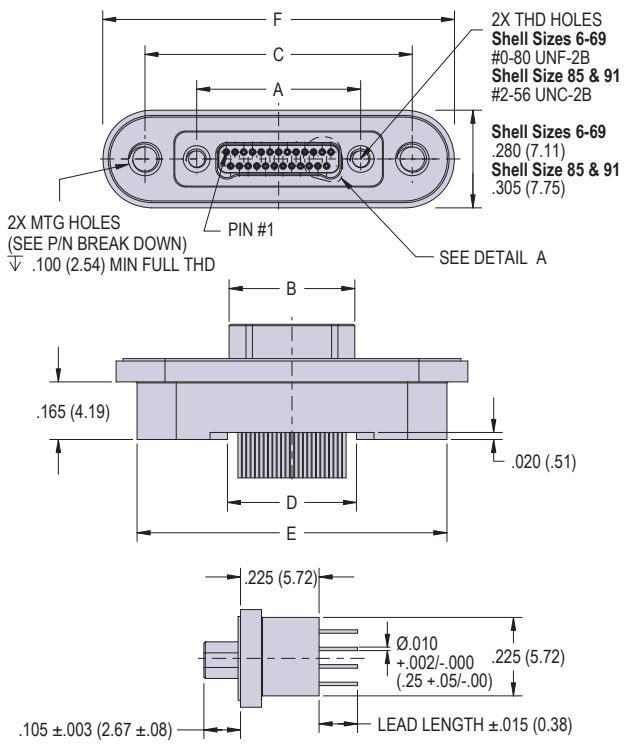
Dual-Row Rectangular Connectors

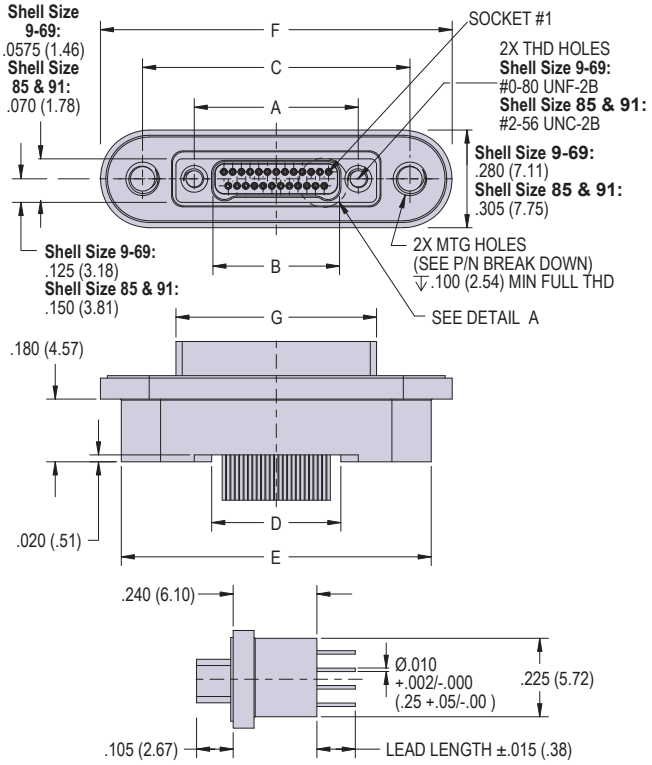
891-029 and 891-030 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Connectors

DIMENSIONS

891-029 Plug (Pin) Connectors



891-030 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F	G
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	.170 (4.32)	.688 (17.48)	.808 (20.52)	--
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.170 (4.32)	.688 (17.48)	.808 (20.52)	.375 (9.52)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	.245 (6.22)	.763 (19.38)	.883 (22.43)	--
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.245 (6.22)	.763 (19.38)	.883 (22.43)	.450 (11.43)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	.320 (8.13)	.838 (21.29)	.958 (24.33)	--
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.320 (8.13)	.838 (21.29)	.958 (24.33)	.525 (13.34)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	--
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	.575 (14.60)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	--
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	.650 (16.51)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	--
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	.725 (18.42)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	--
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	.775 (19.68)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	--
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	.900 (22.86)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	--
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	1.075 (27.30)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	--
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	1.125 (28.58)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	--
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	1.377 (34.98)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	--
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	1.452 (36.88)

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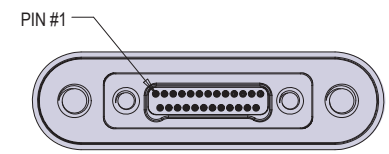
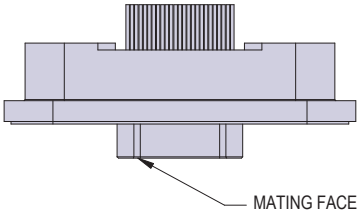
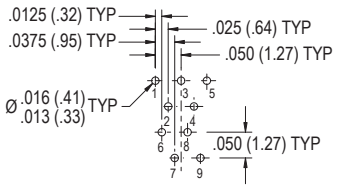
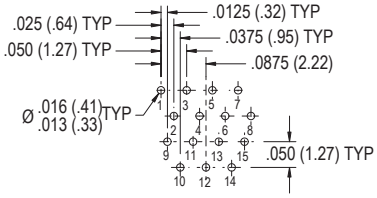
891-029 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Connectors - Plug PCB Footprint







9 Contacts



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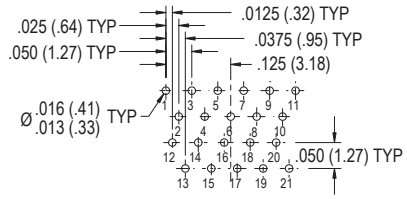

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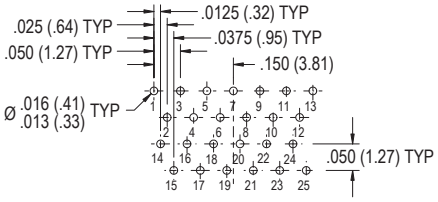

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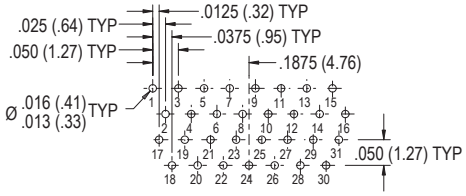
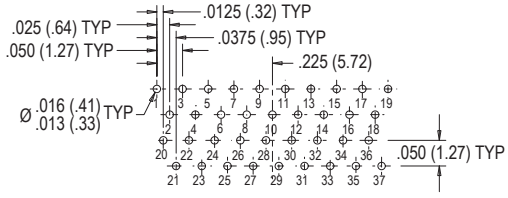


31 Contacts



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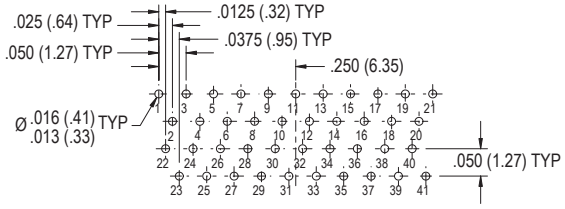
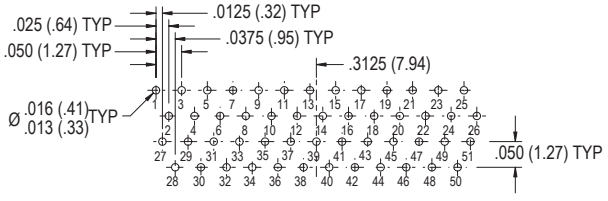


41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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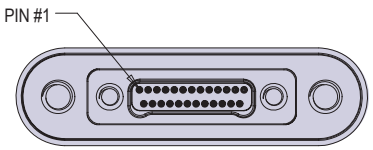
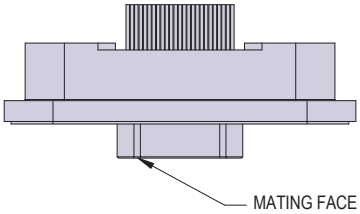
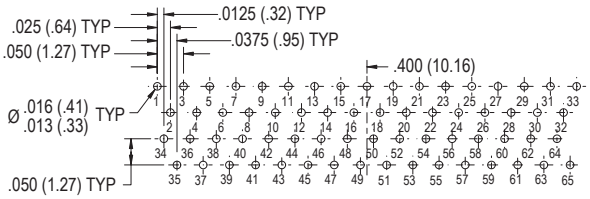
891-029 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Connectors - Plug PCB Footprint







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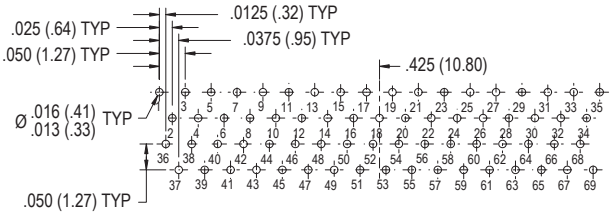
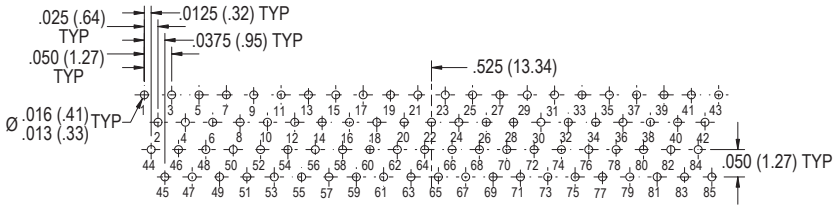
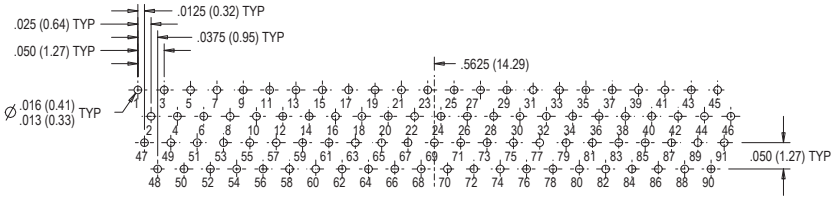


69 Contacts



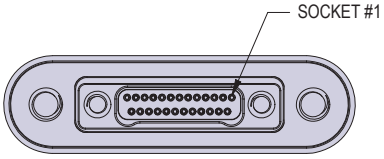
85 Contacts

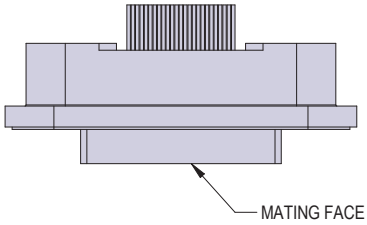


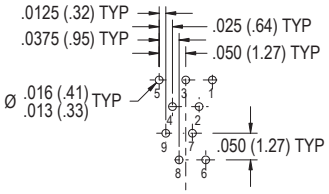
91 Contacts

Layouts shown are for connector mounting side of PC Board.

891-030 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB - Receptacle PCB Footprint







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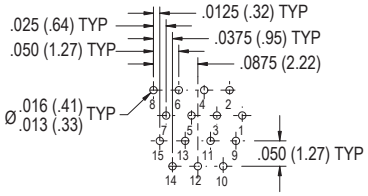
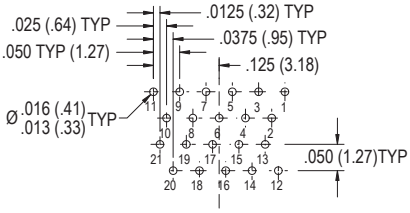
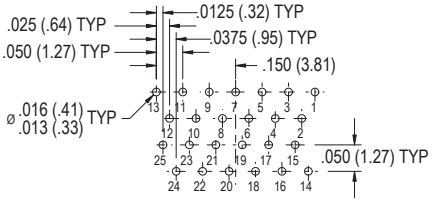


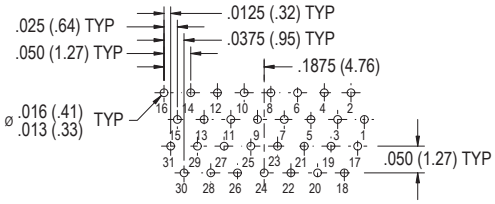
15 Contacts



21 Contacts



25 Contacts



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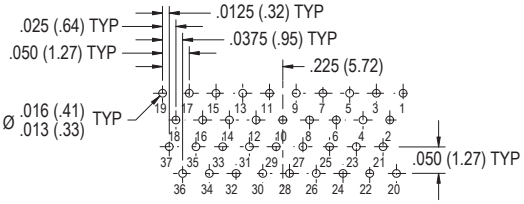
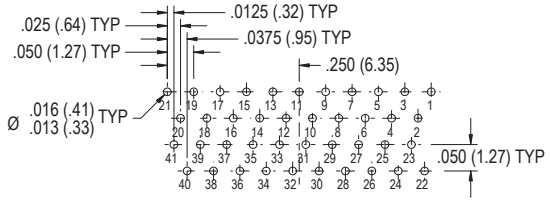
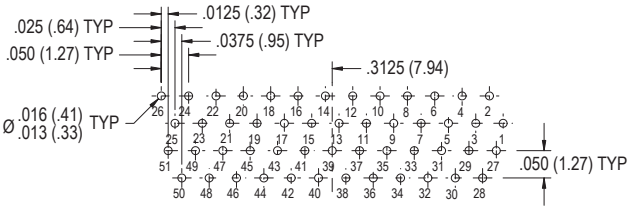


37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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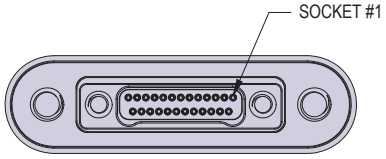
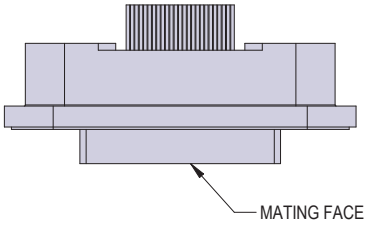
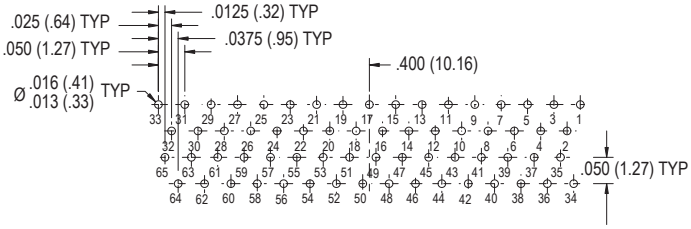
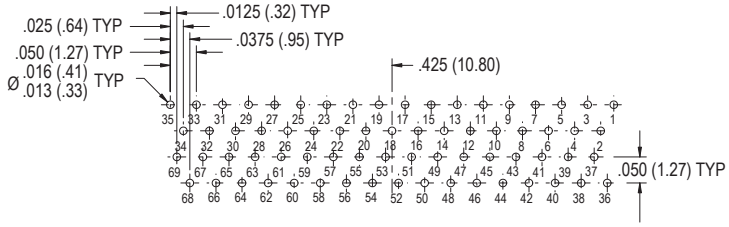
891-030 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB - Receptacle PCB Footprint



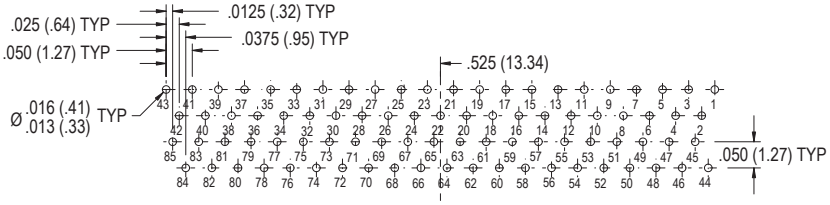




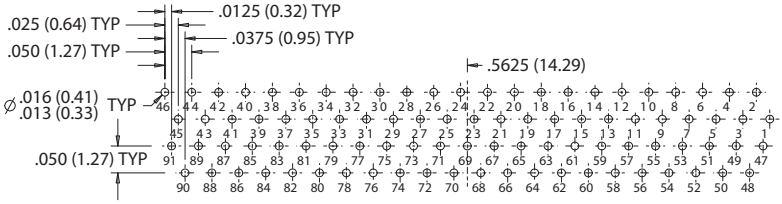
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

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Dual-Row Rectangular Connectors

891-062 and 891-063 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount Connectors



Rear Panel Mount PCB Connectors feature gold alloy TwistPin contacts, titanium or stainless steel shells offering premium performance and reliability for demanding applications. Gasket seals available in fuorosilicone, Cho-Seal 1298 or Cho-Seal 6503. For replacement gaskets see 899-015.

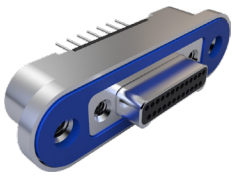
Twelve Layouts From 9 To 91 Contacts. MIL-DTL-32139 type connectors are intermateable with any M32139 compliant connector or Glenair Series 891 Dual-Row metal shell nanominiature connector. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	891-062	-25S	S	-BST	1	T	-01	M

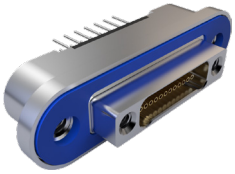
Series	**891-062** = Rear Panel Mount Plug, Vertical Thru-Hole PCB Mount **891-063** = Rear Panel Mount Receptacle, Vertical Thru-Hole PCB Mount
Insert Arrangement/ Contact Type	Pins (891-062 Plugs): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Sockets (891-063 Receptacles): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85P, 91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BST** = Board Straight Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85, #2-56 for size 85 & 91)
Gasket Material	**Omit** for No Gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type D (Cho-Seal 1298 or Equivalent) **03** = Nickel Plated Aluminum Filled Fluorosilicone, (Cho-Seal 6503 or Equivalent)
Mounting Thread Option	**Omit** for #2-56 UNC-2B/ PCB Mounting #0-80 UNF-2B Sizes 9-69, #2-56 UNC-2B Size 85 & 91 **M** = Panel Mounting M2 X 0.4 6H / PCB Mounting M1.6 x 0.35 6H Sizes 9-69, M2 x 0.4 6H Size 85 & 91

PLUG HARDWARE



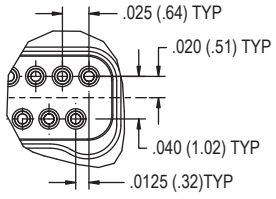
T - Female Thread

RECEPTACLE HARDWARE



T - Female Thread

DETAIL A



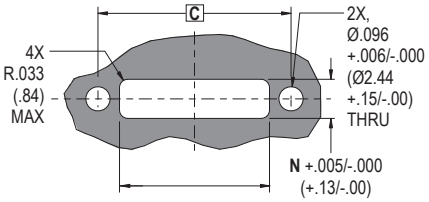
PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139, plug (/3) Receptacle (/4)

PANEL CUT-OUT DIMENSIONS



Shell Size	C	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
41	.966 (24.54)	.795 (20.19)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

• Recommended Panel thickness .100 (2.54) max
• Panel cutout sized to allow lobe up or lobe down mounting orientation

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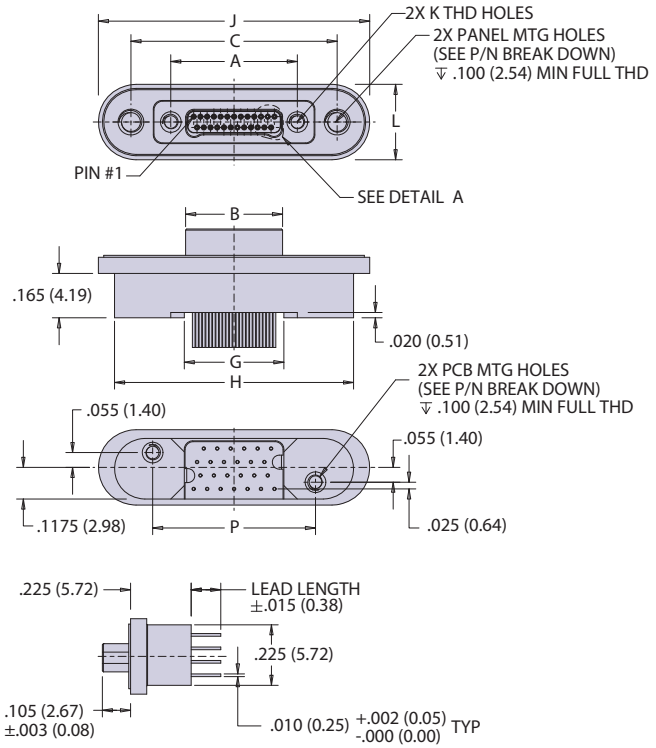
Dual-Row Rectangular Connectors

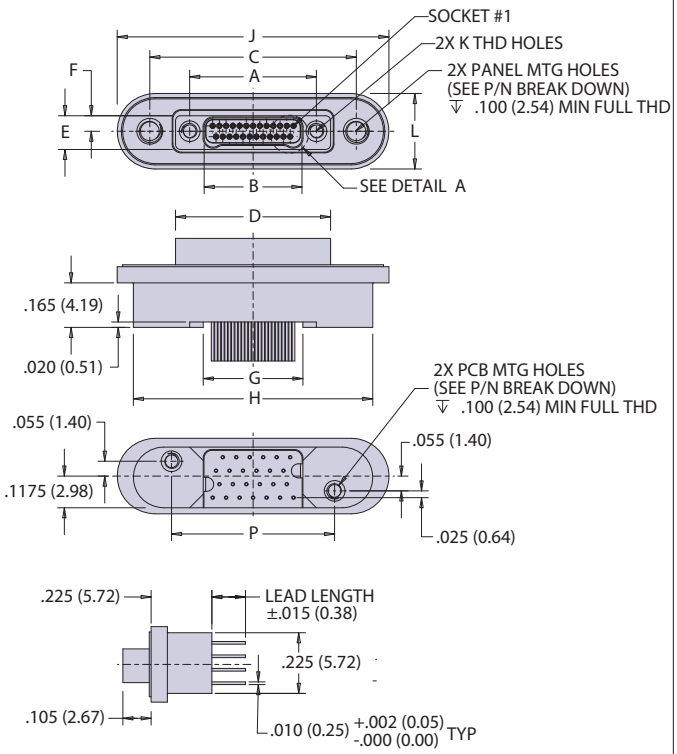
891-062 and 891-063 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount Connectors

DIMENSIONS

891-062 Plug (Pin) Connectors



891-063 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F	G	H	J	K THD HOLES	L	P
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	--	--	--	.170 (4.32)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)	.405 (10.29)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.125 (3.18)	.0575 (1.46)	.170 (4.32)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)	.405 (10.29)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	--	--	--	.245 (6.22)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.280 (7.11)	.480 (12.19)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.245 (6.22)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.280 (7.11)	.480 (12.19)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	--	--	--	.320 (8.13)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.280 (7.11)	.555 (14.10)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.320 (8.13)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.280 (7.11)	.555 (14.10)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	--	--	--	.370 (9.40)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.280 (7.11)	.605 (15.37)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.125 (3.18)	.0575 (1.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.280 (7.11)	.605 (15.37)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	--	--	--	.445 (11.30)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.280 (7.11)	.680 (17.27)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.280 (7.11)	.680 (17.27)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	--	--	--	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.280 (7.11)	.755 (19.18)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.280 (7.11)	.755 (19.18)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	--	--	--	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B	.280 (7.11)	.805 (20.45)
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.775 (19.69)	.125 (3.18)	.0575 (1.46)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B	.280 (7.11)	.805 (20.45)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	--	--	--	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.280 (7.11)	.930 (23.62)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.280 (7.11)	.930 (23.62)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	--	--	--	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	.280 (7.11)	1.105 (28.07)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	.125 (3.18)	.0575 (1.46)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	.280 (7.11)	1.105 (28.07)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	--	--	--	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	.280 (7.11)	1.155 (29.34)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	.280 (7.11)	1.155 (29.34)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	--	--	--	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)	1.407 (35.74)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)	1.407 (35.74)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	--	--	--	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B	.305 (7.75)	1.482 (37.64)
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.452 (36.88)	.150 (3.81)	.0700 (1.78)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B	.305 (7.75)	1.482 (37.64)

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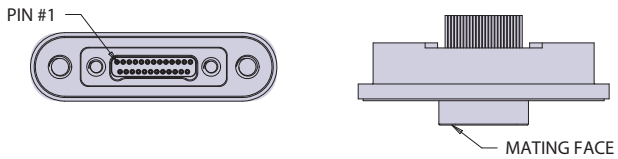
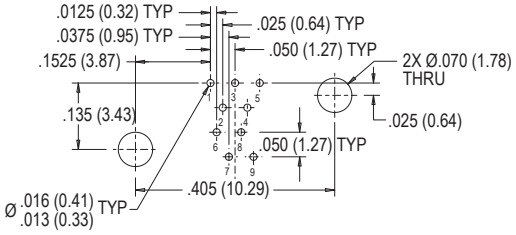
Dimensions in Inches (millimeters) are subject to change without notice.

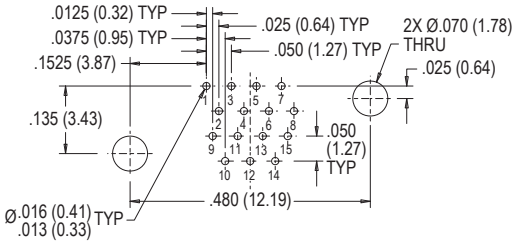
891-062 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount - PCB Plug Footprint

Straight thru-hole PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board





9 Contacts



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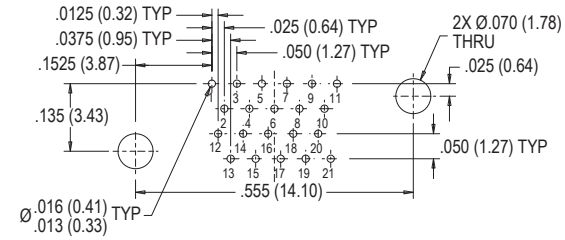
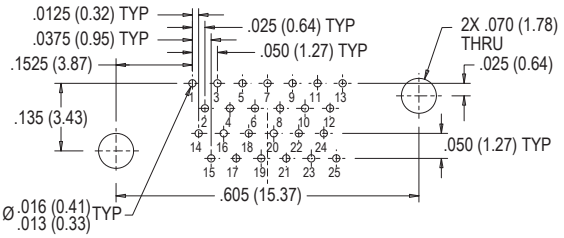


21 Contacts



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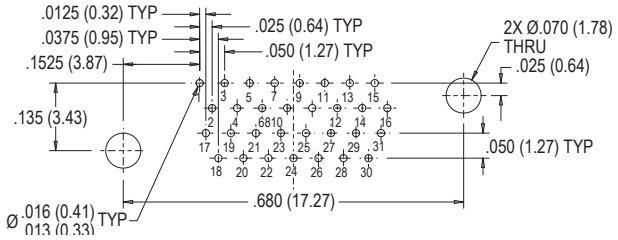

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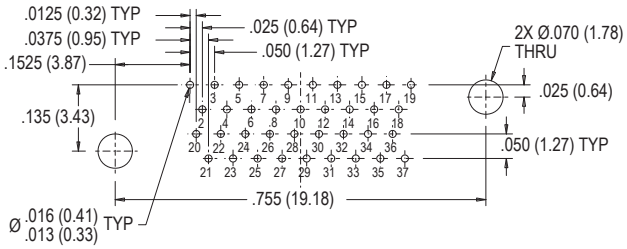
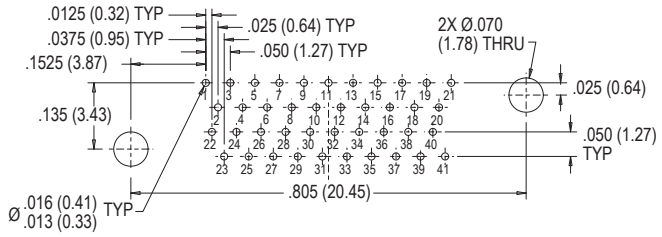
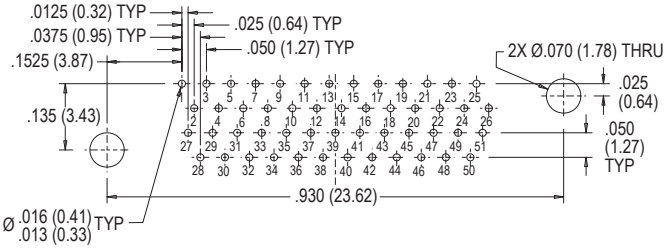


37 Contacts



41 Contacts



51 Contacts

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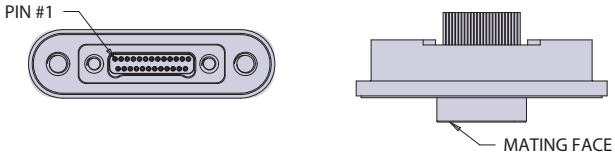
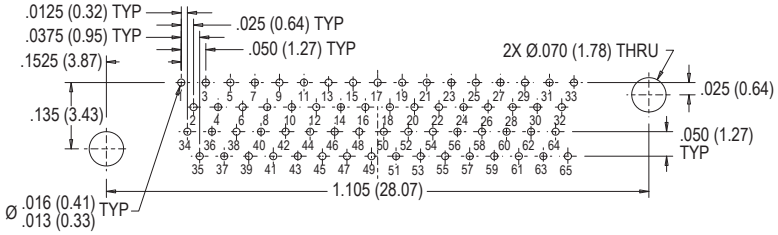
891-062 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount - PCB Plug Footprint

Straight thru-hole PCB plug (pin) connector layout patterns shown are for the connector mounting side of PC board





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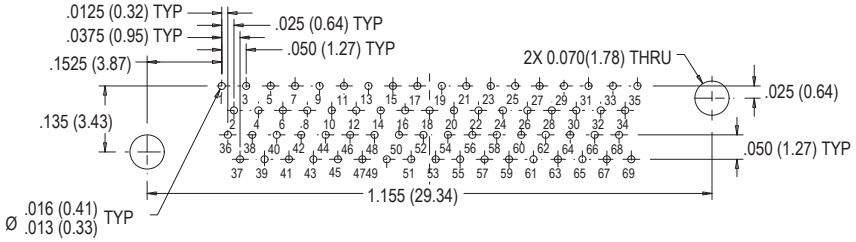
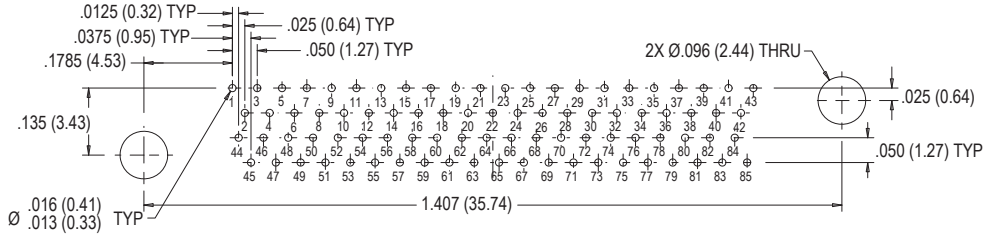
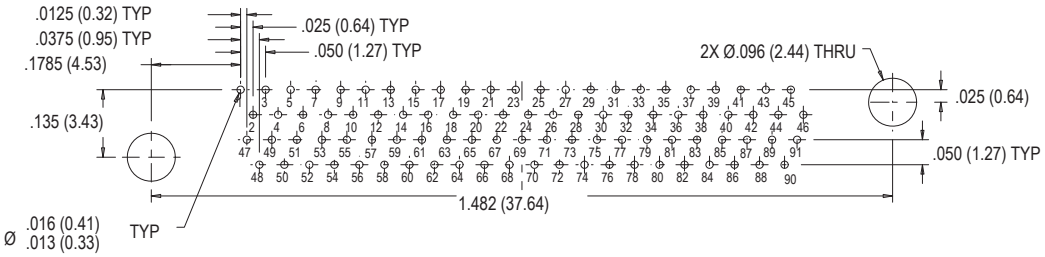


69 Contacts



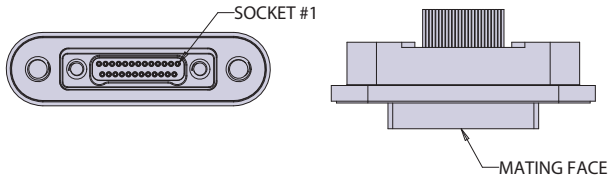
85 Contacts

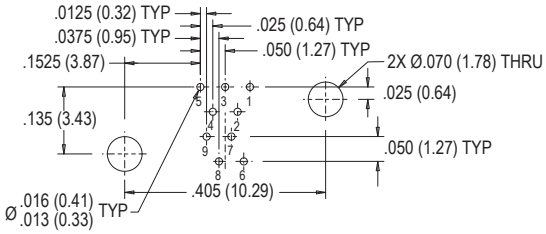


91 Contacts

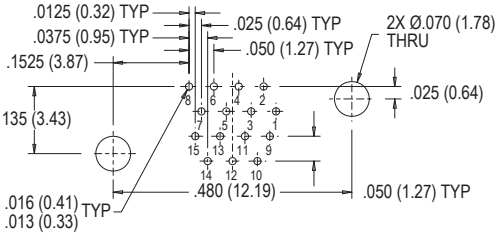
891-063 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount - PCB Receptacle Footprint

Straight thru-hole PCB receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board

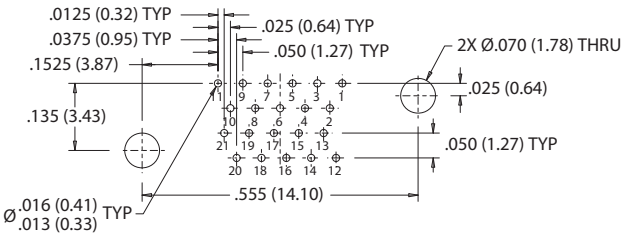




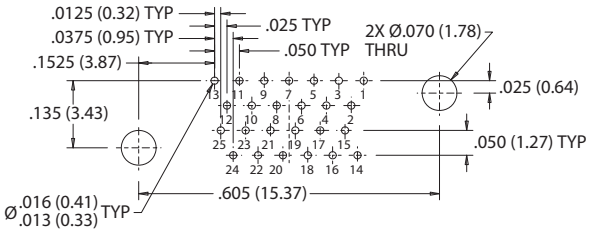
9 Contacts



15 Contacts



21 Contacts



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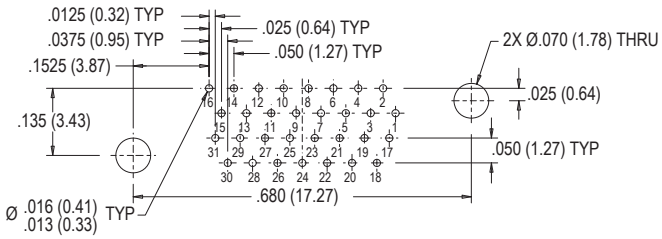

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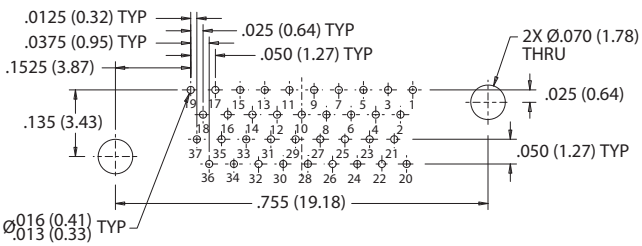
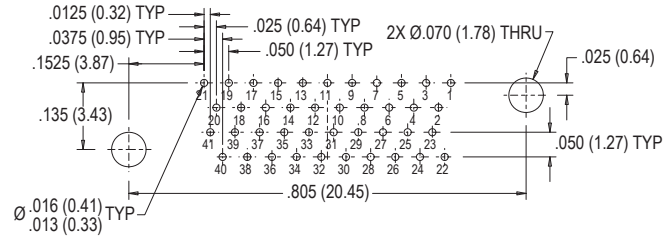
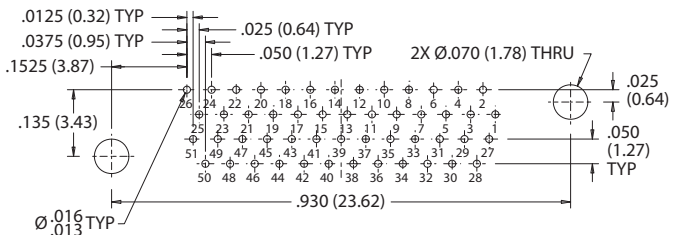


37 Contacts



41 Contacts



51 Contacts

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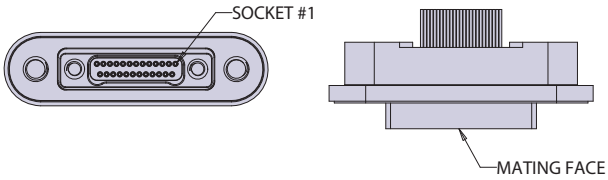
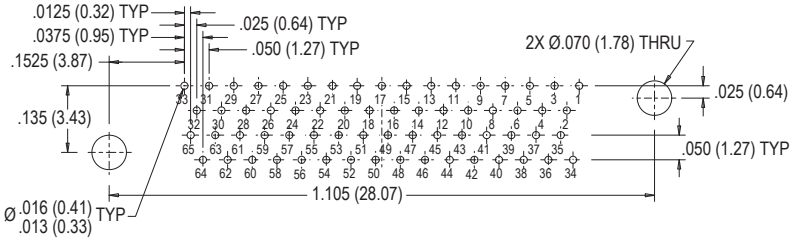
Dimensions in Inches (millimeters) are subject to change without notice.

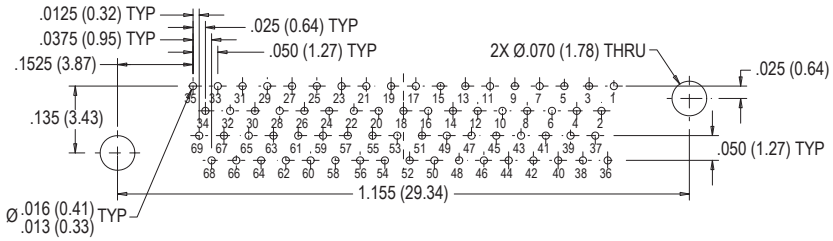
891-063 Rear Panel Mount, Gasket-Sealed, Vertical Thru-Hole PCB Mount - PCB Receptacle Footprint

Straight thru-hole PCB receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board

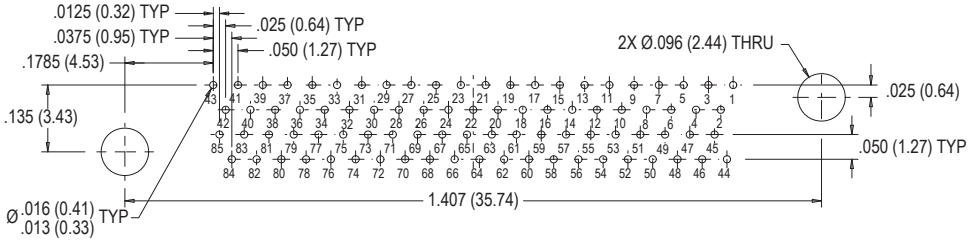




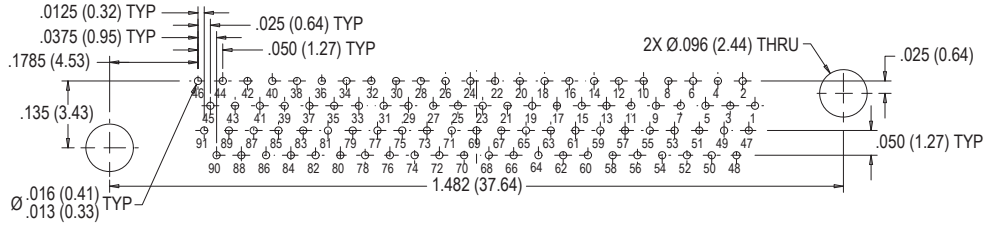
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Dual-Row Rectangular Connectors

891-008 and 891-009 Right-Angle Mount Thru-Hole PCB Connectors



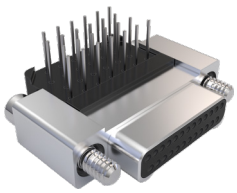
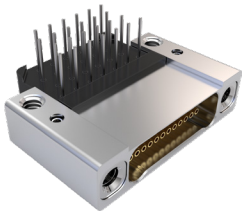
Right-Angle Mount Thru-Hole PCB Nano Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications. Available with female threads, or with jackscrews for use with printed circuits boards. Pre-tinned PC tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells. Twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any M32139 compliant connector or Glenair Series 891 Dual-Row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	891-009	-25S	A2	-BRT	1	T

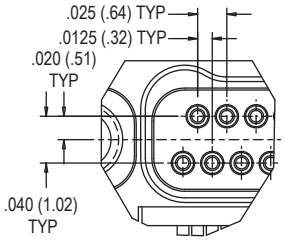
Series	**891-008** = Plug, Right-Angle PCB Connector **891-009** = Receptacle, Right-Angle PCB Connector
Insert Arrangement/ Contact Type	Pins (891-008 Plugs): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-009 Receptacles): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A31=** Aluminum Shell, Zinc Nickel Plating, Black **T** = Titanium Shell, Unplated **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated
Termination Type	**BRT** = Board Right-Angle Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware	**J** = Hex Head Jackscrew **T** = Female Thread (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into Stainless Steel and Titanium Shells)

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
T - Female Thread	J - Jackscrew	T - Female Thread	J - Jackscrew

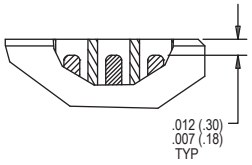
NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/3 and /4
3. Materials/finishes
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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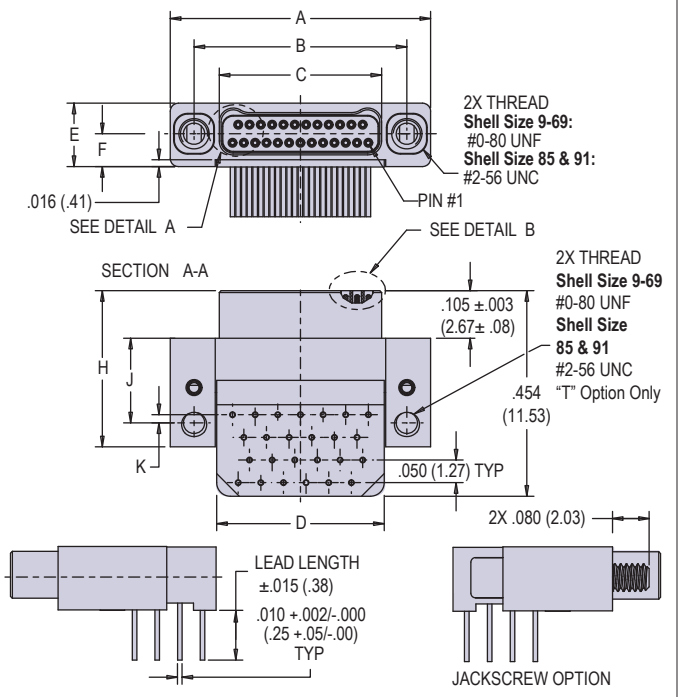
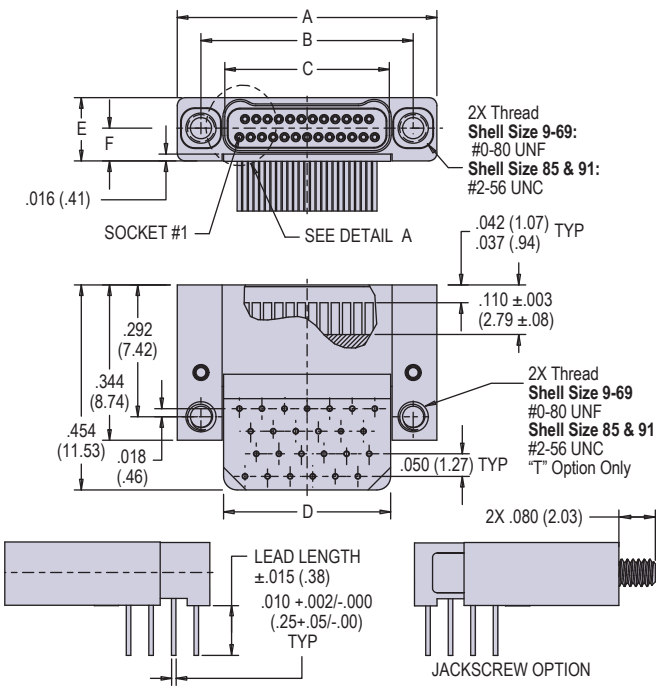
891-008 and 891-009 Right-Angle Mount Thru-Hole PCB Connectors

DIMENSIONS

891-008 Plug (Pin) Connector



891-009 Receptacle (Socket) Connector



Shell Size	A	B BSC.	C BSC.	D	E	F	H	J	K
9P	.375 (9.52)	.270 (6.86)	.160 (4.06)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
9S	.375 (9.52)	.270 (6.86)	.163 (4.14)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	--	--	--
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	--	--	--
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	--	--	--
25P	.575 (14.60)	.470 (11.94)	.360 (9.14)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
25S	.575 (14.60)	.470 (11.94)	.363 (9.22)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	--	--	--
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	--	--	--
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	--	--	--
41P	.775 (19.68)	.670 (17.02)	.560 (14.22)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
41S	.775 (19.68)	.670 (17.02)	.563 (14.30)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	--	--	--
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	--	--	--
65P	1.075 (27.30)	.970 (24.64)	.860 (21.84)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
65S	1.075 (27.30)	.970 (24.64)	.863 (21.92)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	--	--	--
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	.344 (8.74)	.187 (4.75)	.018 (0.46)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	--	--	--
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.120 (28.45)	.165 (4.19)	.0850 (2.16)	.410 (10.41)	.244 (6.20)	.075 (1.90)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.120 (28.45)	.165 (4.19)	.0850 (2.16)	--	--	--
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.195 (30.35)	.165 (4.19)	.0850 (2.16)	.410 (10.41)	.244 (6.20)	.075 (1.90)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.195 (30.35)	.165 (4.19)	.0850 (2.16)	--	--	--

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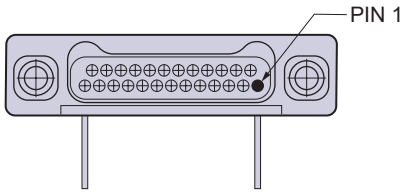
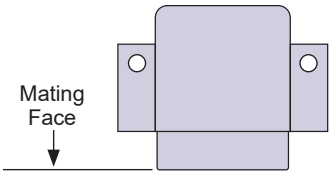
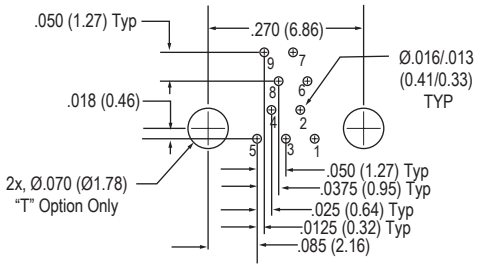
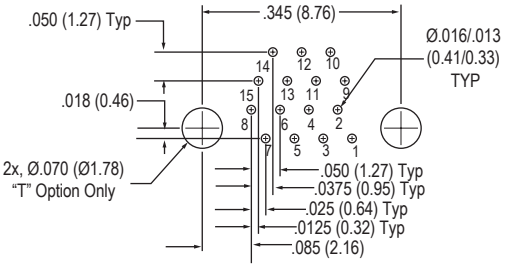
891-008 Right-Angle Mount Thru-Hole PCB Connectors - PCB Plug Footprint



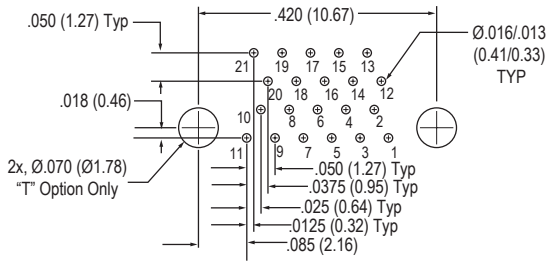




9 Contacts



15 Contacts



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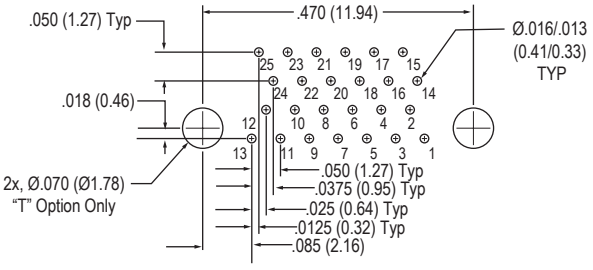

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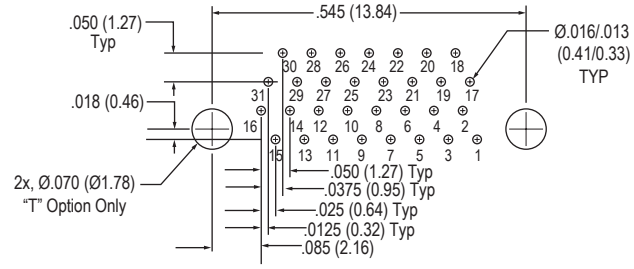
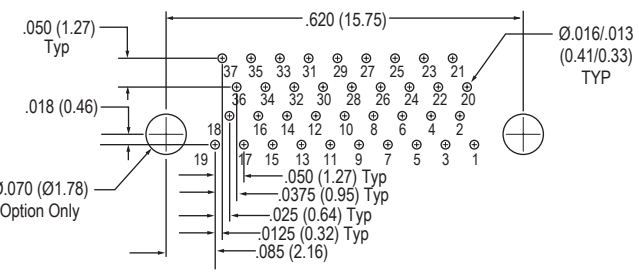
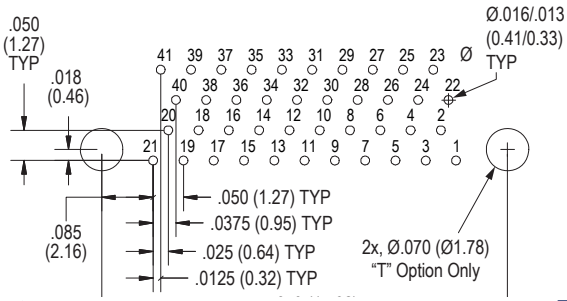


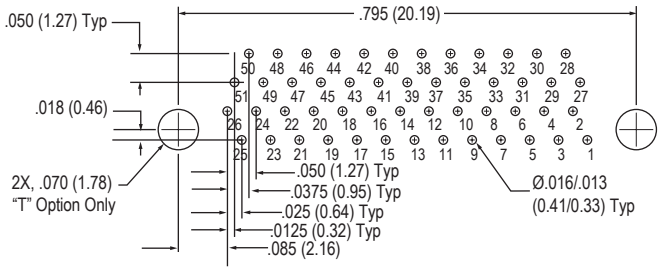
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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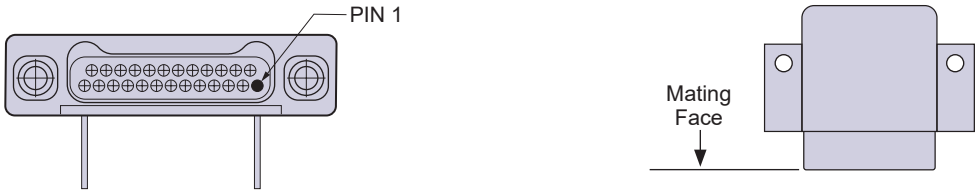
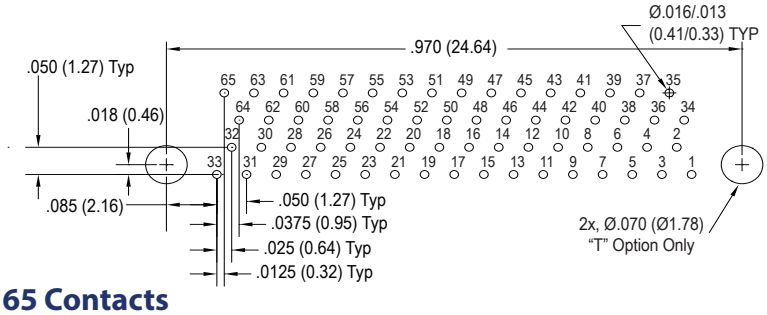
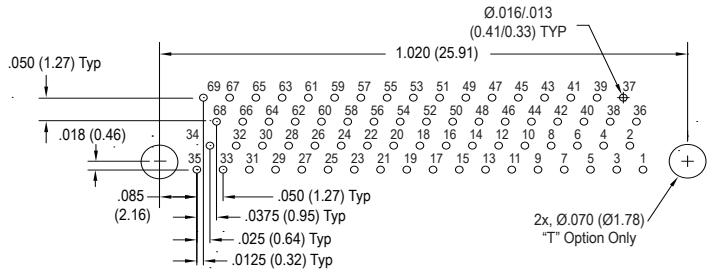
891-008 Right-Angle Mount Thru-Hole PCB Connectors - PCB Plug Footprint

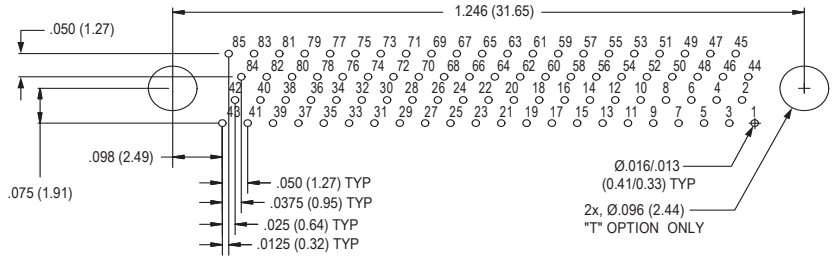




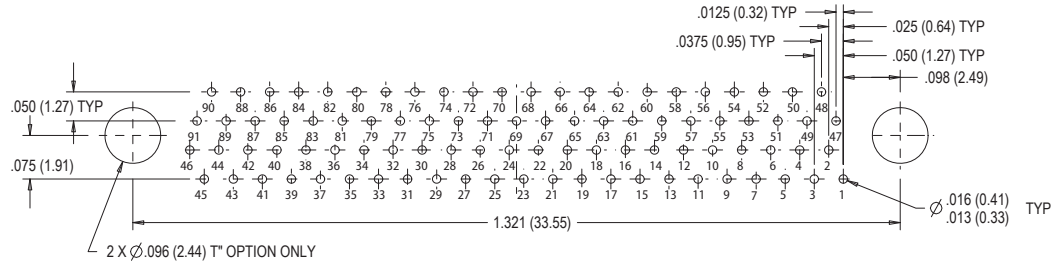
65 Contacts



69 Contacts



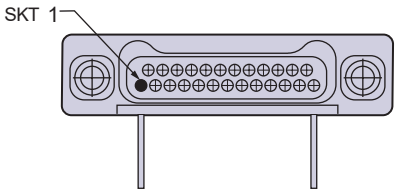
85 Contacts

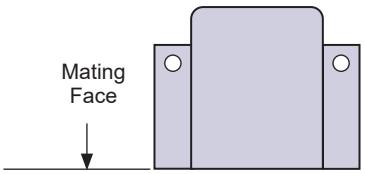


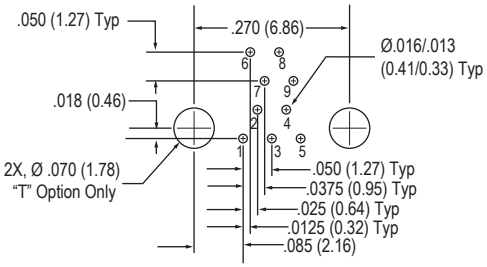
91 Contacts

Layouts shown are for connector mounting side of PC Board.

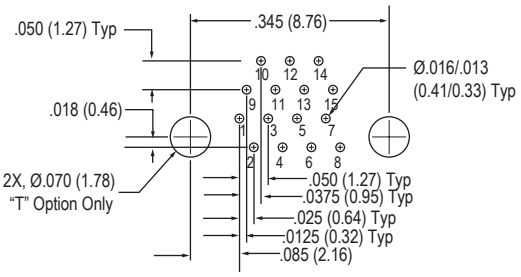
891-009 Right-Angle Mount Thru-Hole PCB Connectors - PCB Receptacle Footprint



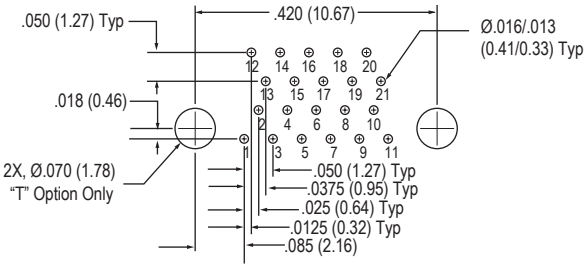




9 Contacts



15 Contacts



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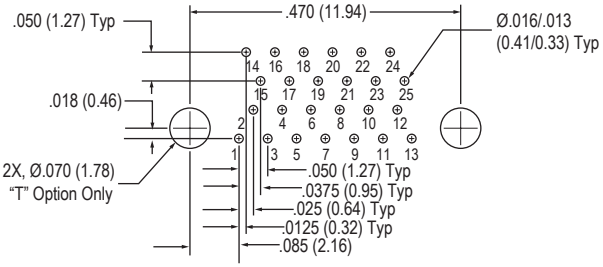

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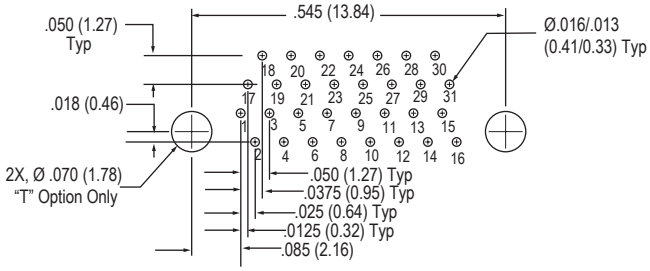
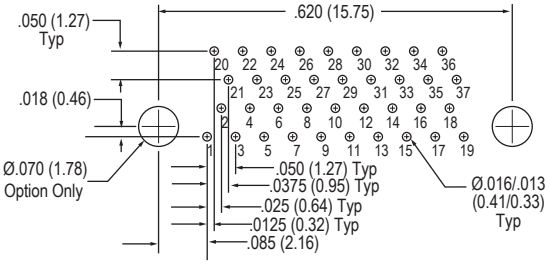
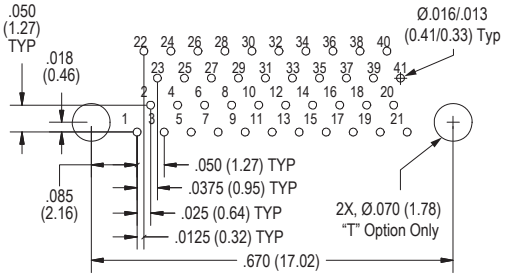


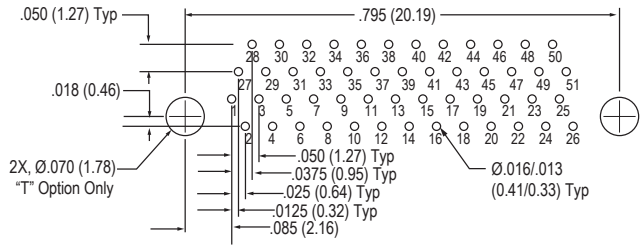
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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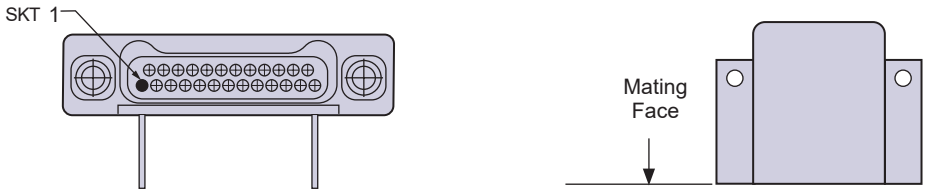
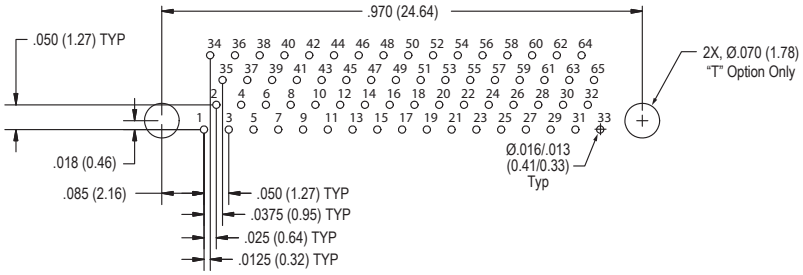
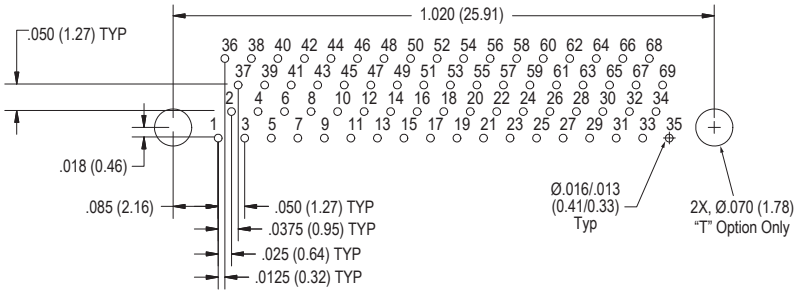
891-009 Right-Angle Mount Thru-Hole PCB Connectors - PCB Receptacle Footprint

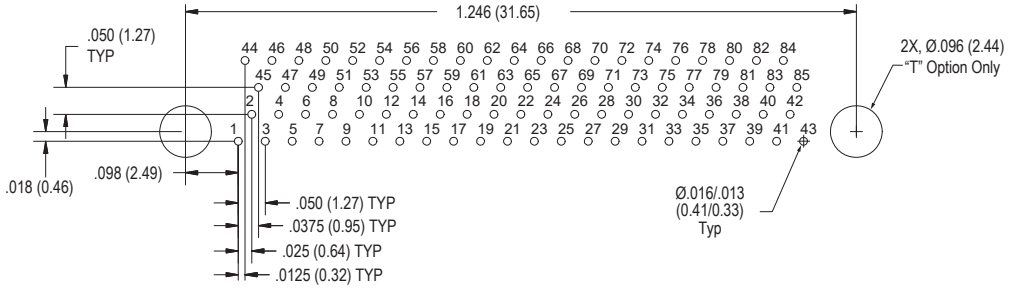




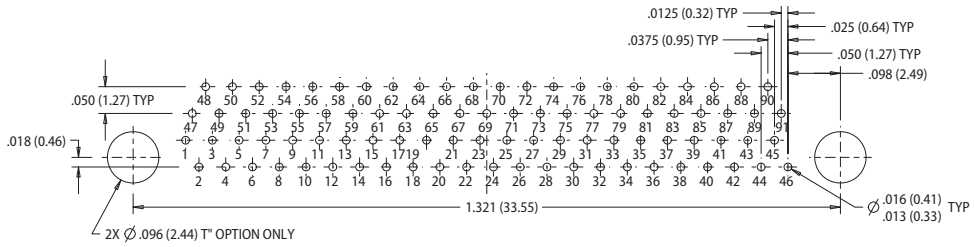
65 Contacts



69 Contacts



85 Contacts

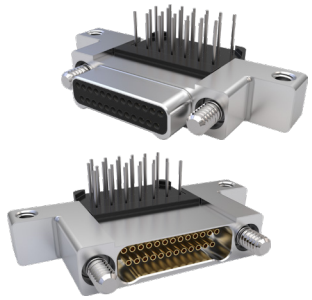


91 Contacts

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-043 and 891-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears

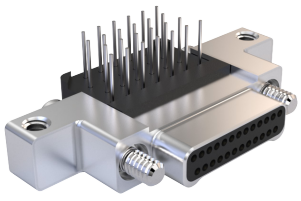
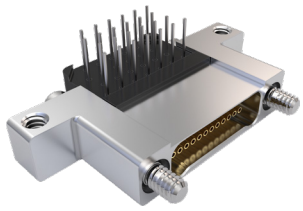


Right-Angle Mount PCB Nano Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications. Available with female mounting threads and jackscrews for use with printed circuits boards. Pre-tinned PC tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

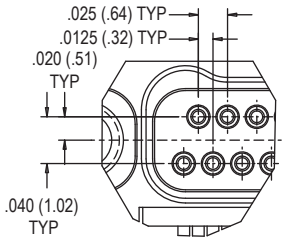
Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any M32139 compliant connector or Glenair Series 891 dual-row metal shell nanominiature connector.

HOW TO ORDER

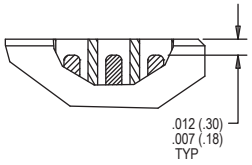
Sample Part Number	891-044	-25S	A2	-BRT	1	J
Series	**891-043** = Plug, Right-Angle Thru-Hole PCB Connector with Mounting Ears **891-044** = Receptacle, Right-Angle Thru-Hole PCB Connector with Mounting Ears					
Insert Arrangement/ Contact Type	Pins (891-043 Plugs): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-044 Receptacles): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**					
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A31=** Aluminum Shell, Zinc Nickel Plating, Black **T** = Titanium Shell, Unplated **A2** = Aluminum Shell, Electroless Nickel Plating **A33** = Aluminum Shell, Nickel PTFE Plating **S** = Stainless Steel Shell, Passivated					
Termination Type	**BRT** = Board Right-Angle Thru-Hole					
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)					
Hardware	**J** = Hex Head Jackscrew					

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	J - Jackscrew

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Inspect and test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/3 and /4
3. Materials/finishes
4. Shell: see part number break down
5. Insulator: LCP/N/A
6. Contacts: gold alloy / unplated
7. Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
8. Hardware: passivated stainless steel

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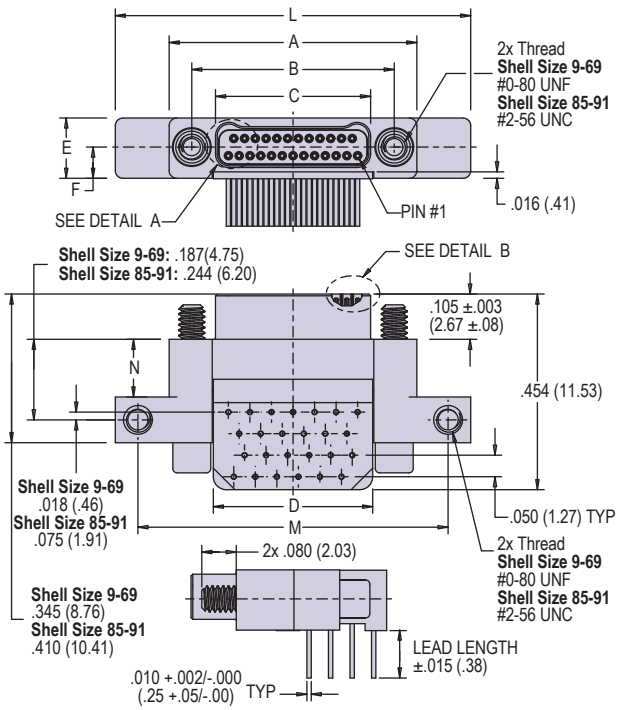
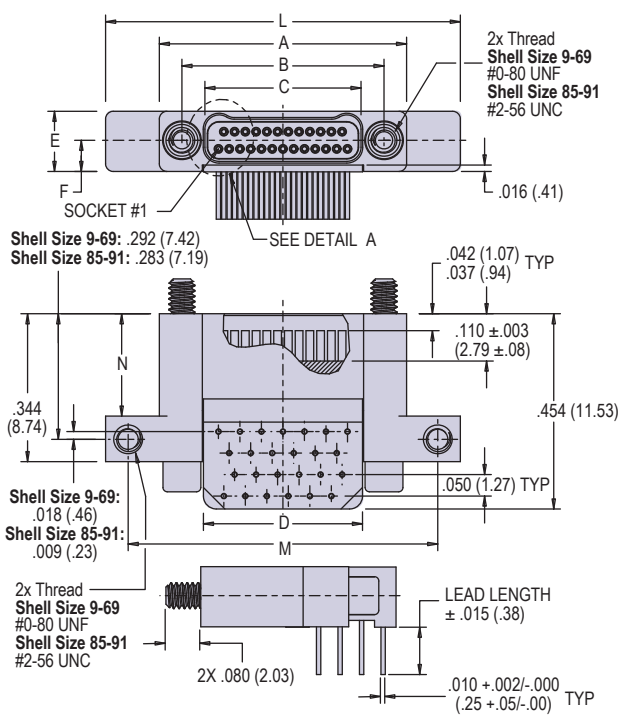
891-043 and 891-044 Right-Angle Mount Thru-Hole PCB Connectors with Mounting Ears

DIMENSIONS

891-043 Plug (Pin) Connector



891-044 Receptacle (Socket) Connector



Size	A	B BSC.	C BSC.	D	E	F	L	M BSC	N
9P	.375 (9.52)	.270 (6.86)	.160 (4.06)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	.625 (15.88)	.520 (13.21)	.134 (3.40)
9S	.375 (9.52)	.270 (6.86)	.163 (4.14)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	.625 (15.88)	.520 (13.21)	.238 (6.05)
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	.700 (17.78)	.595 (15.11)	.134 (3.40)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	.700 (17.78)	.595 (15.11)	.238 (6.05)
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	.775 (19.68)	.670 (17.02)	.134 (3.40)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	.775 (19.68)	.670 (17.02)	.238 (6.05)
25P	.575 (14.60)	.470 (11.94)	.360 (9.14)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	.825 (20.96)	.720 (18.29)	.134 (3.40)
25S	.575 (14.60)	.470 (11.94)	.363 (9.22)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	.825 (20.96)	.720 (18.29)	.238 (6.05)
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	.900 (22.86)	.795 (20.19)	.134 (3.40)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	.900 (22.86)	.795 (20.19)	.238 (6.05)
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	.975 (24.76)	.870 (22.10)	.134 (3.40)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	.975 (24.76)	.870 (22.10)	.238 (6.05)
41P	.775 (19.68)	.670 (17.02)	.560 (14.22)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	1.025 (26.03)	.920 (23.37)	.134 (3.40)
41S	.775 (19.68)	.670 (17.02)	.563 (14.30)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	1.025 (26.03)	.920 (23.37)	.238 (6.05)
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	1.150 (29.21)	1.045 (26.54)	.134 (3.40)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	1.150 (29.21)	1.045 (26.54)	.238 (6.05)
65P	1.075 (27.30)	.970 (24.64)	.860 (21.84)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	1.325 (33.65)	1.220 (30.99)	.134 (3.40)
65S	1.075 (27.30)	.970 (24.64)	.863 (21.92)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	1.325 (33.65)	1.220 (30.99)	.238 (6.05)
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	1.375 (34.92)	1.270 (32.26)	.134 (3.40)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	1.375 (34.92)	1.270 (32.26)	.238 (6.05)
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.120 (28.45)	.165 (4.19)	.0850 (2.16)	1.679 (42.65)	1.546 (39.27)	.183 (4.65)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.120 (28.45)	.165 (4.19)	.0850 (2.16)	1.679 (42.65)	1.546 (39.27)	.222 (5.64)
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.195 (30.35)	.165 (4.19)	.0850 (2.16)	1.754 (44.55)	1.621 (41.17)	.183 (4.65)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.195 (30.35)	.165 (4.19)	.0850 (2.16)	1.754 (44.55)	1.621 (41.17)	.222 (5.64)

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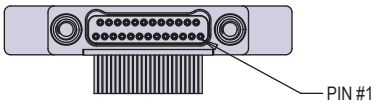
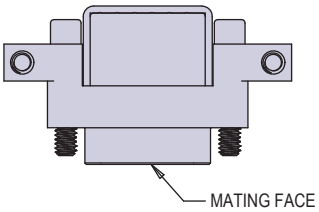
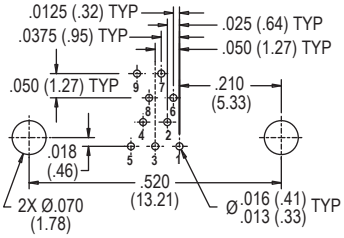
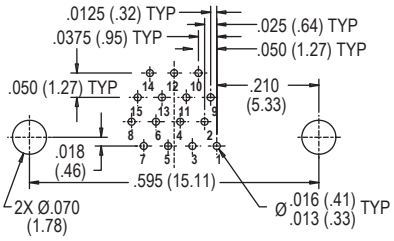
891-043 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Plug PCB Footprints



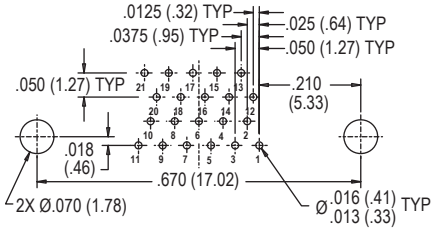




9 Contacts



15 Contacts



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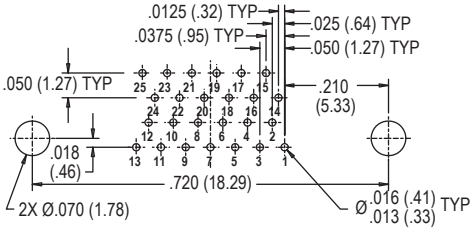

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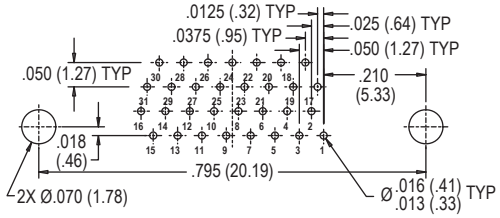
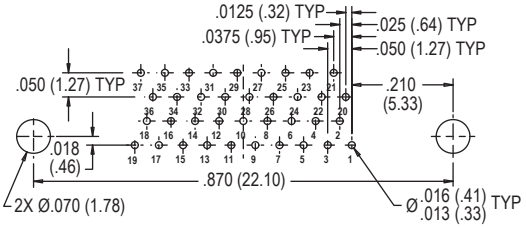
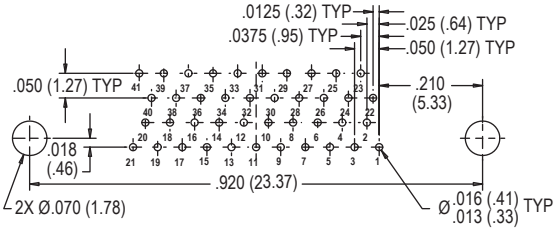


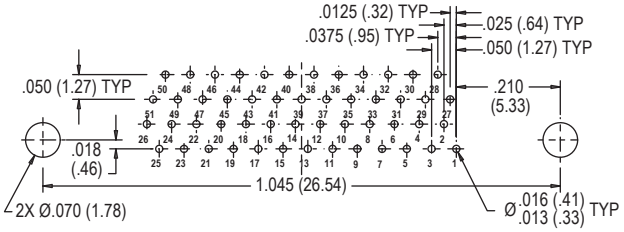
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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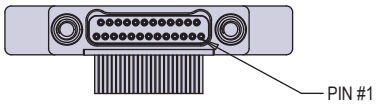
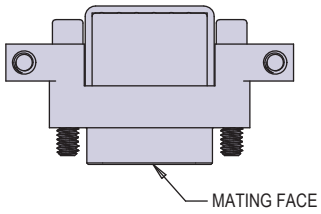
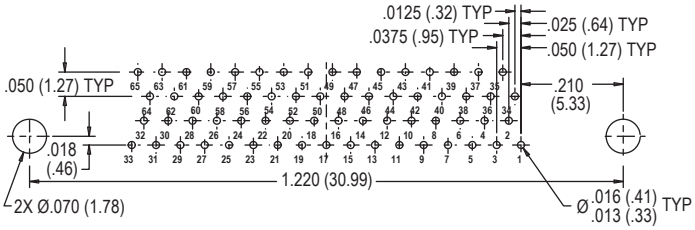
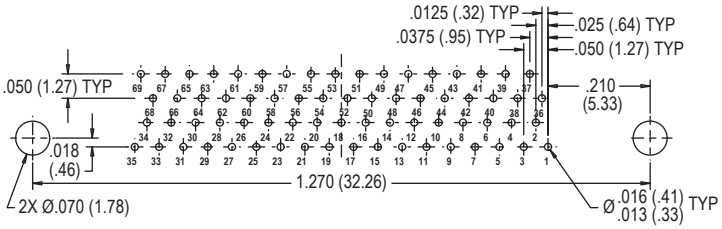
891-043 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Plug PCB Footprints



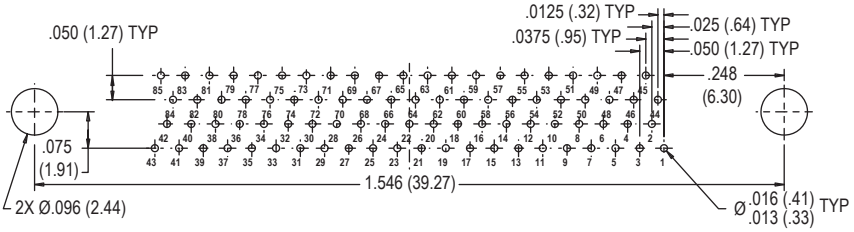




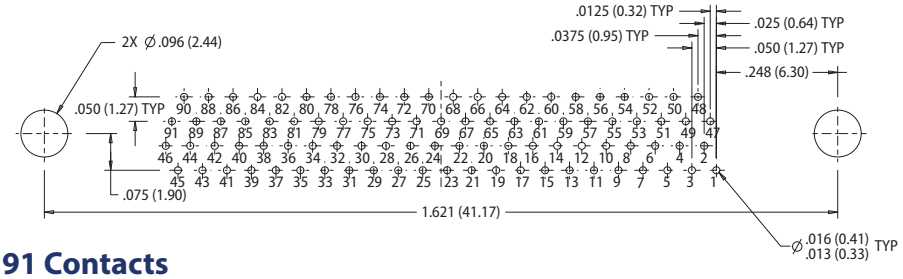
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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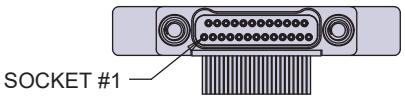
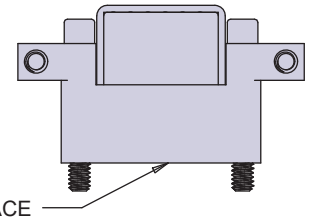
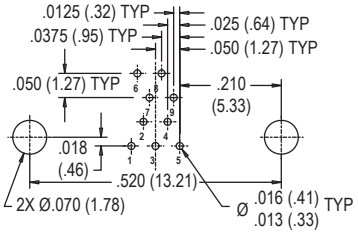
891-044 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Receptacle PCB Footprints







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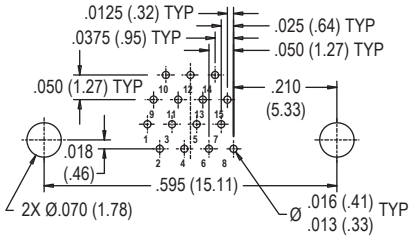

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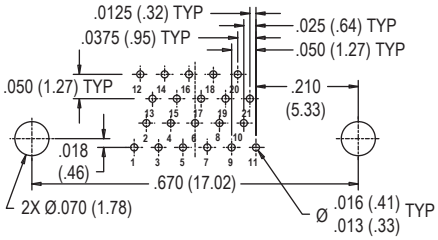

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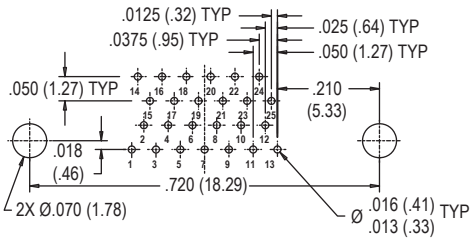

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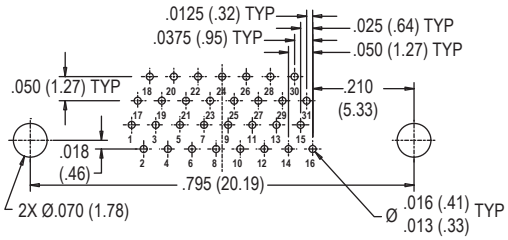

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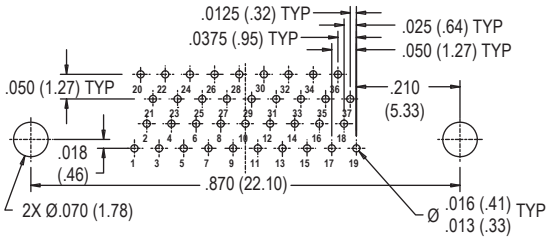

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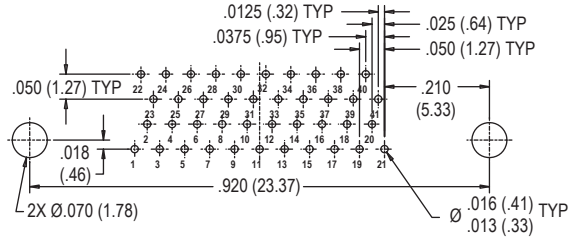

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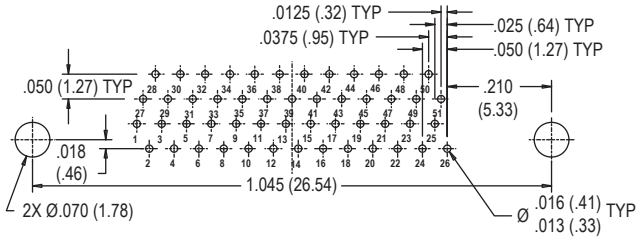

51 Contacts

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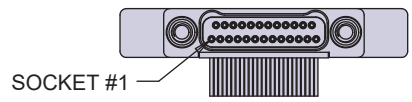
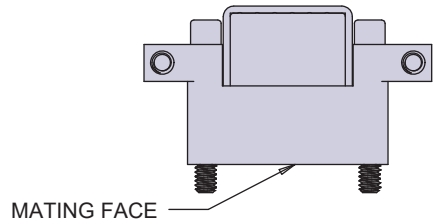
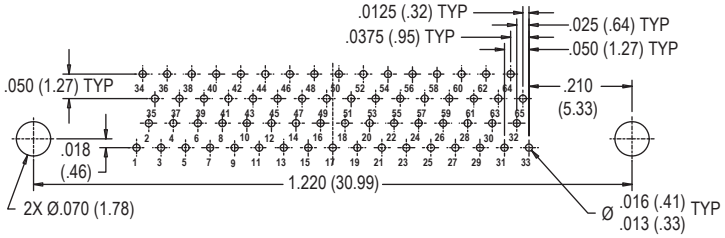
Dual-Row Rectangular Connectors

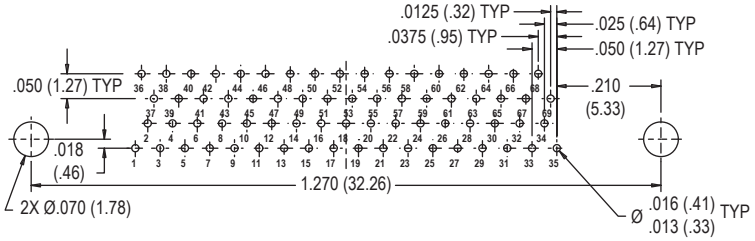
891-044 Right-Angle Mount Thru-Hole PCB with Mounting Ears - Receptacle PCB Footprints



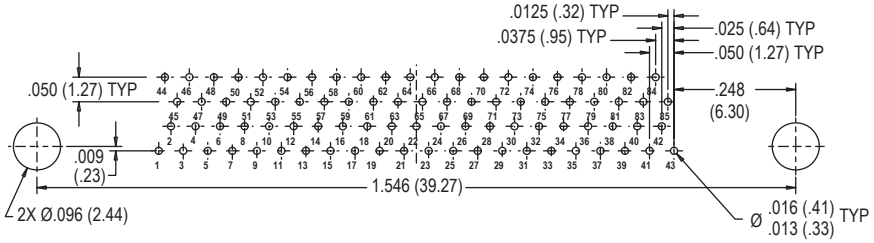




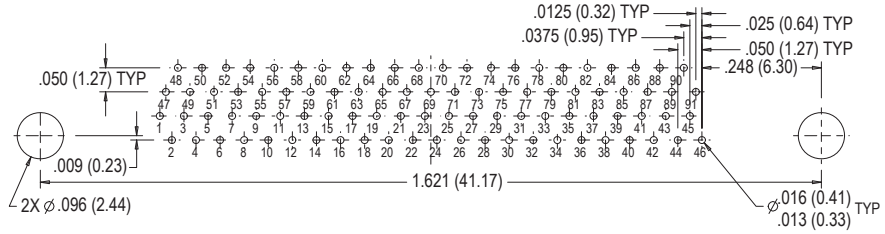
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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Dual-Row Rectangular Connectors

891-027 and 891-028 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB Connector



Rear Panel Mount Right-Angle Thru-Hole Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with female threads.

Gasket Seals fuorosilicone, Cho-Seal 1298 and Cho-Seal 6503 available. For replacement gaskets see 899-015.

Choose Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Intermateable with any MIL-DTL-32139 type connector or corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

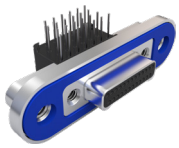
Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	891-027	-25P	S	-BRT	1	T	-01	M

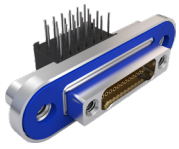
Series	**891-027** = Rear Panel Mount Plug, Right-Angle Thru-Hole **891-028** = Rear Panel Mount Receptacle, Right-Angle Thru-Hole
Insert Arrangement/ Contact Type	Pins (891-027 Plug): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Sockets (891-028 Receptacle): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BRT** = Board Right-Angle Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85 & 91)
Gasket Material	**Omit** for No Gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type D (Cho-Seal 1298 or Equivalent) **03** = Nickel Plated Aluminum Filled Fluorosilicone, (Cho-Seal 6503 or Equivalent)
Mounting Thread Option	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H

PLUG HARDWARE



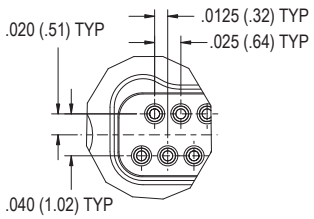
T - Female Thread

RECEPTACLE HARDWARE



T - Female Thread

DETAIL A



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

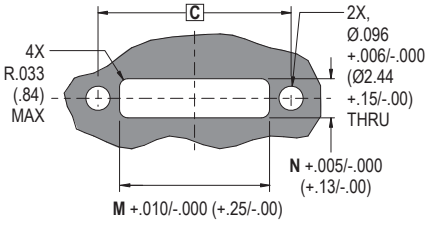
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

PANEL CUT-OUT DIMENSIONS



Shell Size	C	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
41	.966 (24.54)	.795 (20.19)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

Recommended Panel thickness .100 (2.54) max

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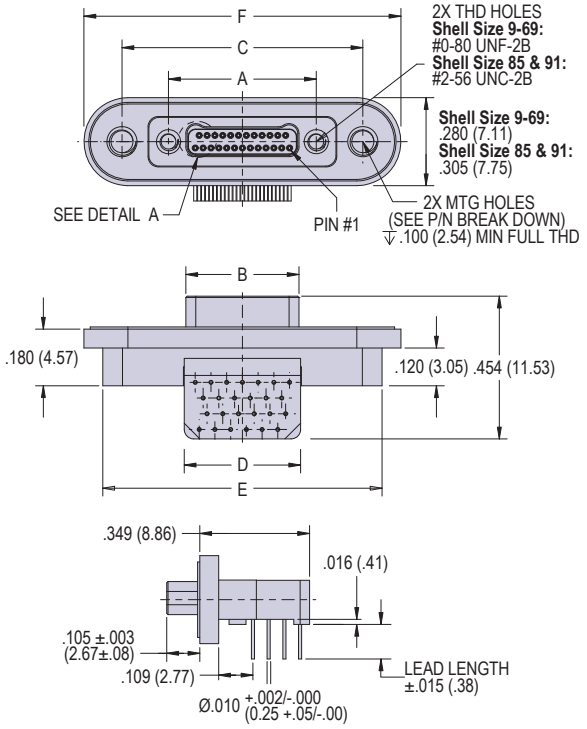
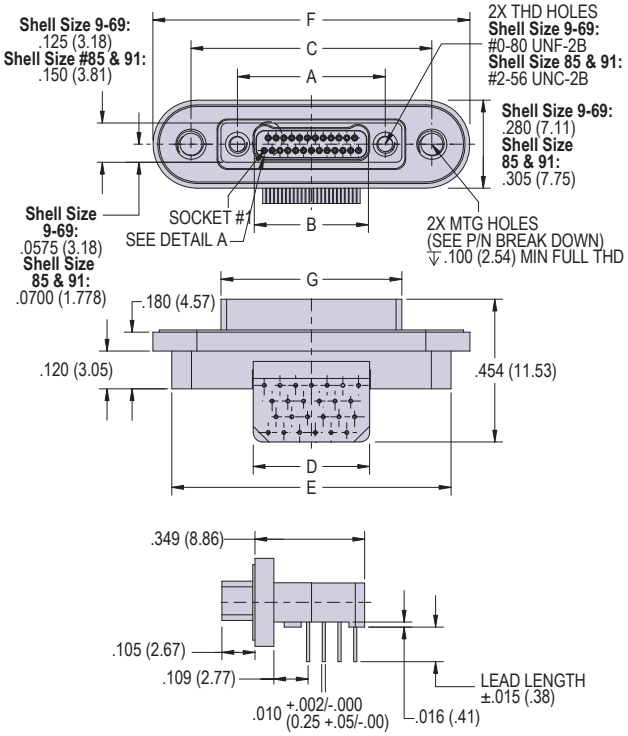
891-027 and 891-028 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB Connector

DIMENSIONS

891-027 Plug (Pin) Connectors



891-028 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F	G
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	.170 (4.32)	.688 (17.48)	.808 (20.52)	--
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.170 (4.32)	.688 (17.48)	.808 (20.52)	.375 (9.52)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	.245 (6.22)	.763 (19.38)	.883 (22.43)	--
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.245 (6.22)	.763 (19.38)	.883 (22.43)	.450 (11.43)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	.320 (8.13)	.838 (21.29)	.958 (24.33)	--
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.320 (8.13)	.838 (21.29)	.958 (24.33)	.525 (13.34)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	--
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	.575 (14.60)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	--
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	.650 (16.51)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	--
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	.725 (18.42)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	--
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	.775 (19.68)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	--
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	.900 (22.86)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	--
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	1.075 (27.30)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	--
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	1.125 (28.58)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	--
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	1.377 (34.98)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	--
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	1.452 (36.88)

NOTES

1. Material and Finish:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: Coated with Sn63Pb37 or Sn60Pb40 tin-lead
2. Inspect and test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4
4. Panel cutout is sized to allow connector mounting with either lobes up or down orientation
5. Recommended panel thickness .100 max
6. See 899-015 for replacement gaskets

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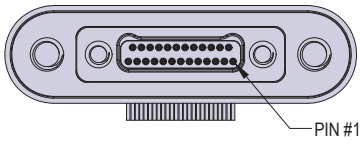
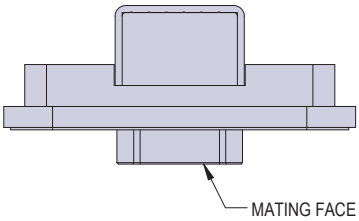
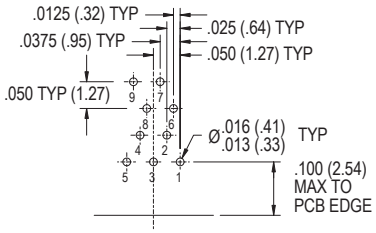
891-027 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB - PCB Plug Footprint

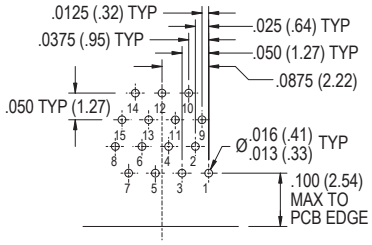


Right-angle plug (pin) connector layout patterns shown are for the connector mounting side of PC board

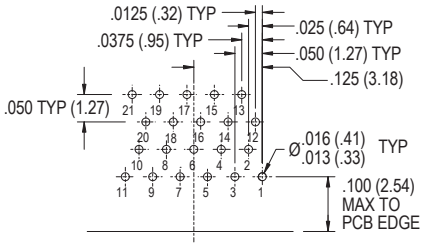




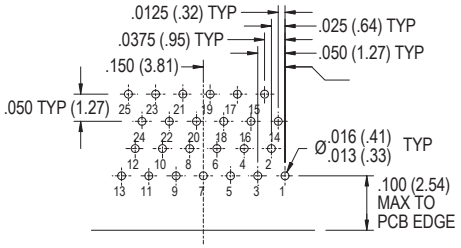
9 Contacts



15 Contacts



21 Contacts



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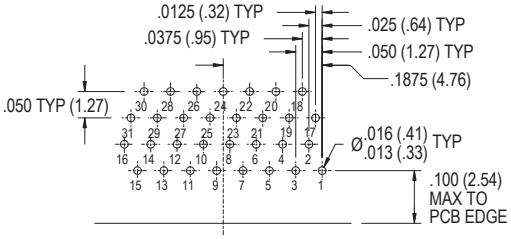
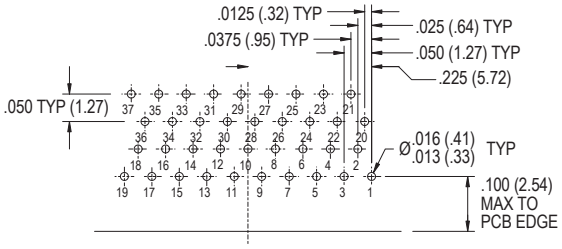
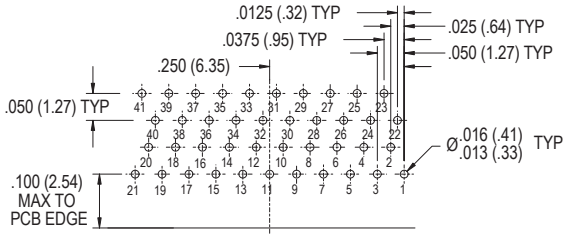


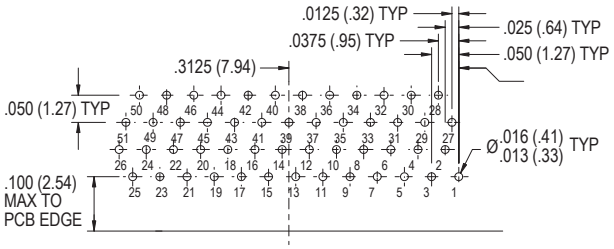
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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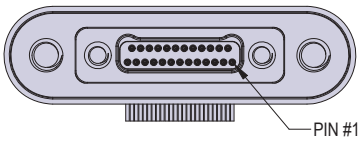
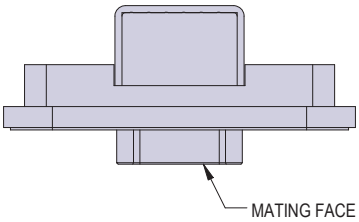
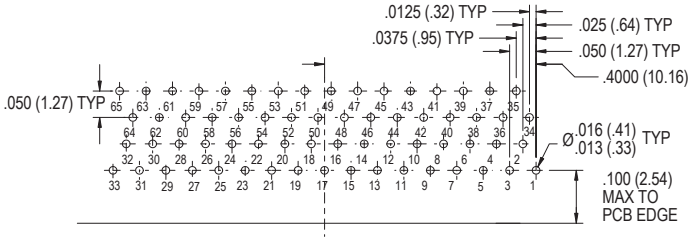
891-027 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB - PCB Plug Footprint

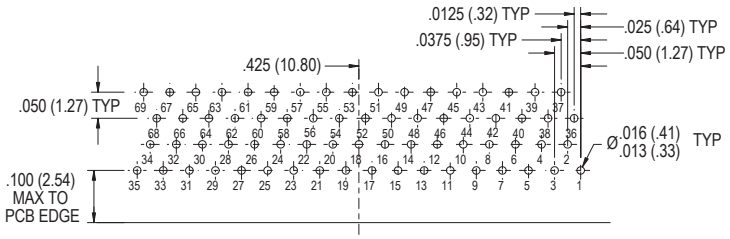


Right-angle plug (pin) connector layout patterns shown are for the connector mounting side of PC board

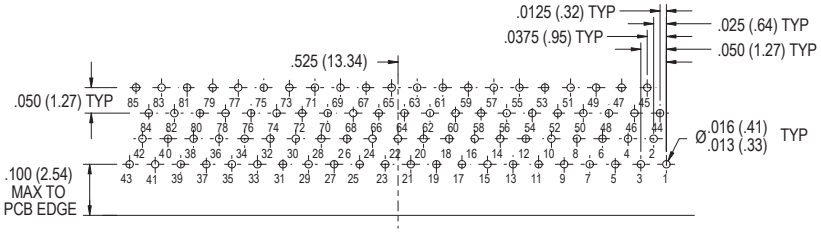




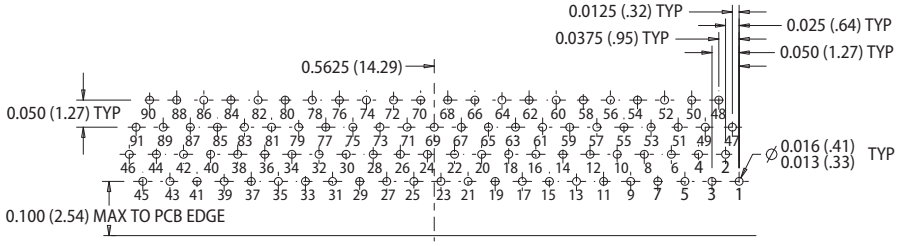
65 Contacts



69 Contacts



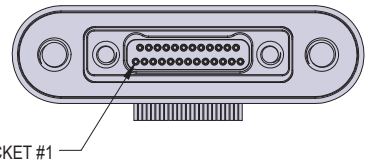
85 Contacts



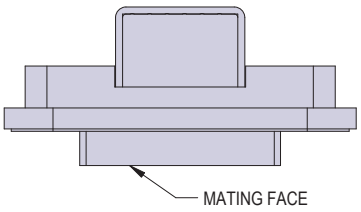
91 Contacts

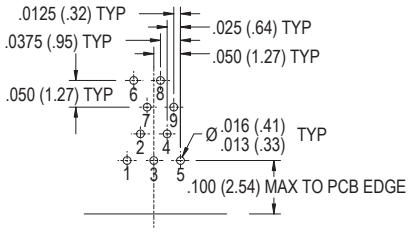
Layouts shown are for connector mounting side of PC Board.

891-028 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB - PCB Receptacle Footprint



Right-angle receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board





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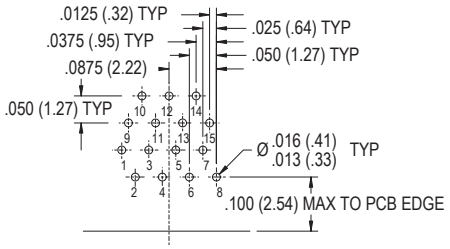

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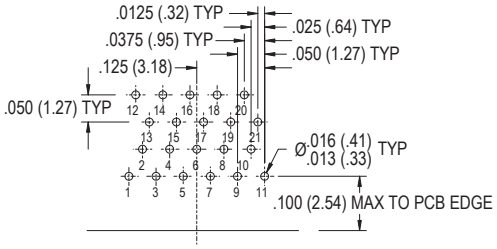
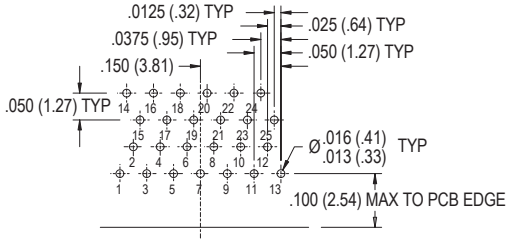
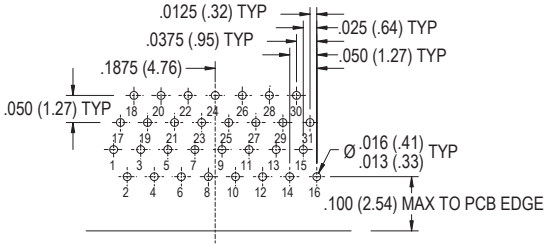


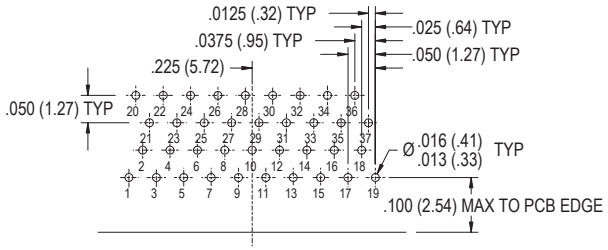
21 Contacts



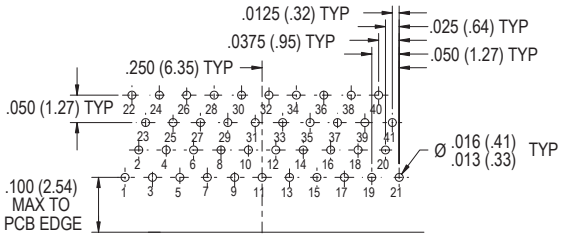
25 Contacts



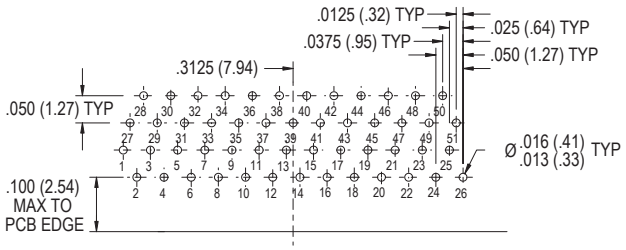
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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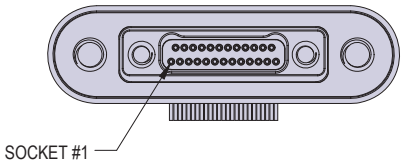
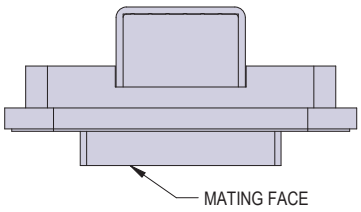
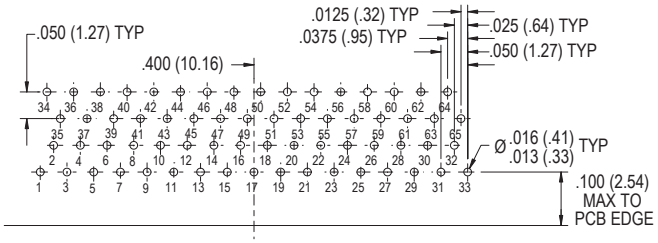
891-028 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB - PCB Receptacle Footprint

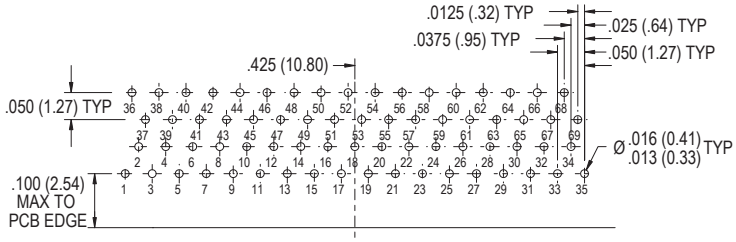


Right-angle receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board

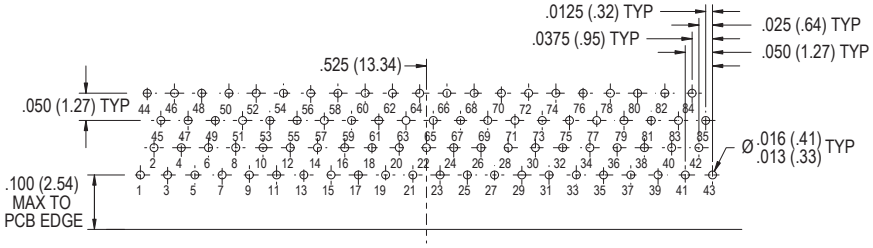




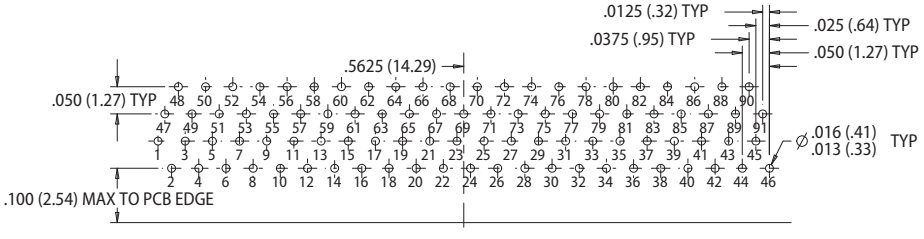
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-064 and 891-065 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB, Thread Mount



Rear Panel Mount Right-Angle Thru-Hole Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with female threads. Gasket seals available in fluorosilicone, Cho-Seal 1298 or Cho-Seal 6503. For replacement gaskets see 899-015.

Choose Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Intermateable with any MIL-DTL-32139 type connector or corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

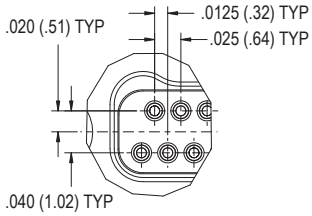
Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	891-064	-25P	S	-BRT	1	T	-01	M

Series	**891-064** = Rear Panel Mount, Right-Angle Thru-Hole, PCB Mount Plug **891-065** = Rear Panel Mount, Right-Angle Thru-Hole, PCB Mount Receptacle
Insert Arrangement/ Contact Type	Pins (891-064 Plugs): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** Sockets (891-065 Receptacles): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BRT** = Board Right-Angle Thru-Hole
PC Tail Length	**1** = .110 (2.79) **2** = .172 (4.37) **3** = .140 (3.56)
Hardware Option	**T** = Female Threads (#0-80 for size 9-69, #2-56 for size 85 & 91)
Gasket Material	**Omit** for No Gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type D (Cho-Seal 1298 or Equivalent) **03** = Nickel Plated Aluminum Filled Fluorosilicone, (Cho-Seal 6503 or Equivalent)
Panel/PCB Mounting Thread Option	**Omit** for panel mounting #2-56 UNC-2B/ PCB Mounting #0-80 UNF-2B Sizes 9-69, #2-56 UNC-2B Size 85 and 91 **M** = Panel Mounting M2 x 0.4-6H/PCB Mounting M1.6 x 0.35-6H Sizes 9-69, M2 x 0.4=6H size 85 & 91

DETAIL A



NOTES

1. Material and Finish:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: Coated with Sn63Pb37 or Sn60Pb40 tin-lead
2. Inspect and test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4
4. Panel cutout is sized to allow connector mounting with either lobes up or down orientation

PLUG HARDWARE	RECEPTACLE (SOCKET)
	
T - Female Thread	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

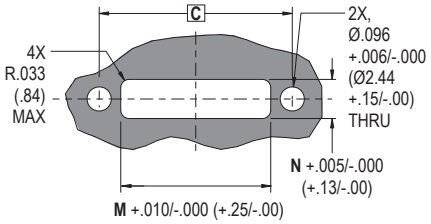
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/ Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

PANEL CUT-OUT DIMENSIONS



Shell Size	C	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
41	.966 (24.54)	.795 (20.19)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

Recommended Panel thickness .100 (2.54) max

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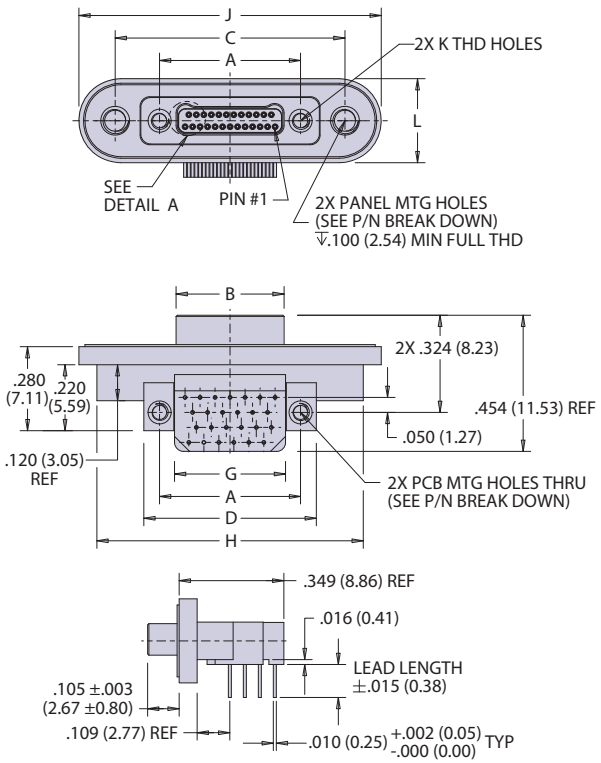
Dual-Row Rectangular Connectors

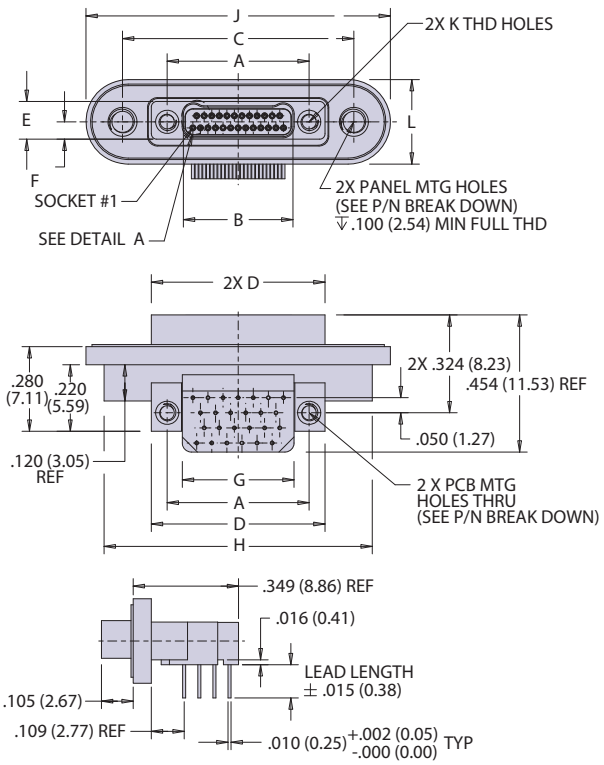
891-064 and 891-065 Rear Panel Mount, Gasket-Sealed, Right-Angle Thru-Hole PCB, Thread Mount

DIMENSIONS

891-064 Plug (Pin) Connectors



891-065 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F	G	H	J	K	L
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	.375 (9.53)	.125 (3.18)	--	.170 (4.32)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.125 (3.18)	.0575 (1.46)	.170 (4.32)	.688 (17.48)	.808 (20.52)	#0-80 UNF-2B	.280 (7.11)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	.450 (11.43)	.125 (3.18)	--	.245 (6.22)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.280 (7.11)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.245 (6.22)	.763 (19.38)	.883 (22.43)	#0-80 UNF-2B	.280 (7.11)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	.525 (13.34)	.125 (3.18)	--	.320 (8.13)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.280 (7.11)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.320 (8.13)	.838 (21.29)	.958 (24.33)	#0-80 UNF-2B	.280 (7.11)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	.575 (14.61)	.125 (3.18)	--	.370 (9.40)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.280 (7.11)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.125 (3.18)	.0575 (1.46)	.370 (9.40)	.888 (22.56)	1.008 (25.60)	#0-80 UNF-2B	.280 (7.11)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	.650 (16.51)	.125 (3.18)	--	.445 (11.30)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.280 (7.11)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.445 (11.30)	.963 (24.46)	1.083 (27.51)	#0-80 UNF-2B	.280 (7.11)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	.725 (18.42)	.125 (3.18)	--	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.280 (7.11)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.520 (13.21)	1.038 (26.37)	1.158 (29.41)	#0-80 UNF-2B	.280 (7.11)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	.775 (19.69)	.125 (3.18)	--	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B	.280 (7.11)
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.775 (19.69)	.125 (3.18)	.0575 (1.46)	.570 (14.48)	1.088 (27.64)	1.208 (30.68)	#0-80 UNF-2B	.280 (7.11)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	.900 (22.86)	.125 (3.18)	--	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.280 (7.11)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	.695 (17.65)	1.213 (30.81)	1.333 (33.86)	#0-80 UNF-2B	.280 (7.11)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	1.075 (27.31)	.125 (3.18)	--	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	.280 (7.11)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	.125 (3.18)	.0575 (1.46)	.870 (22.10)	1.388 (35.26)	1.508 (38.30)	#0-80 UNF-2B	.280 (7.11)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	1.125 (28.58)	.125 (3.18)	--	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	.280 (7.11)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	.920 (23.37)	1.438 (36.53)	1.558 (39.57)	#0-80 UNF-2B	.280 (7.11)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	1.377 (34.98)	.150 (3.81)	--	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.120 (28.45)	1.690 (42.93)	1.810 (45.97)	#2-56 UNC-2B	.305 (7.75)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	1.452 (36.88)	.150 (3.81)	--	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B	.305 (7.75)
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.452 (36.88)	.150 (3.81)	.0700 (1.78)	1.195 (30.35)	1.765 (44.83)	1.885 (47.88)	#2-56 UNC-2B	.305 (7.75)

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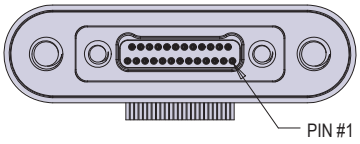
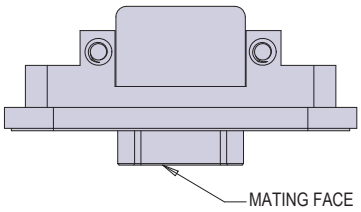
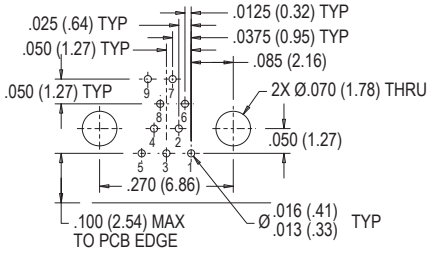
Dimensions in Inches (millimeters) are subject to change without notice.

891-064 Rear Panel Mount, Gasket-Sealed, RA Thru-Hole PCB Thread Mount - Plug Footprint

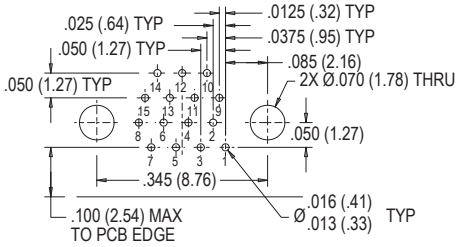


Right-angle plug (pin) connector layout patterns shown are for the connector mounting side of PC board

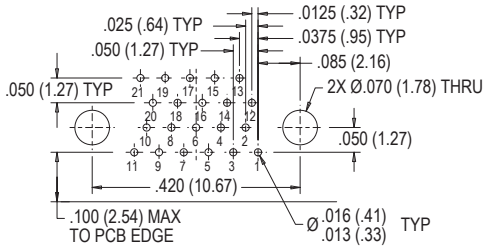




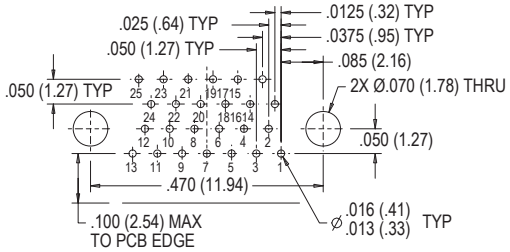
9 Contacts



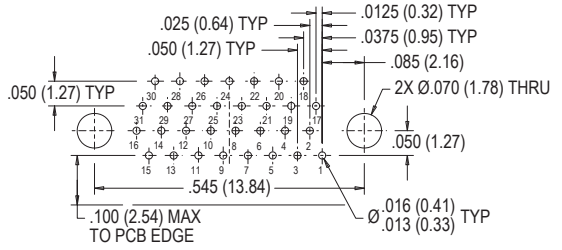
15 Contacts



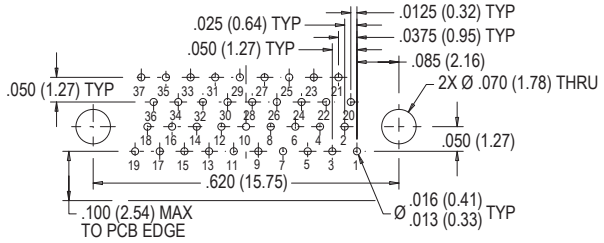
21 Contacts



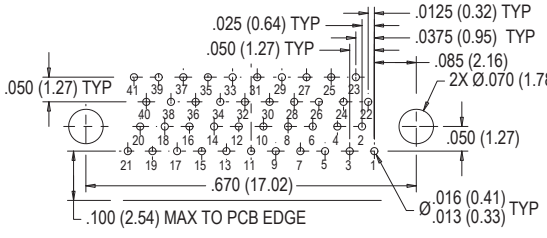
25 Contacts



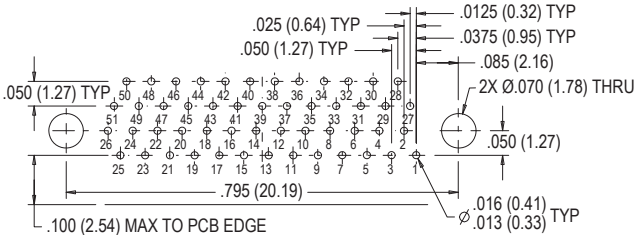
31 Contacts



37 Contacts



41 Contacts



51 Contacts

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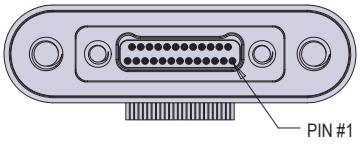
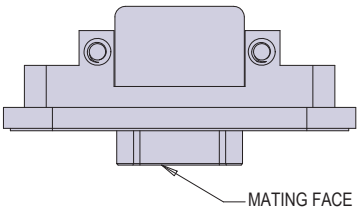
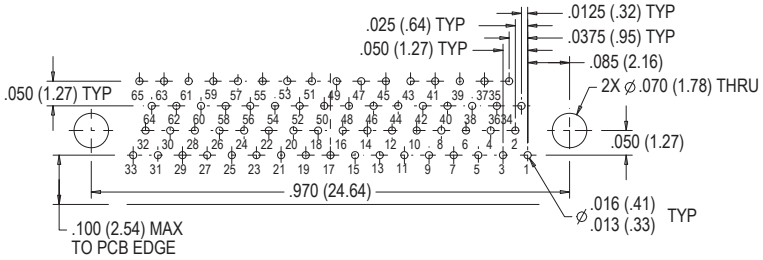
Dual-Row Rectangular Connectors

891-064 Rear Panel Mount, Gasket-Sealed, RA Thru-Hole PCB Thread Mount - Plug Footprint

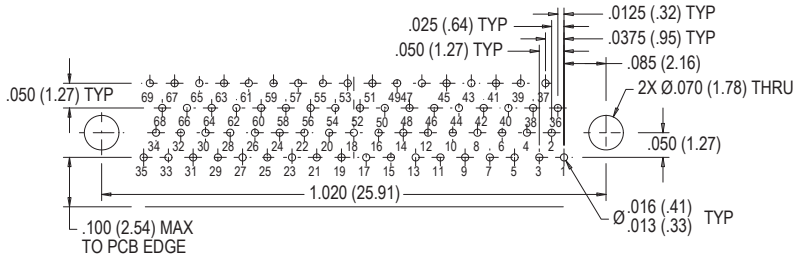


Right-angle plug (pin) connector layout patterns shown are for the connector mounting side of PC board

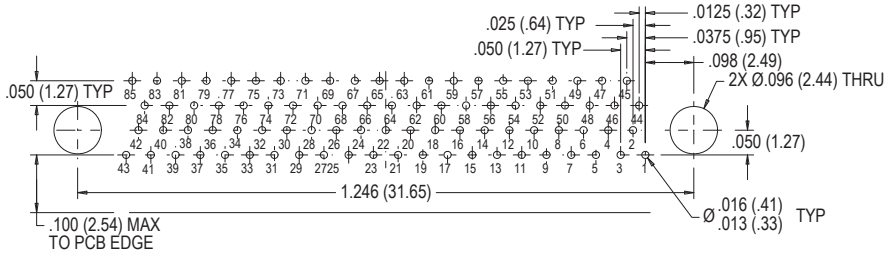




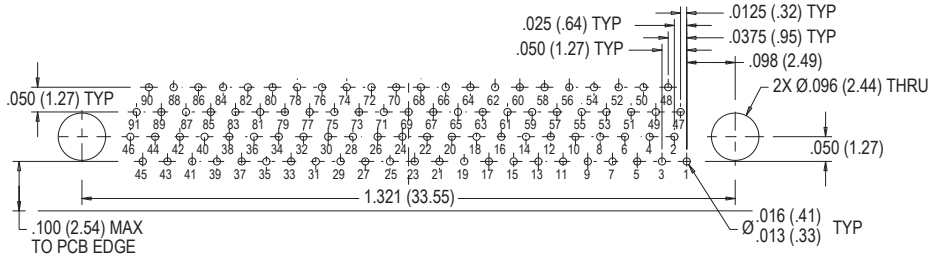
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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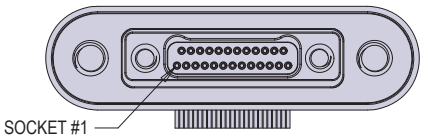
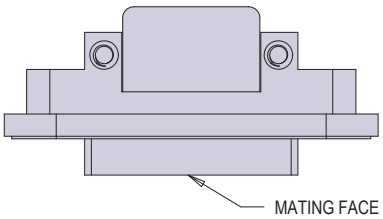
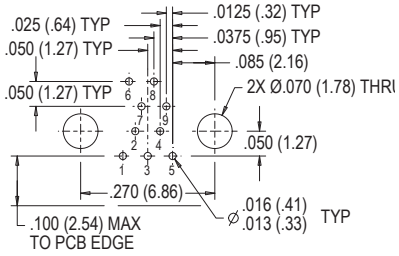
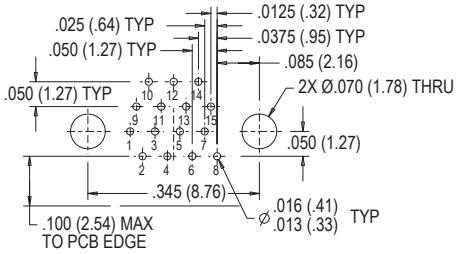
891-065 Rear Panel Mount, Gasket-Sealed, RA Thru-Hole PCB Thread Mount - Receptacle Footprint



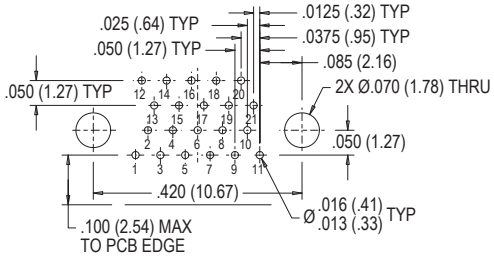
Right-angle receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board



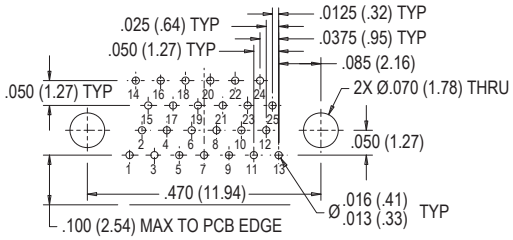




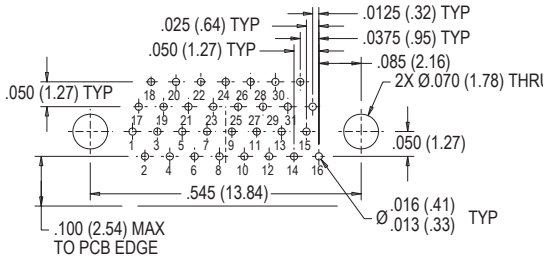
9 Contacts



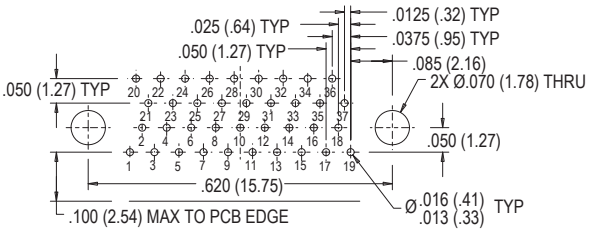
15 Contacts



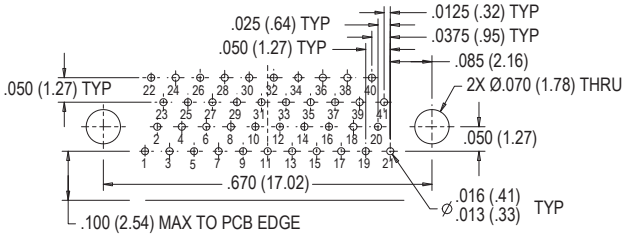
21 Contacts



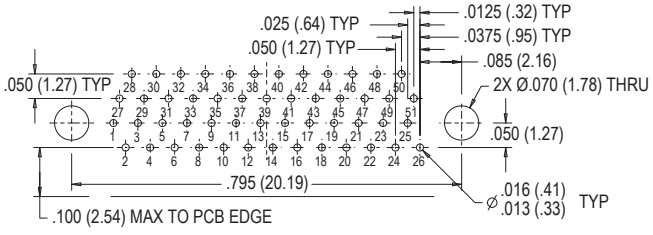
25 Contacts



31 Contacts



37 Contacts



41 Contacts

51 Contacts

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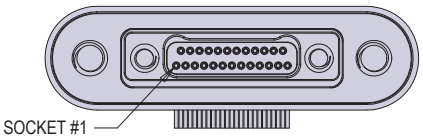
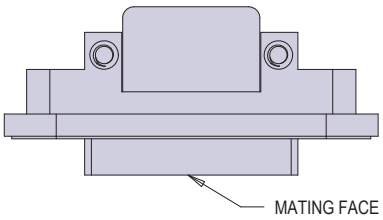
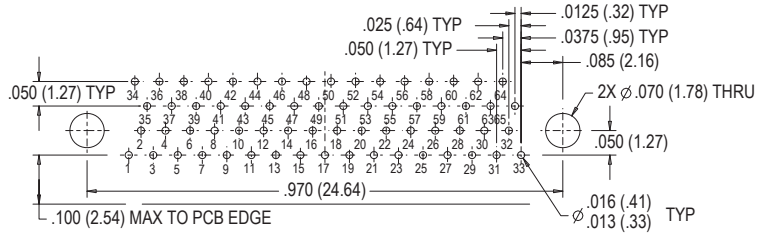
Dimensions in Inches (millimeters) are subject to change without notice.

891-065 Rear Panel Mount, Gasket-Sealed, RA Thru-Hole PCB Thread Mount - Receptacle Footprint

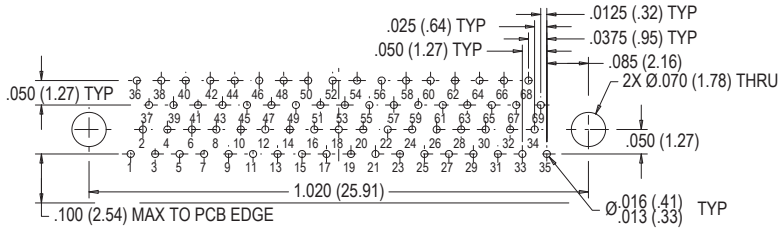


Right-angle receptacle (socket) connector layout patterns shown are for the connector mounting side of PC board

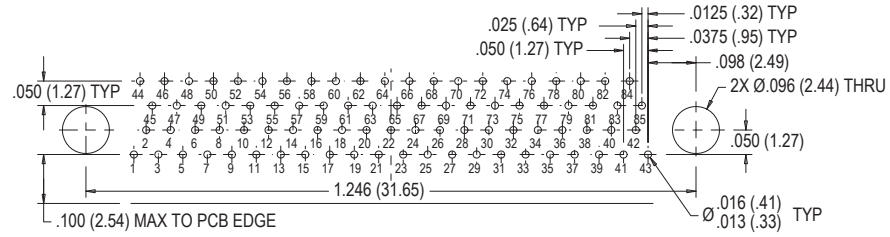




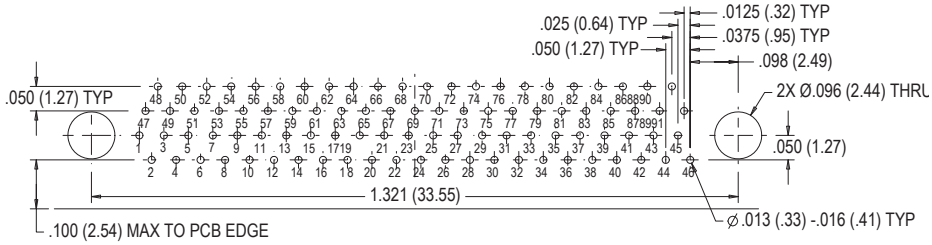
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Dual-Row Rectangular Connectors

891-010 and 891-011 Vertical Surface Mount PCB Connectors



Vertical Surface Mount PCB Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped #30 AWG gold-plated wire. These nanominiature connectors offer premium performance and reliability for demanding applications.

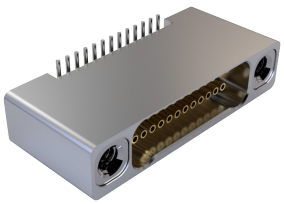
Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139.

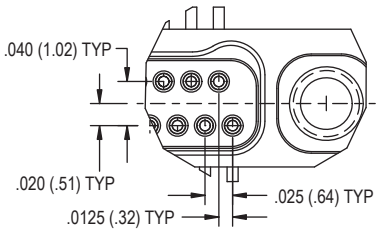
HOW TO ORDER

Sample Part Number	891-011	-25S	A2	-BSS	T

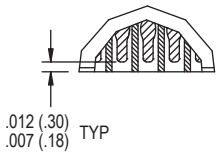
Series	**891-010** = Plug, Vertical SMT Connector **891-011** = Receptacle, Vertical SMT Connector
Insert Arrangement/ Contact Type	Pins (891-010 Plugs): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-011 Receptacles): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BSS** = Board Surface Mount Straight
Hardware	**T** = Female Thread (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into stainless steel and titanium shells)

PLUG HARDWARE	RECEPTACLE HARDWARE
	
T - Female Thread	T - Female Thread

DETAIL A



DETAIL B



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and Finish:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel
2. Inspect and test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

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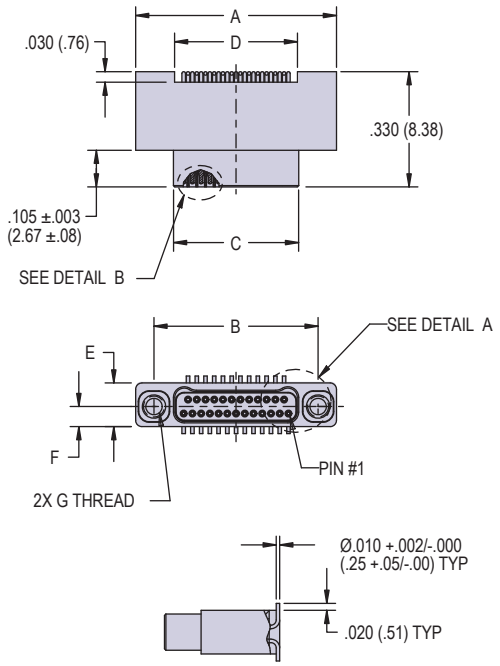
Dual-Row Rectangular Connectors

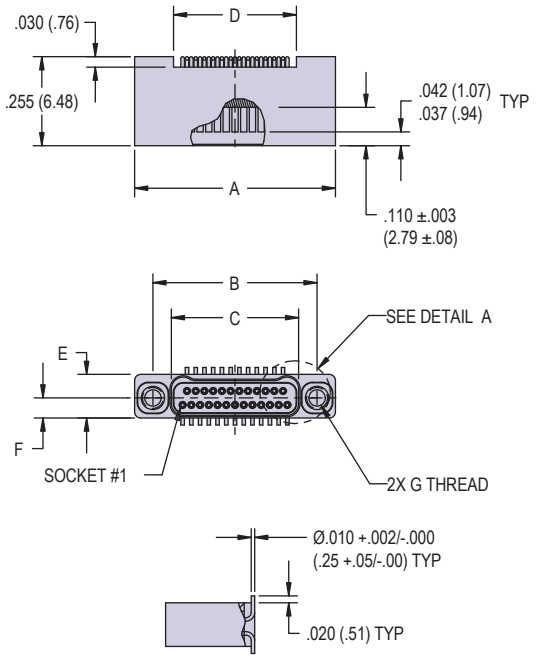
891-010 and 891-011 Vertical Surface Mount PCB Connectors

DIMENSIONS

891-010 Plug (Pin) Connectors



891-011 Receptacle (Socket) Connectors



Layout	A ± .005	B BSC.	C BSC.	D ± .005	E ± .005	F BSC.	G Thread
9P	.375 (9.52)	.270 (6.86)	.160 (4.06)	.152 (3.86)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.52)	.270 (6.86)	.163 (4.14)	.152 (3.86)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.227 (5.77)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.227 (5.77)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.302 (7.67)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.302 (7.67)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.60)	.470 (11.94)	.360 (9.14)	.352 (8.94)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.60)	.470 (11.94)	.363 (9.22)	.352 (8.94)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.427 (10.85)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.427 (10.85)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.502 (12.75)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.502 (12.75)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.68)	.670 (17.02)	.560 (14.22)	.552 (14.02)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.68)	.670 (17.02)	.563 (14.30)	.552 (14.02)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.677 (17.20)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.677 (17.20)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.30)	.970 (24.64)	.860 (21.84)	.852 (21.64)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.30)	.970 (24.64)	.863 (21.92)	.852 (21.64)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.902 (22.91)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.902 (22.91)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.102 (27.99)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.102 (27.99)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.177 (29.90)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.177 (29.90)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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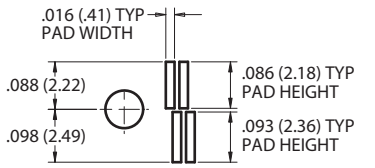
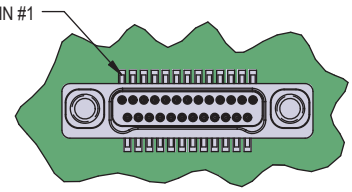
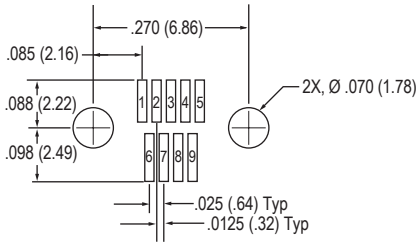
891-010 Vertical Surface Mount PCB Connectors - Plug Pad Footprint



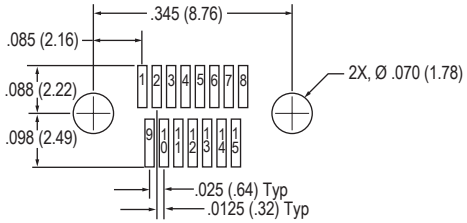
PAD FOOTPRINT DETAIL LAYOUT 9-69



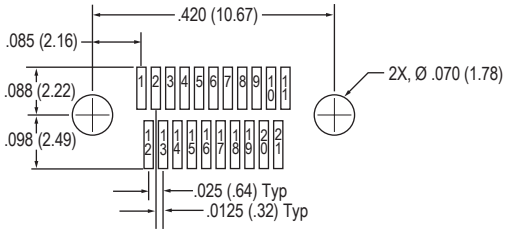
PAD FOOTPRINT DETAIL LAYOUT 9-69



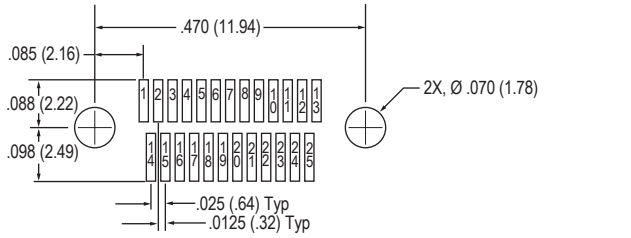
9 Contacts



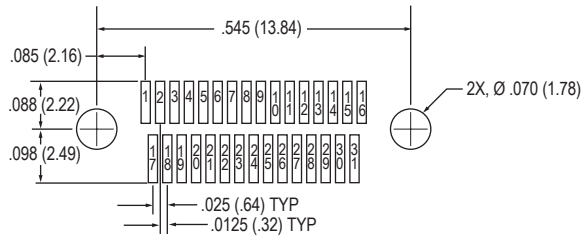
15 Contacts



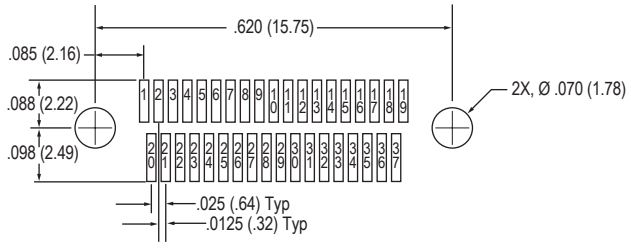
21 Contacts



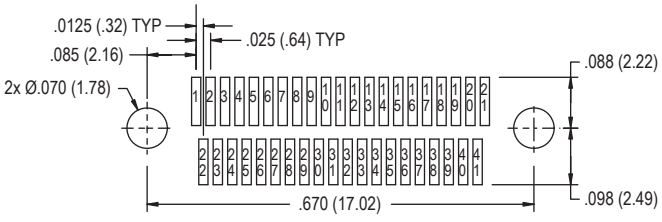
25 Contacts



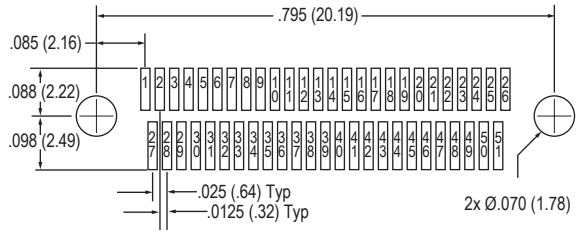
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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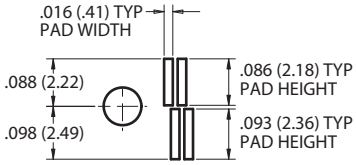
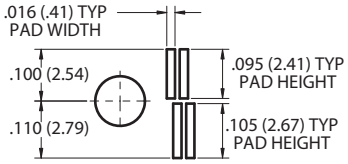
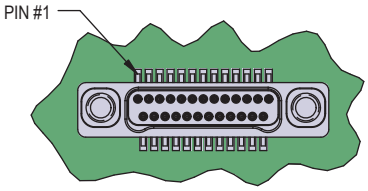
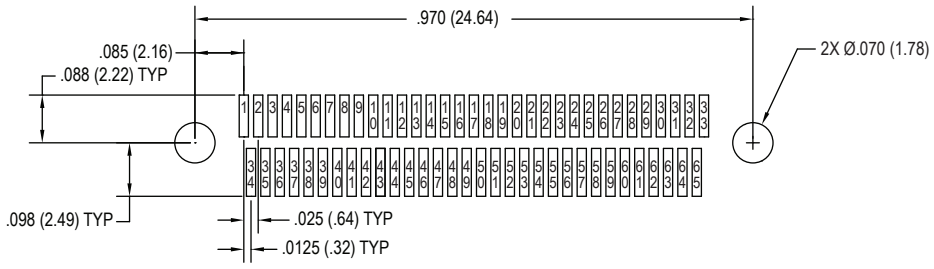
891-010 Vertical Surface Mount PCB Connectors - Plug Pad Footprint





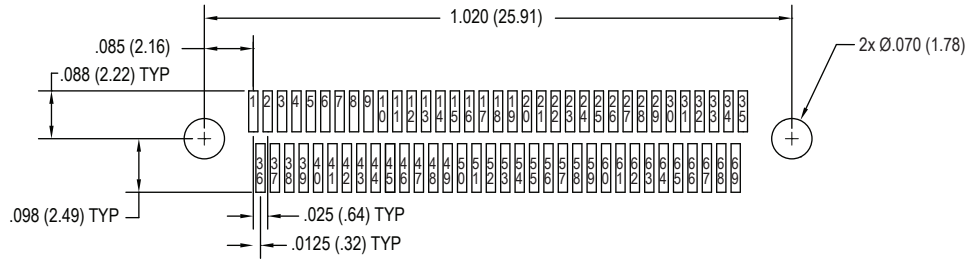


PAD FOOTPRINT DETAIL LAYOUT 9-69

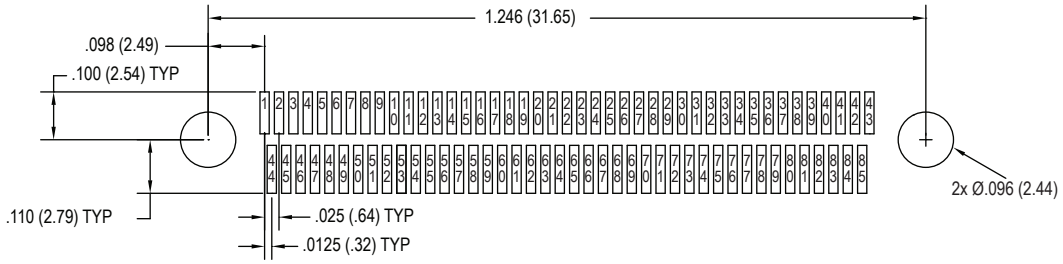


PAD DETAIL LAYOUT 85 & 91 ONLY

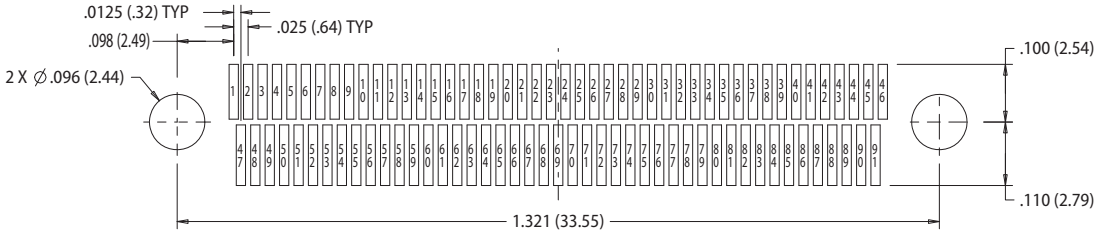
65 Contacts



69 Contacts



85 Contacts (see pad detail for 85 and 91 contact layout)



91 Contacts (see pad detail for 85 and 91 contact layout)

Layouts shown are for connector mounting side of PC Board.

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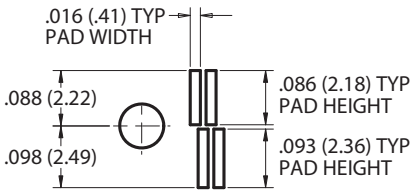
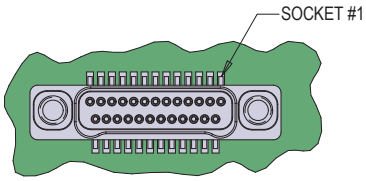
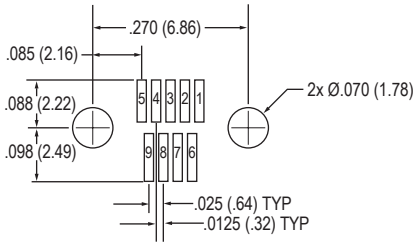
891-011 Vertical Surface Mount PCB Connectors - Receptacle Pad Footprint

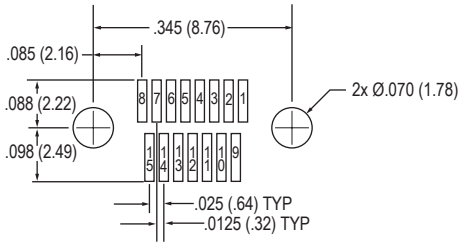




PAD DETAIL LAYOUT 9-69



9 Contacts



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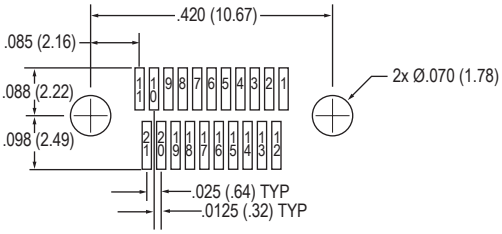
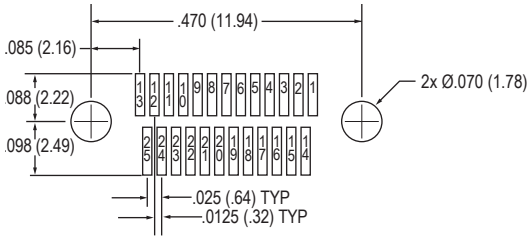
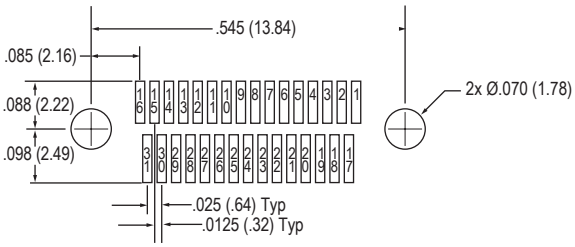


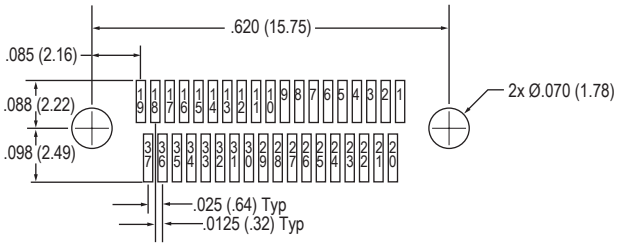
21 Contacts



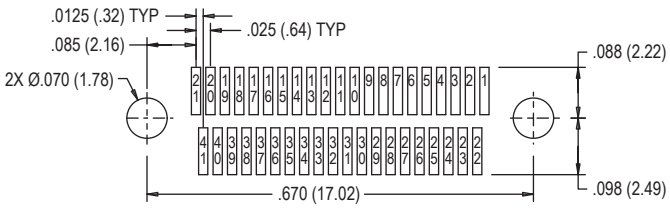
25 Contacts



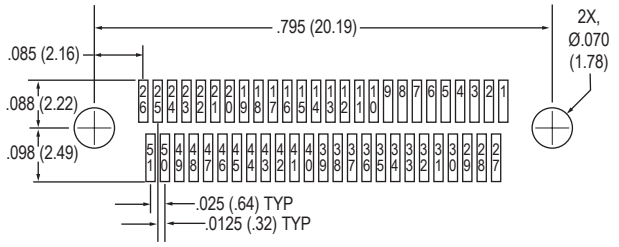
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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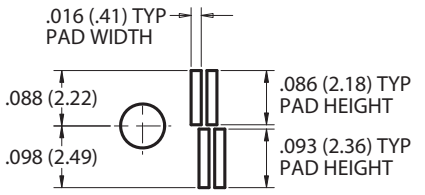
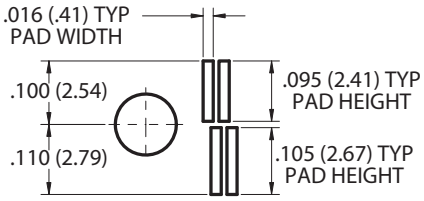
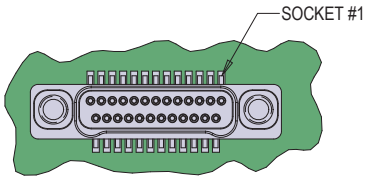
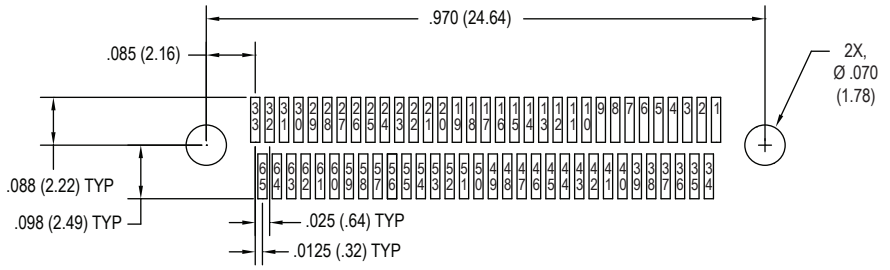
891-011 Vertical Surface Mount PCB Connectors - Receptacle Pad Footprint



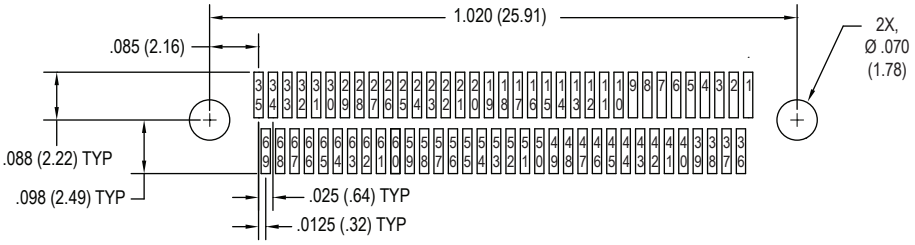




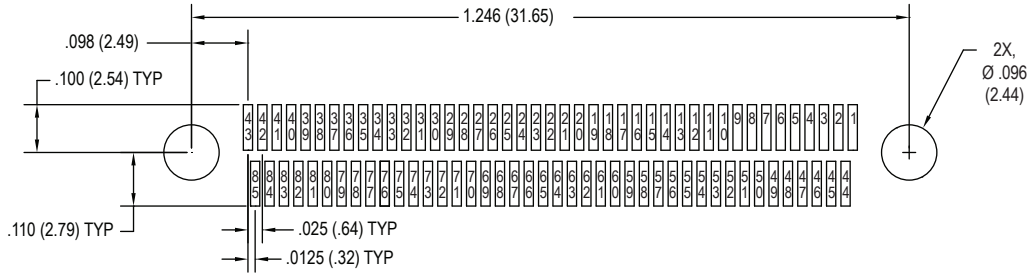
PAD DETAIL LAYOUT 9-69



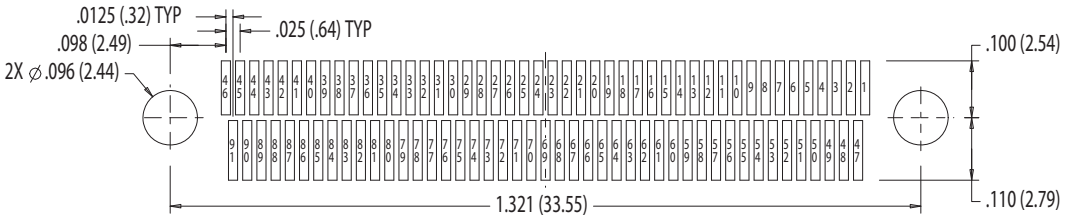
65 Contacts



69 Contacts



85 Contacts (see pad detail for 85 and 91 contact layout)



91 Contacts (see pad detail for 85 and 91 contact layout)

Layouts shown are for connector mounting side of PC Board.

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Dual-Row Rectangular Connectors

891-017 and 891-018 Vertical Surface Mount PCB Connectors with Jackscrews



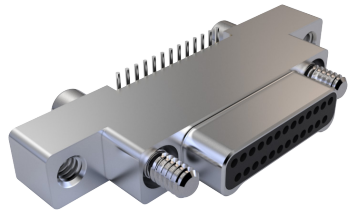
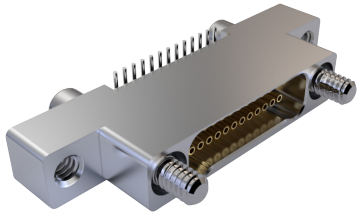
Vertical Surface Mount PCB Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped #30 AWG gold-plated wire. These nanominiature connectors offer premium performance and reliability for demanding applications.

Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139.

HOW TO ORDER

Sample Part Number	891-017	-25P	A2	-BSS	J
Series	**891-017** = Plug, Vertical Surface Mount Connector **891-018** = Receptacle, Vertical Surface Mount Connector				
Insert Arrangement/Contact Type	Pins (891-017 Plugs): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-018 Receptacles): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**				
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated				
Termination Type	**BSS** = Board Surface Mount Straight				
Hardware	**J** = Hex Head Jackscrew				

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	J - Jackscrew

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

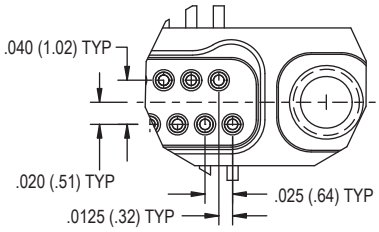
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

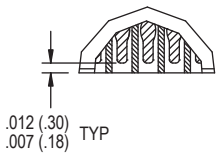
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



NOTES

1. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

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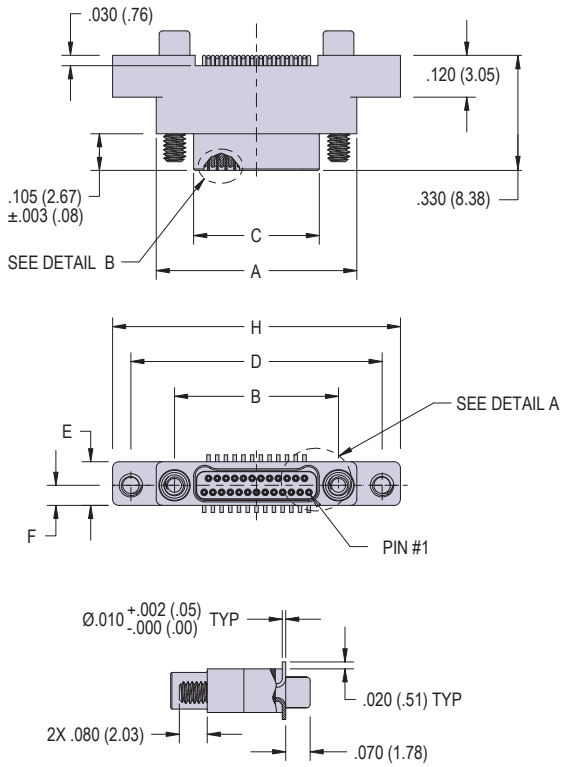
Dual-Row Rectangular Connectors

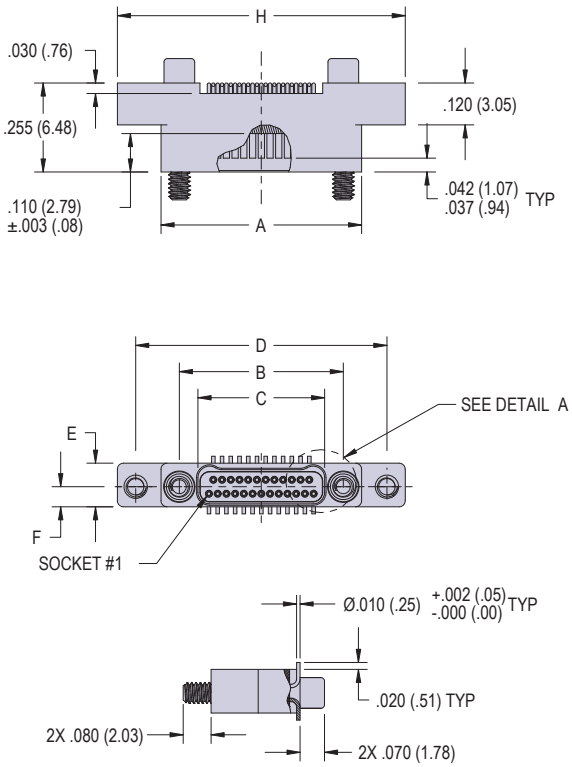
891-017 and 891-018 Vertical Surface Mount PCB Connectors with Jackscrews

DIMENSIONS

891-017 Plug (Pin) Connectors



891-018 Receptacle (Socket) Connectors



Layout	A ± .005 (±.013)	B BSC.	C BSC.	D ± .005 (± 0.13)	E ± .005 (± 0.13)	F BSC.	G Thread	H
9P	.375 (9.52)	.270 (6.86)	.160 (4.06)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.625 (15.88)
9S	.375 (9.52)	.270 (6.86)	.163 (4.14)	.520 (13.21)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.625 (15.88)
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.595 (15.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.700 (17.78)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.595 (15.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.700 (17.78)
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.670 (17.02)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.775 (19.68)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.670 (17.02)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.775 (19.68)
25P	.575 (14.60)	.470 (11.94)	.360 (9.14)	.720 (18.29)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.825 (20.96)
25S	.575 (14.60)	.470 (11.94)	.363 (9.22)	.720 (18.29)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.825 (20.96)
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.795 (20.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.900 (22.86)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.795 (20.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.900 (22.86)
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.975 (24.76)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.870 (22.10)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	.975 (24.76)
41P	.775 (19.68)	.670 (17.02)	.560 (14.22)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.025 (26.03)
41S	.775 (19.68)	.670 (17.02)	.563 (14.30)	.920 (23.37)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.025 (26.03)
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	1.045 (26.54)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.150 (29.21)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	1.045 (26.54)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.150 (29.21)
65P	1.075 (27.30)	.970 (24.64)	.860 (21.84)	1.220 (30.99)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.325 (33.65)
65S	1.075 (27.30)	.970 (24.64)	.863 (21.92)	1.220 (30.99)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.325 (33.65)
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	1.270 (32.26)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.375 (34.92)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	1.270 (32.26)	.125 (3.18)	.0575 (1.46)	#0-80 UNF	1.375 (34.92)
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.546 (39.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.679 (42.65)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.546 (39.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.679 (42.65)
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.621 (41.17)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.754 (44.55)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.621 (41.17)	.150 (3.81)	.0700 (1.78)	#2-56 UNC	1.754 (44.55)

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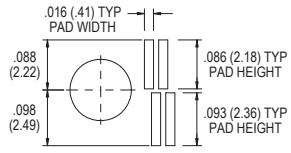
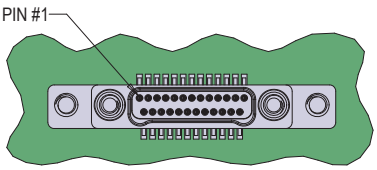
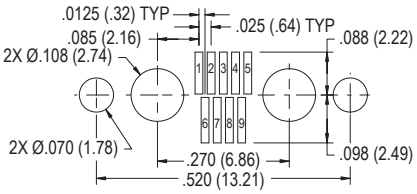
891-017 Vertical Surface Mount PCB Connectors with Jackscrews - Plug Pad Footprint

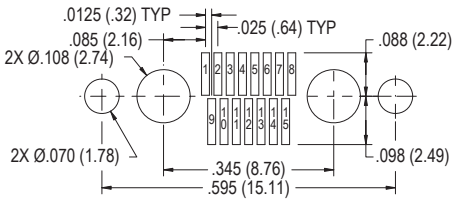


PAD DETAIL LAYOUT 9-69

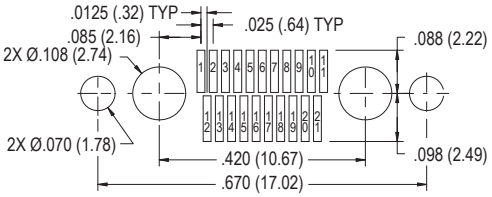




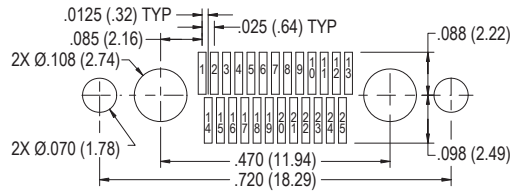
9 Contacts



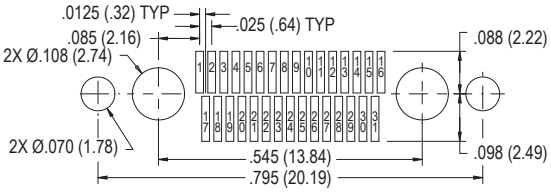
15 Contacts



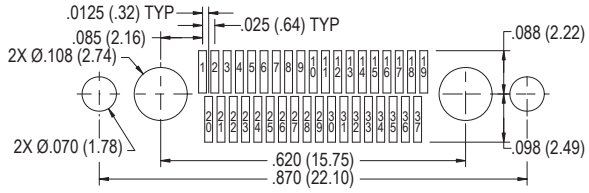
21 Contacts



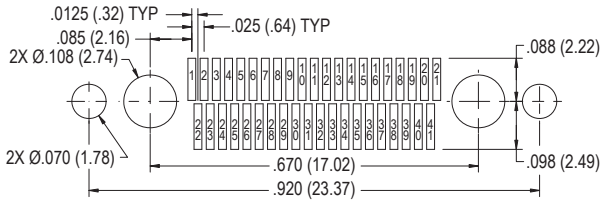
25 Contacts



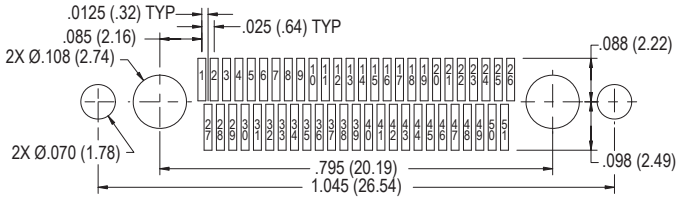
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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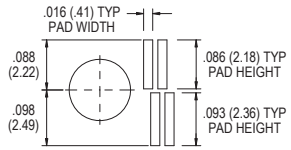
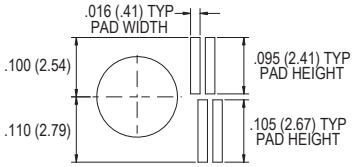
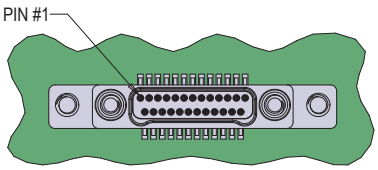
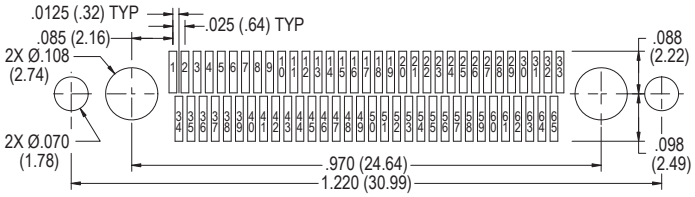


PAD DETAIL LAYOUT 9-69

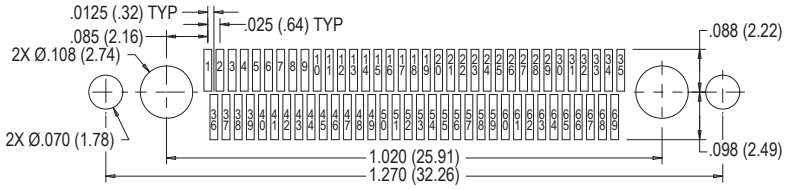


PAD DETAIL LAYOUT 85 & 91

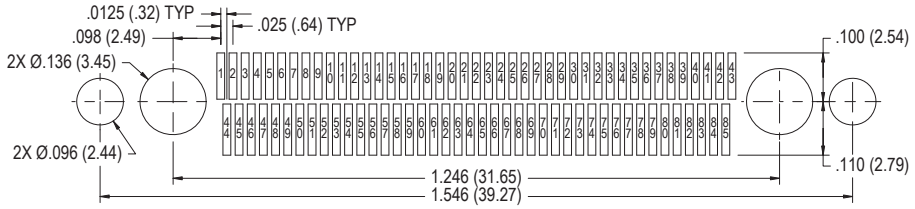




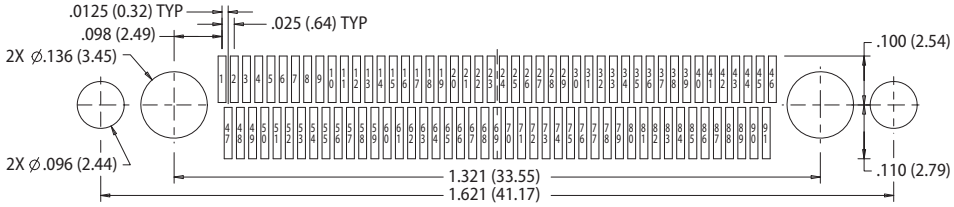
65 Contacts



69 Contacts



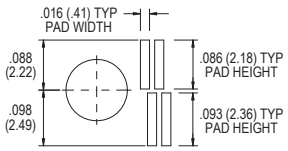
85 Contacts (see pad detail for 85 and 91 contact layout)



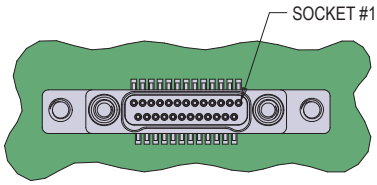
91 Contacts (see pad detail for 85 and 91 contact layout)

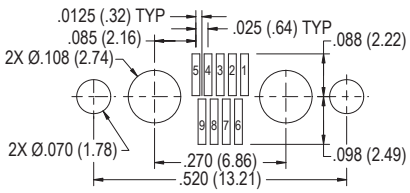
Layouts shown are for connector mounting side of PC Board.

891-018 Vertical Surface Mount PCB with Jackscrews - Receptacle Pad Footprint

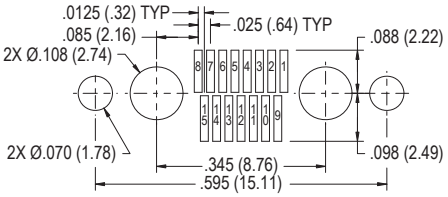


PAD DETAIL LAYOUT 9-69

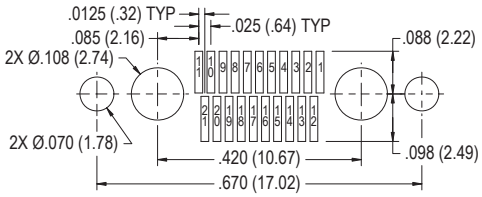




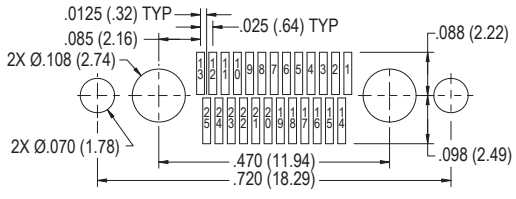
9 Contacts



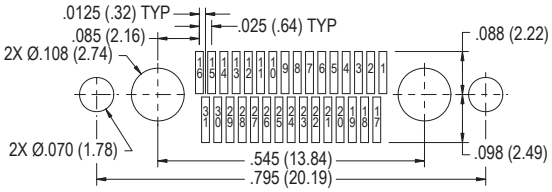
15 Contacts



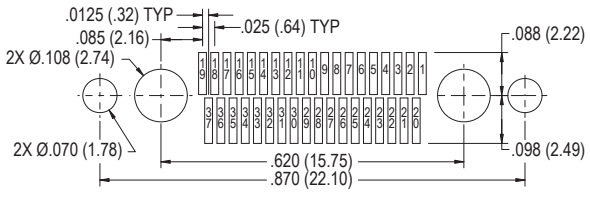
21 Contacts



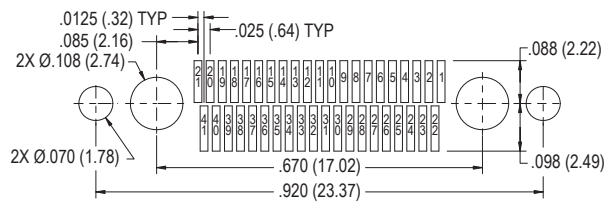
25 Contacts



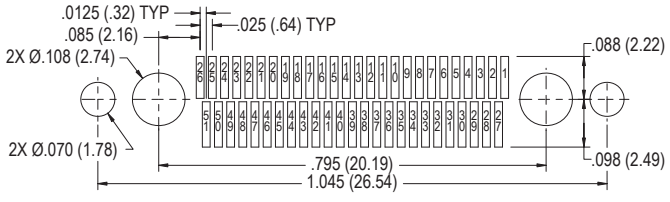
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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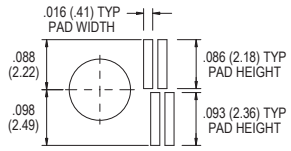
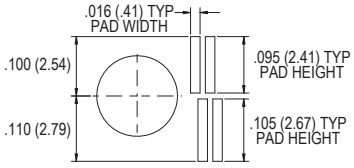
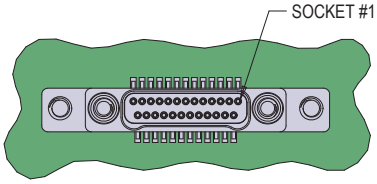
891-018 Vertical Surface Mount PCB with Jackscrews - Receptacle Pad Footprint

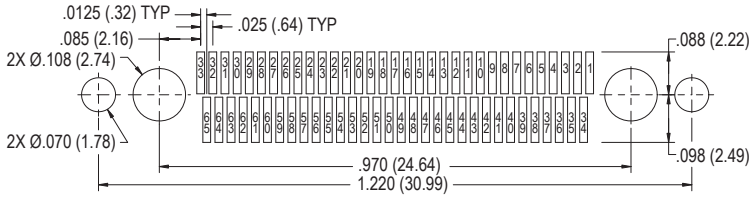


PAD DETAIL LAYOUT 9-69

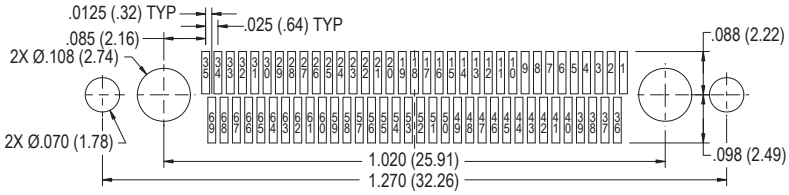


PAD DETAIL LAYOUT 85 & 91

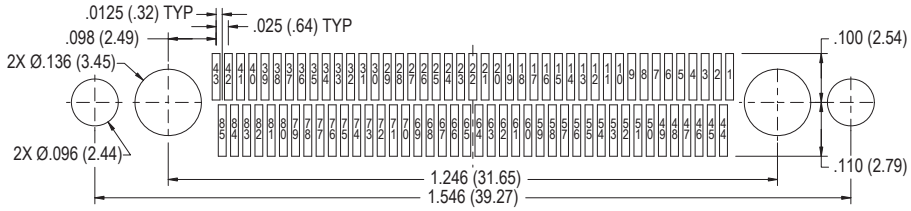




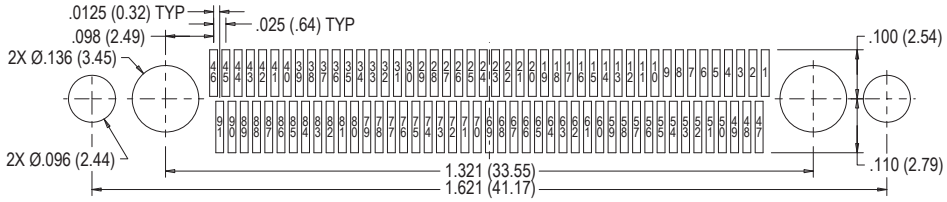
65 Contacts



69 Contacts



85 Contacts (see pad detail for 85 and 91 contact layout)



91 Contacts (see pad detail for 85 and 91 contact layout)

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-012 and 891-013 Right-Angle Surface Mount PCB Connector



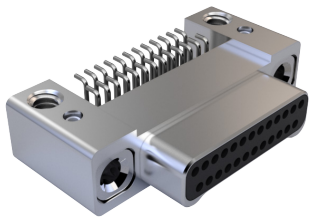
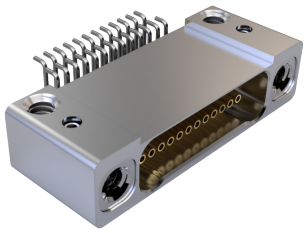
Right-Angle Surface Mount Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications.

Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in eleven layouts from 9 to 85 contacts. Complies to the requirements of MIL-DTL-32139.

HOW TO ORDER

Sample Part Number	891-012	-25P	A2	-BRS	T
Series	**891-012** = Plug, Right-Angle Surface Mount Connector **891-013** = Receptacle, Right-Angle Surface Mount Connector				
Insert Arrangement/Contact Type	**Pins** (891-012 Plugs) **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P, 91P** **Socket** (891-013 Receptacles) **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S, 91S**				
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated				
Termination Type	**BRS** = Board Right-Angle Surface Mount				
Hardware	**T** = Female Thread (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into stainless steel and titanium shells)				

PLUG HARDWARE	RECEPTACLE HARDWARE
	
T - Female Thread	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

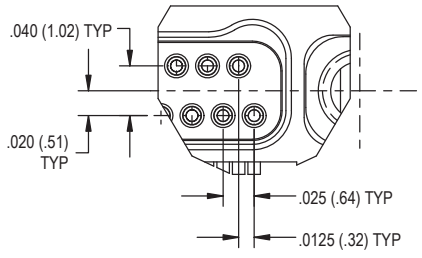
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

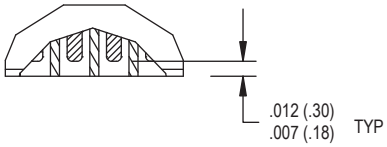
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



NOTES

1. Material and Finish:
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel
2. Inspect and test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

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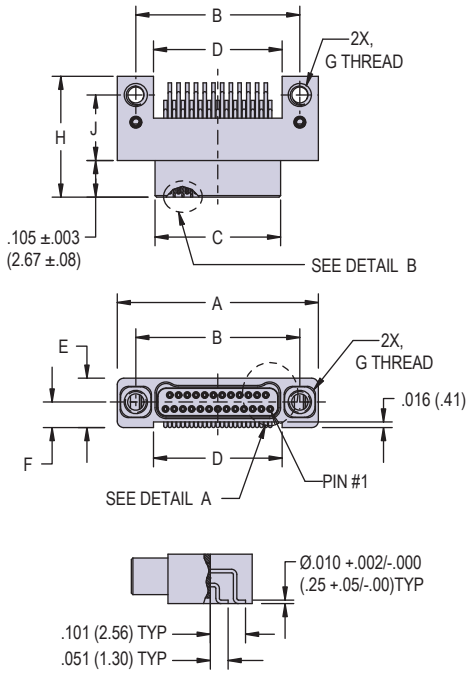
Dimensions in Inches (millimeters) are subject to change without notice.

Dual-Row Rectangular Connectors

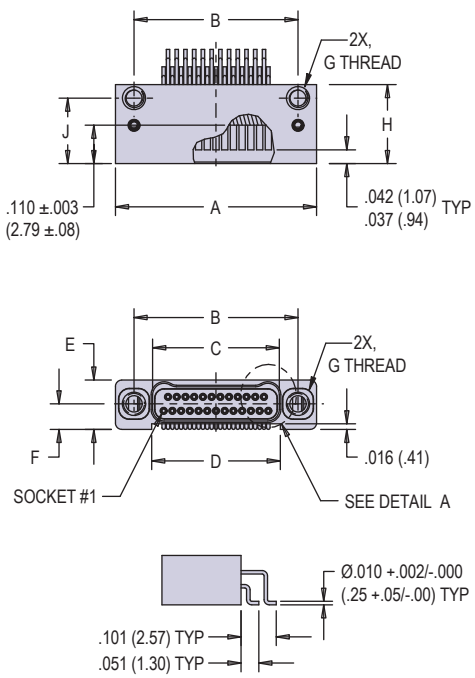
891-012 and 891-013 Right-Angle Surface Mount PCB Connector

DIMENSIONS

891-012 Plug (Pin) Connectors



891-013 Receptacle (Socket) Connectors



Layout	A	B BSC.	C BSC.	D	E	F BSC.	G Thread	H	J
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.170 (4.32)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.245 (6.22)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.320 (8.13)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.370 (9.40)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.445 (11.30)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.520 (13.21)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.570 (14.48)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.695 (17.65)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.870 (22.10)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.345 (8.76)	.187 (4.75)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.920 (23.37)	.140 (3.56)	.0725 (1.84)	#0-80 UNF	.225 (5.72)	.187 (4.75)
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.120 (28.45)	.165 (4.19)	.085 (2.16)	#2-56 UNC	.375 (9.53)	.205 (5.21)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.120 (28.45)	.165 (4.19)	.085 (2.16)	#2-56 UNC	.270 (6.86)	.210 (5.33)
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.195 (30.35)	.165 (4.19)	.0850 (2.16)	#2-56 UNC	.375 (9.53)	.205 (5.21)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.195 (30.35)	.365 (9.27)	.0850 (2.16)	#2-56 UNC	.270 (6.86)	.210 (5.33)

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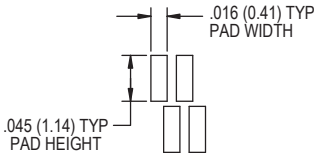
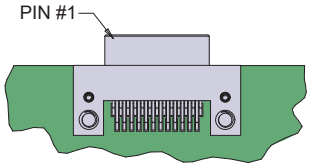
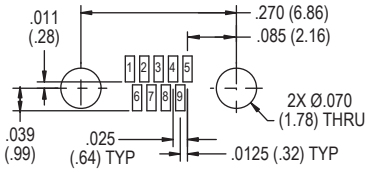
891-012 Right-Angle Surface Mount PCB Connectors - Plug Pad Footprint



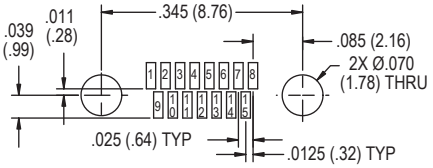
PAD FOOTPRINT DETAIL



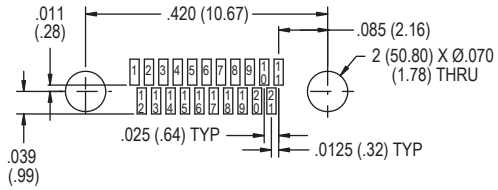
PIN #1 POSITION



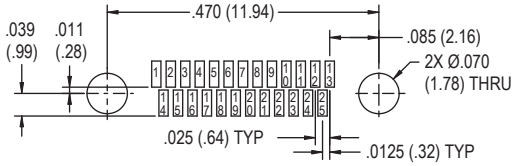
9 Contacts



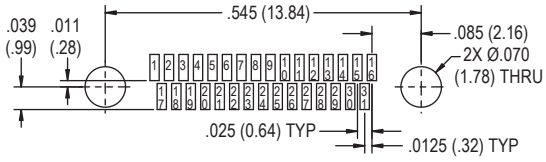
15 Contacts



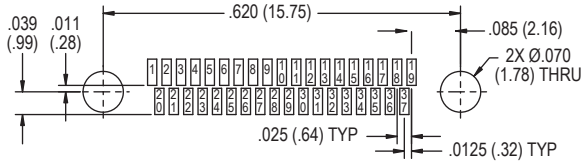
21 Contacts



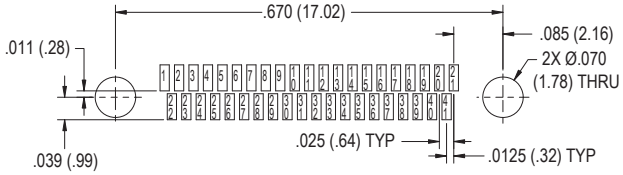
25 Contacts



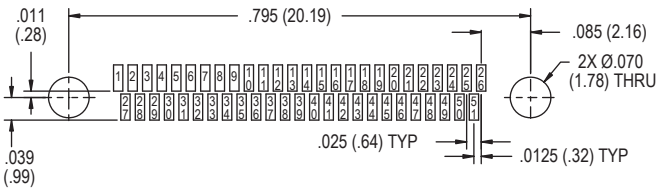
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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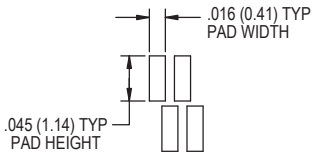
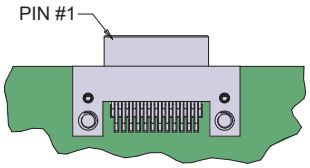
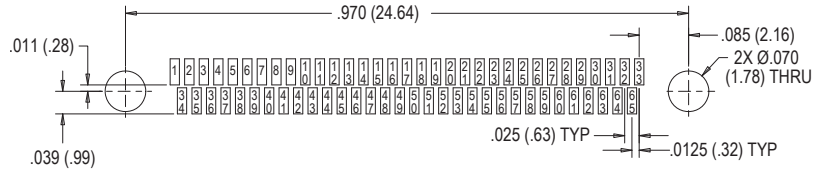
891-012 Right-Angle Surface Mount PCB Connectors - Plug Pad Footprint



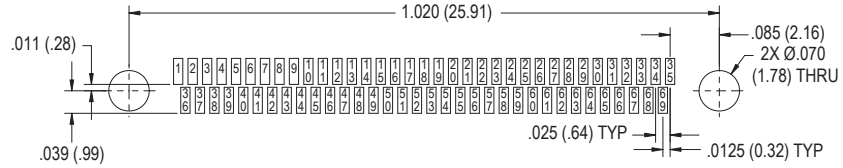
PAD FOOTPRINT DETAIL



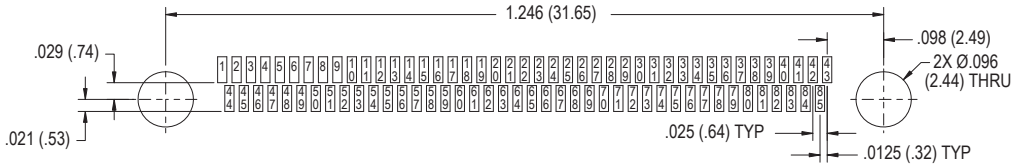
PIN #1 POSITION



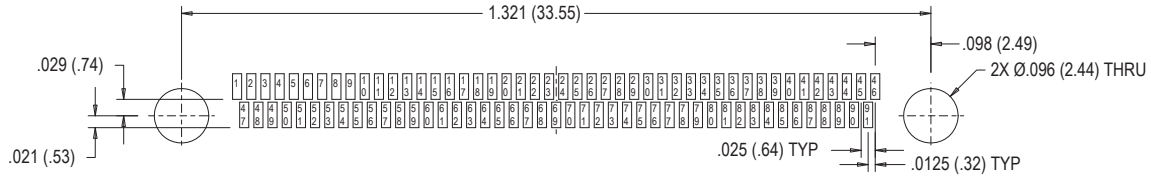
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

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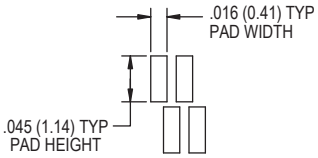
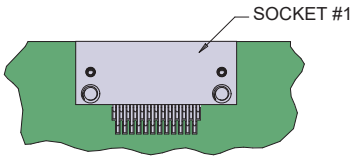
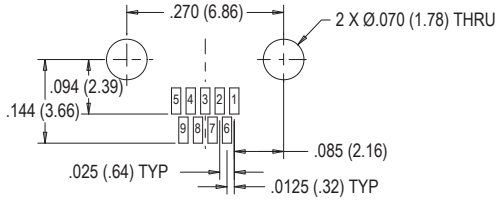
891-013 Right-Angle Surface Mount PCB Connectors - Receptacle Pad Footprint



PAD FOOTPRINT DETAIL



CONNECTOR ORIENTATION



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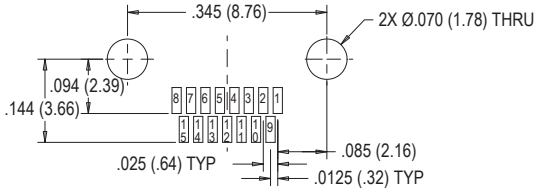
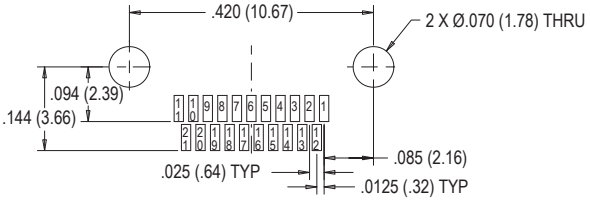
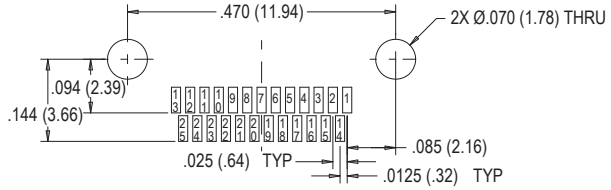


15 Contacts



21 Contacts



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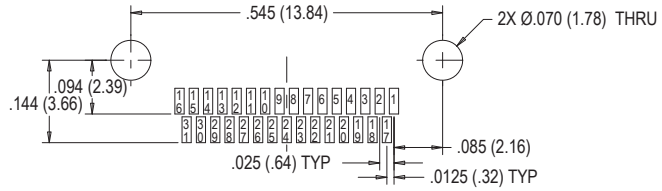
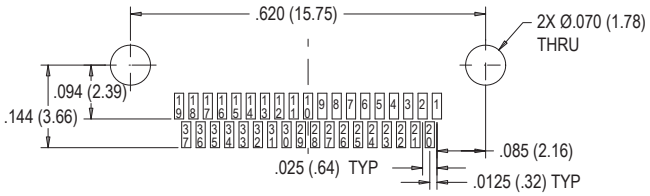
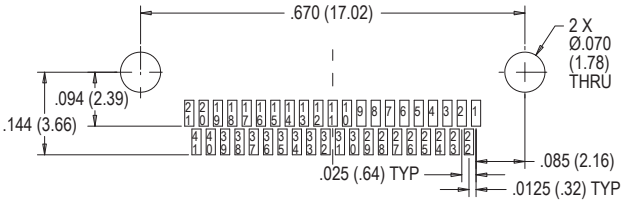


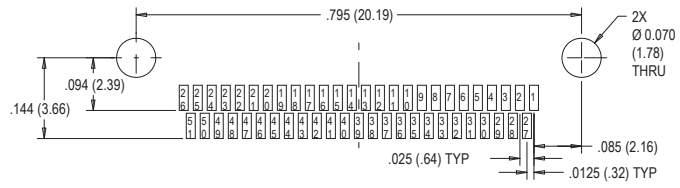
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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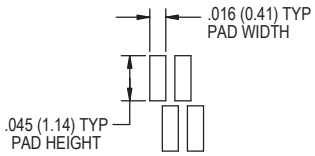
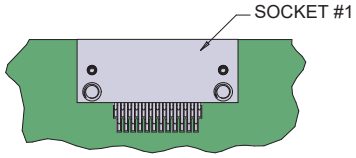
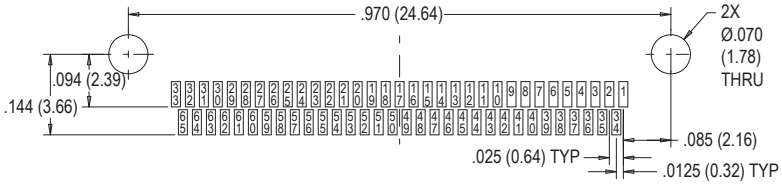
891-013 Right-Angle Surface Mount PCB Connectors - Receptacle Pad Footprint



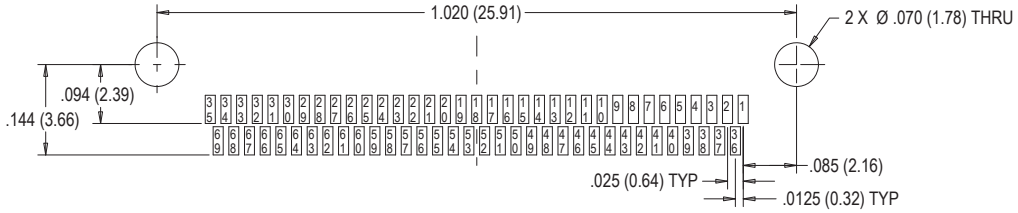
PAD FOOTPRINT DETAIL



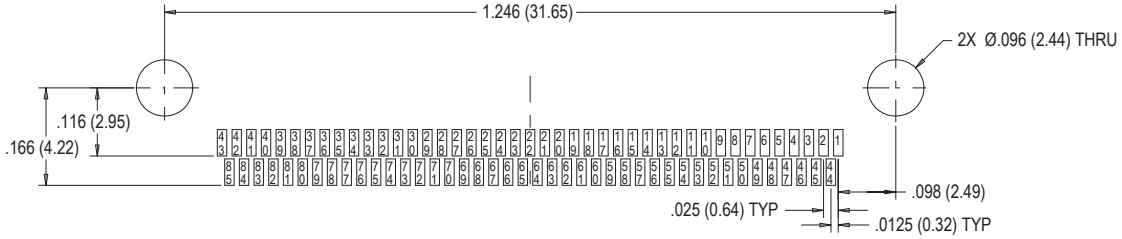
CONNECTOR ORIENTATION



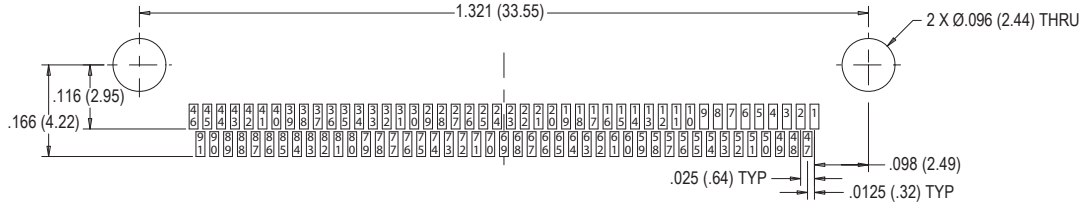
65 Contacts



69 Contacts



85 Contacts

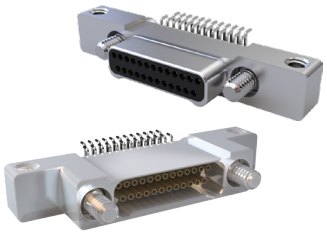


91 Contacts

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-019 and 891-020 Right-Angle Surface Mount PCB Connector with Jackscrews



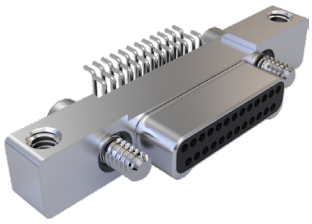
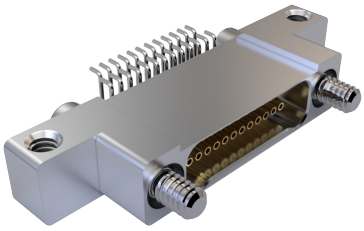
Right-Angle Surface Mount PCB Nano Connectors feature gold alloy TwistPin contacts. These nanominiature connectors offer premium performance and reliability for demanding applications.

Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139.

HOW TO ORDER

Sample Part Number	891-019	-25P	A2	-BRS	J
Series	**891-019** = Plug, Right-Angle Surface Mount Connector with Jackscrews **891-020** = Receptacle, Right-Angle Surface Mount Connector with Jackscrews				
Insert Arrangement/Contact Type	Pins (891-019 Plugs): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P** Sockets (891-020 Receptacles): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**				
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated				
Termination Type	**BRS** = Board Right-Angle Surface Mount				
Hardware	**J** = Hex Head Jackscrew				

PLUG HARDWARE	RECEPTACLE HARDWARE
	
J - Jackscrew	J - Jackscrew

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

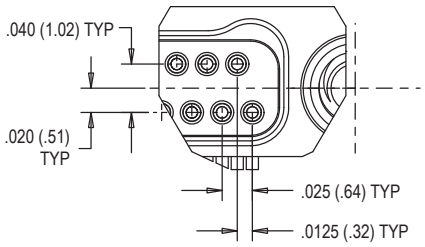
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

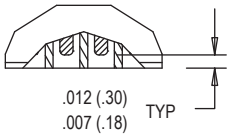
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

DETAIL A



DETAIL B



NOTES

1. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Hardware: passivated stainless steel
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

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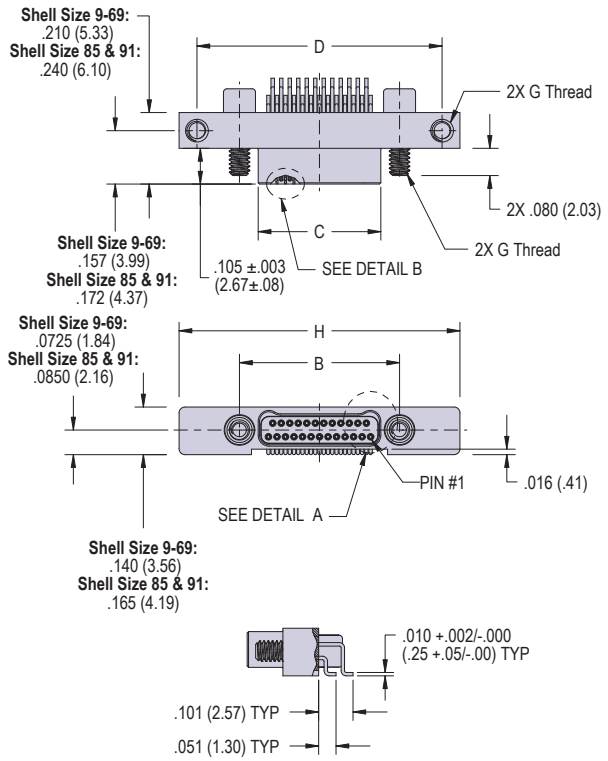
Dual-Row Rectangular Connectors

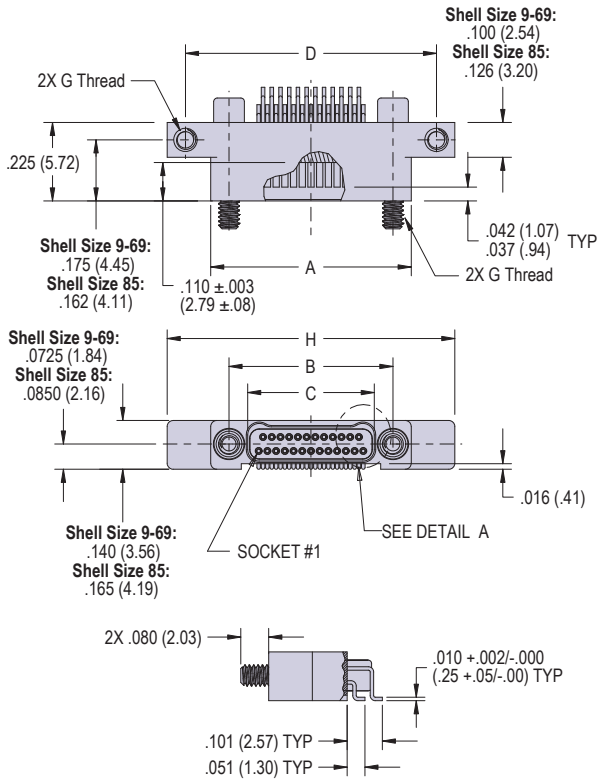
891-019 and 891-020 Right-Angle Surface Mount PCB Connector with Jackscrews

DIMENSIONS

891-019 Plug (Pin) Connectors



891-020 Receptacle (Socket) Connectors



Layout	A	B BSC.	C BSC.	D	G Thread	H
9P	--	.270 (6.86)	.160 (4.06)	.520 (13.21)	#0-80 UNF	.625 (15.88)
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.520 (13.21)	#0-80 UNF	.625 (15.88)
15P	--	.345 (8.76)	.235 (5.97)	.595 (15.11)	#0-80 UNF	.700 (17.78)
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.595 (15.11)	#0-80 UNF	.700 (17.78)
21P	--	.420 (10.67)	.310 (7.87)	.670 (17.02)	#0-80 UNF	.775 (19.69)
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.670 (17.02)	#0-80 UNF	.775 (19.69)
25P	--	.470 (11.94)	.360 (9.14)	.720 (18.29)	#0-80 UNF	.825 (20.96)
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.720 (18.29)	#0-80 UNF	.825 (20.96)
31P	--	.545 (13.84)	.435 (11.05)	.795 (20.19)	#0-80 UNF	.900 (22.86)
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.795 (20.19)	#0-80 UNF	.900 (22.86)
37P	--	.620 (15.75)	.510 (12.95)	.870 (22.10)	#0-80 UNF	.975 (24.77)
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.870 (22.10)	#0-80 UNF	.975 (24.77)
41P	--	.670 (17.02)	.560 (14.22)	.920 (23.37)	#0-80 UNF	1.025 (26.04)
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.920 (23.37)	#0-80 UNF	1.025 (26.04)
51P	--	.795 (20.19)	.685 (17.40)	1.045 (26.54)	#0-80 UNF	1.150 (29.21)
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	1.045 (26.54)	#0-80 UNF	1.150 (29.21)
65P	--	.970 (24.64)	.860 (21.84)	1.220 (30.99)	#0-80 UNF	1.325 (33.66)
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	1.220 (30.99)	#0-80 UNF	1.325 (33.66)
69P	--	1.020 (25.91)	.910 (23.11)	1.270 (32.26)	#0-80 UNF	1.375 (34.93)
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	1.270 (32.26)	#0-80 UNF	1.375 (34.93)
85P	--	1.246 (31.65)	1.110 (28.19)	1.546 (39.27)	#2-56 UNC	1.679 (42.65)
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	1.546 (39.27)	#2-56 UNC	1.679 (42.65)
91P	--	1.321 (33.55)	1.185 (30.10)	1.621 (41.17)	#2-56 UNC	1.754 (44.55)
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	1.621 (41.17)	#2-56 UNC	1.754 (44.55)

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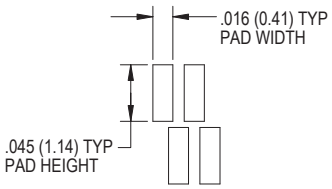
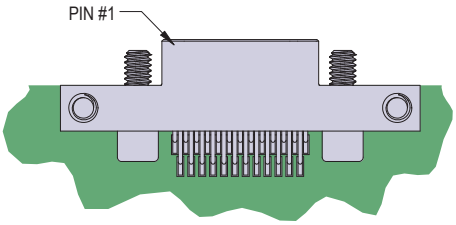
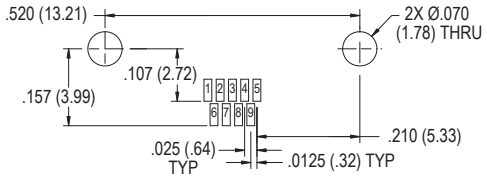
891-019 Right-Angle Surface Mount PCB with Jackscrews - Plug Pad Footprint

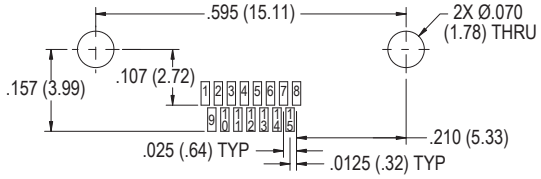


PAD FOOTPRINT DETAIL

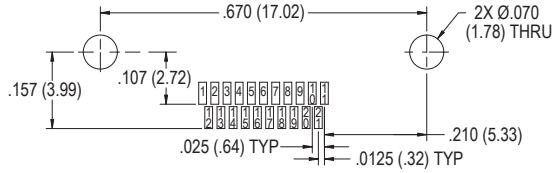




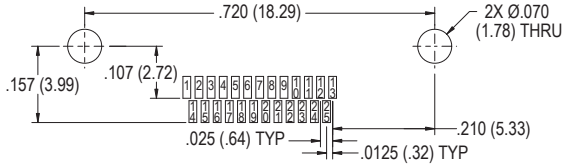
9 Contacts



15 Contacts



21 Contacts



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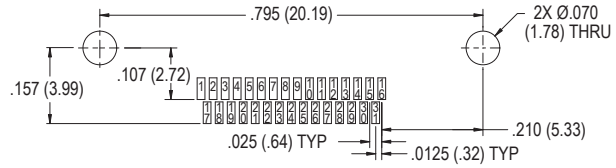
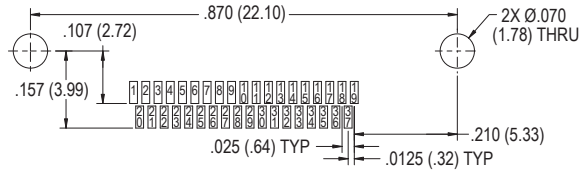
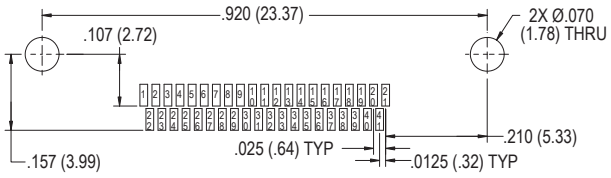


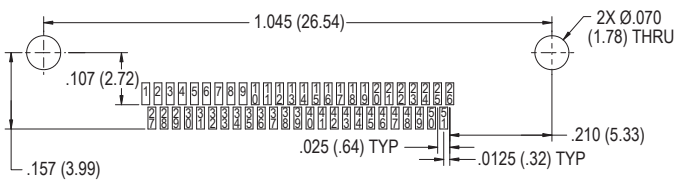
31 Contacts



37 Contacts



41 Contacts



51 Contacts

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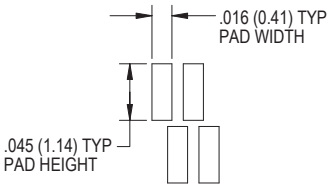
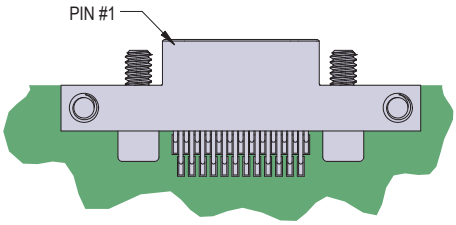
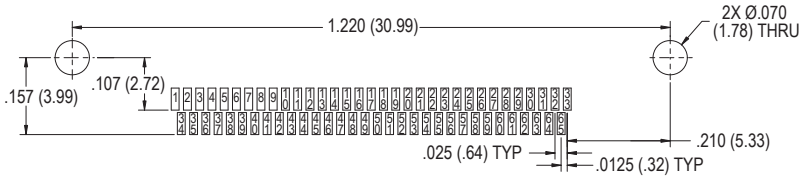
891-019 Right-Angle Surface Mount PCB with Jackscrews - Plug Pad Footprint



PAD FOOTPRINT DETAIL





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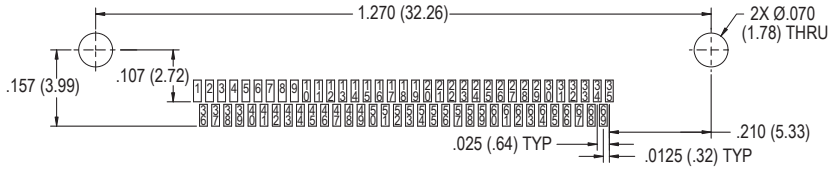
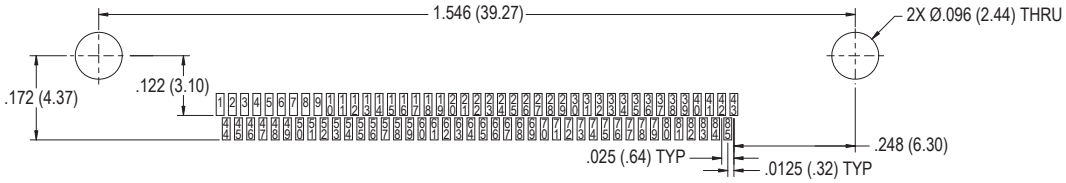
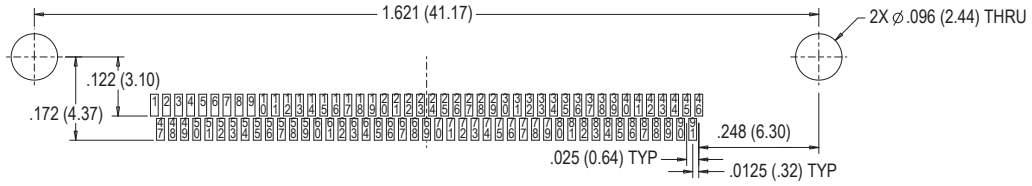


69 Contacts



85 Contacts



91 Contacts

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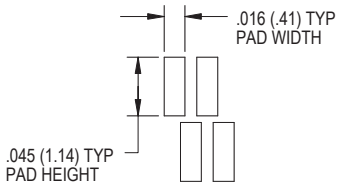
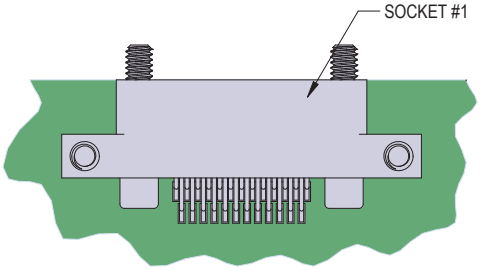
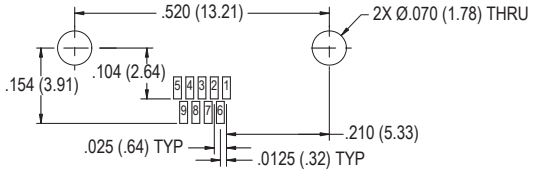
891-020 Right-Angle Surface Mount PCB with Jackscrews - Receptacle Pad Footprint



PAD FOOTPRINT DETAIL





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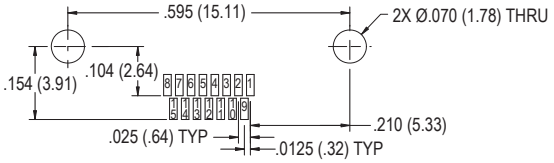

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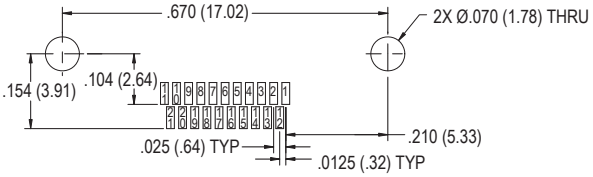
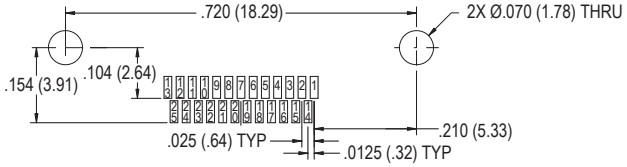


21 Contacts



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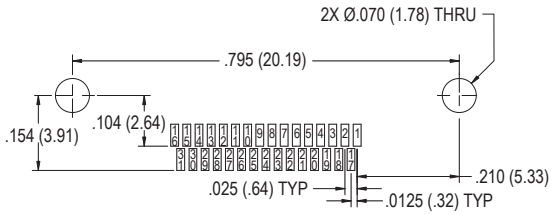

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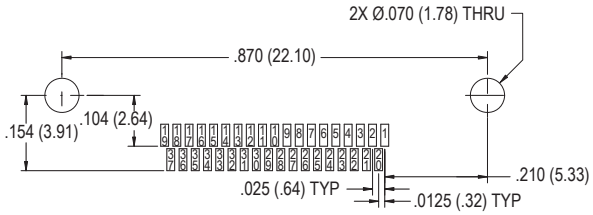
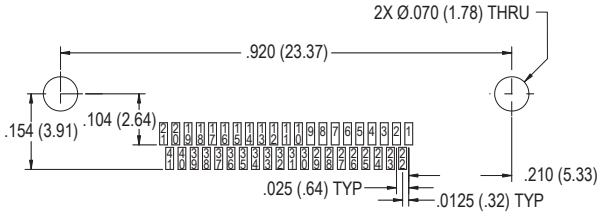


37 Contacts



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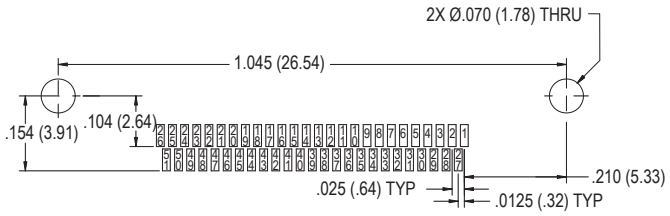

51 Contacts

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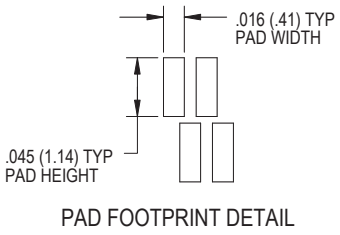
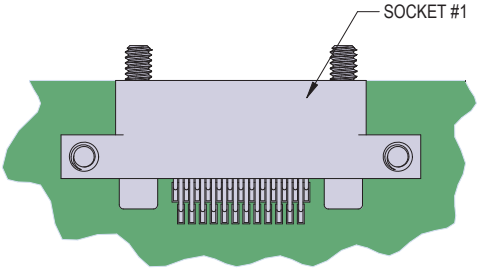
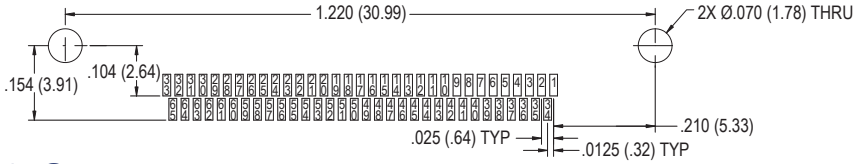
891-020 Right-Angle Surface Mount PCB with Jackscrews - Receptacle Pad Footprint

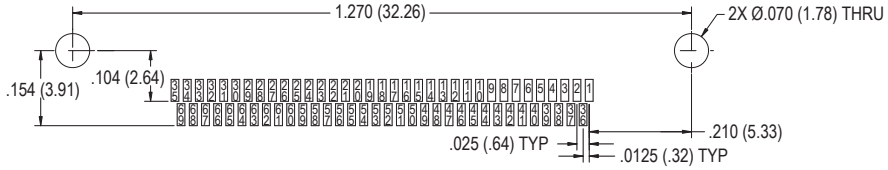


PAD FOOTPRINT DETAIL

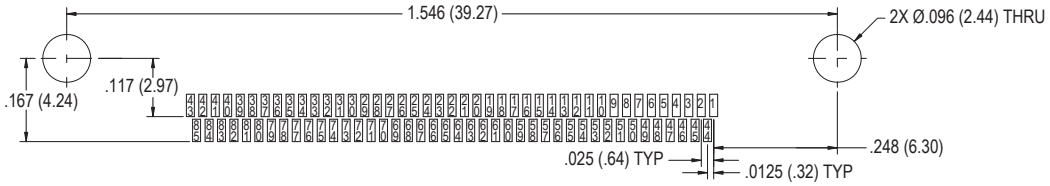




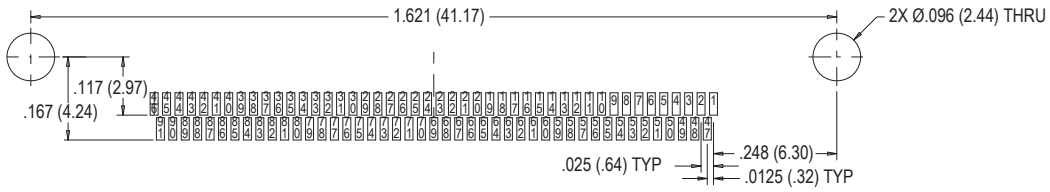
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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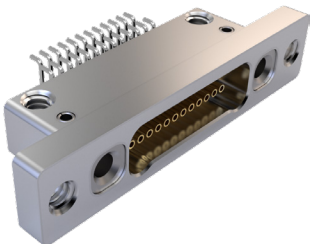
Dual-Row Rectangular Connectors

891-052 Front Panel Mount, Right-Angle Surface Mount PCB Receptacle



Front Panel Mount PCB Surface Mount Connectors offer premium performance and reliability for demanding applications. Available with female threads for board level applications.

Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in 12 layouts from 9 to 91 contacts. MIL-DTL-32139 type connectors are intermateable with any corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	891-052	-25S	A2	-BRS	T	C

Series	**891-052** = Receptacle, Front Panel Mount Right-Angle PCB Surface Mount
Insert Arrangement/ Contact Type	Sockets (891-052 Receptacle): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**BRS** = Board Right-Angle Surface Mount
Hardware	**T** = Female Thread (#0-80 for size 9-69, #2-56 for size 85) (Stainless Steel Inserts installed in Aluminum Shells, tapped directly into stainless steel and titanium shells)
Mounting Hole Option	**C** = Thru-Hole **T** = Female Thread

PANEL MOUNT CONNECTOR MOUNTING MATRIX

Connector Holes	Panel Holes	Mounting Location
Tapped	Clearance	Rear Panel Mount
Clearance	Tapped	Front Panel Mount
Clearance	Clearance	Front or Rear Panel Mount with screw and nut

RECEPTACLE HARDWARE



T - Female Thread Hardware with C - Thru-Hole Mount



T - Female Thread Hardware with T - Female Thread Mount

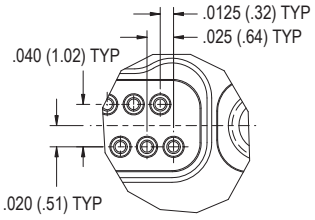
PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Inspect and Test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/4
3. Panel cutout will allow for lobe up or down connector mounting.
4. Front or rear panel mounting dependent on selected mounting hole option
5. Recommended panel thickness: .100 (2.54) max

DETAIL A



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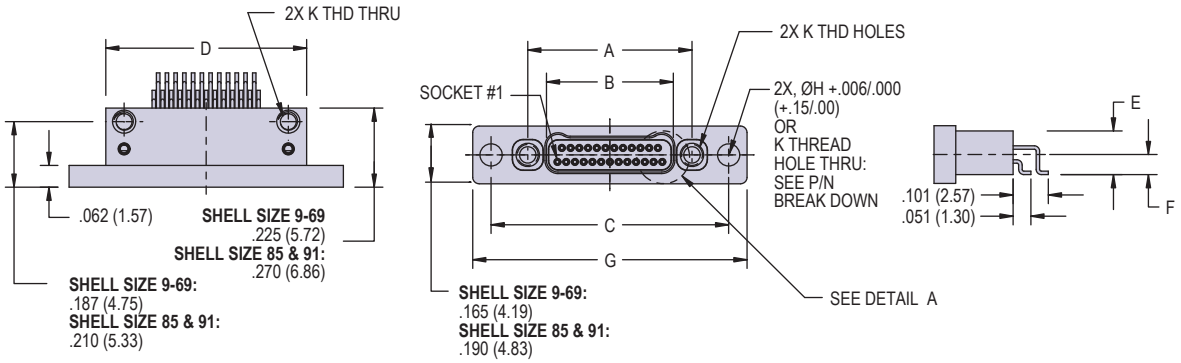
891-052 Front Panel Mount, Right-Angle Surface Mount PCB Receptacle

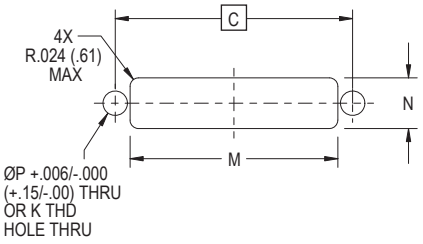
DIMENSIONS

891-052 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F BSC	G	H	K
9S	.270 (6.86)	.163 (4.14)	.480 (12.19)	.375 (9.52)	.125 (3.18)	.0575 (1.46)	.585 (14.86)	.0635 (1.61)	#0-80 UNF-2B
15S	.345 (8.76)	.238 (6.05)	.555 (14.10)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.660 (16.76)	.0635 (1.61)	#0-80 UNF-2B
21S	.420 (10.67)	.313 (7.95)	.630 (16.00)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.735 (18.67)	.0635 (1.61)	#0-80 UNF-2B
25S	.470 (11.94)	.363 (9.22)	.680 (17.27)	.575 (14.60)	.125 (3.18)	.0575 (1.46)	.785 (19.94)	.0635 (1.61)	#0-80 UNF-2B
31S	.545 (13.84)	.438 (11.13)	.755 (19.18)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.860 (21.84)	.0635 (1.61)	#0-80 UNF-2B
37S	.620 (15.75)	.513 (13.03)	.830 (21.08)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.935 (23.75)	.0635 (1.61)	#0-80 UNF-2B
41S	.670 (17.02)	.563 (14.30)	.880 (22.35)	.775 (19.68)	.125 (3.18)	.0575 (1.46)	.985 (25.02)	.0635 (1.61)	#0-80 UNF-2B
51S	.795 (20.19)	.688 (17.48)	1.005 (25.53)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	1.110 (28.19)	.0635 (1.61)	#0-80 UNF-2B
65S	.970 (24.64)	.863 (21.92)	1.180 (29.97)	1.075 (27.30)	.125 (3.18)	.0575 (1.46)	1.285 (32.64)	.0635 (1.61)	#0-80 UNF-2B
69S	1.020 (25.91)	.913 (23.19)	1.230 (31.24)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	1.335 (33.91)	.0635 (1.61)	#0-80 UNF-2B
85S	1.246 (31.65)	1.113 (28.27)	1.527 (38.79)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.677 (42.60)	.0890 (2.26)	#2-56 UNC-2B
91S	1.321 (33.55)	1.188 (30.18)	1.602 (40.69)	1.452 (36.88)	.150 (3.81)	.0700 (1.78)	1.752 (44.50)	.0890 (2.26)	#2-56 UNC-28

PANEL CUT-OUT DIMENSIONS



Shell Size	C	K	M	N	P
9	.480 (12.19)	#0-80 UNF-2B	.395 (10.03)	.145 (3.68)	.070 (1.78)
15	.555 (14.10)	#0-80 UNF-2B	.470 (11.94)		
21	.630 (16.00)	#0-80 UNF-2B	.545 (13.84)		
25	.680 (17.27)	#0-80 UNF-2B	.595 (15.11)		
31	.755 (19.18)	#0-80 UNF-2B	.670 (17.02)		
37	.830 (21.08)	#0-80 UNF-2B	.745 (18.92)		
41	.880 (22.35)	#0-80 UNF-2B	.795 (20.19)		
51	1.005 (25.53)	#0-80 UNF-2B	.920 (23.37)		
65	1.180 (29.97)	#0-80 UNF-2B	1.095 (27.81)		
69	1.230 (31.24)	#0-80 UNF-2B	1.145 (29.08)		
85	1.527 (38.79)	#2-56 UNC-2B	1.397 (35.48)	.170 (4.32)	.096 (2.44)
91	1.602 (40.69)	#2-56 UNC-2B	1.472 (37.39)		

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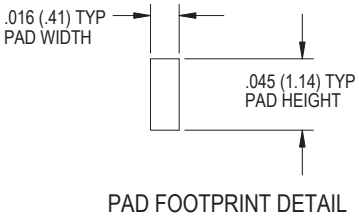
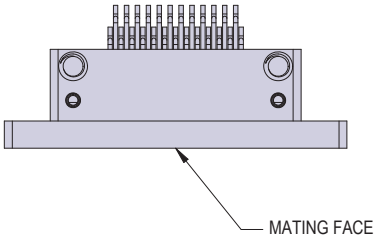
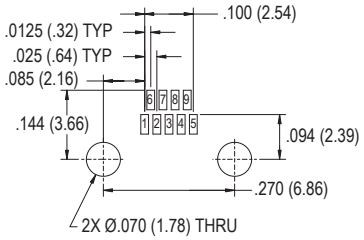
891-052 Front Panel Mount, Right-Angle Surface Mount PCB Receptacle - PCB Pad Footprint

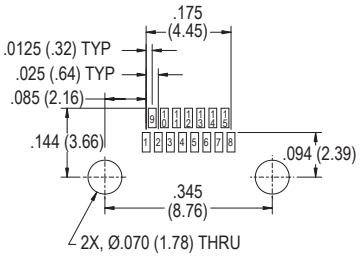


PAD FOOTPRINT DETAIL





9 Contacts



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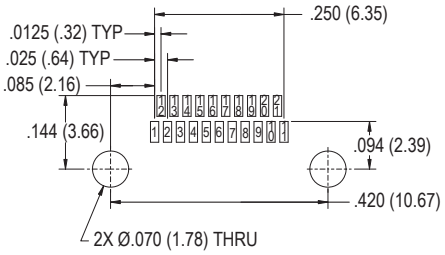

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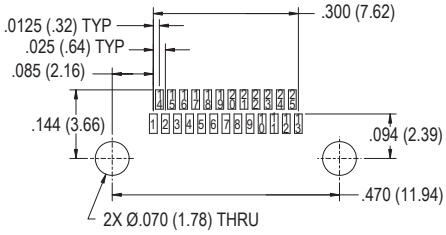

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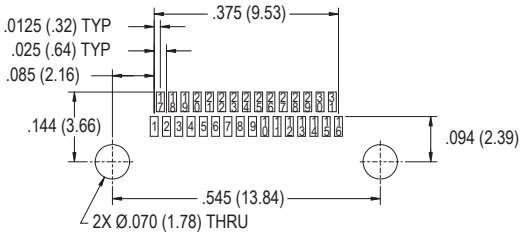

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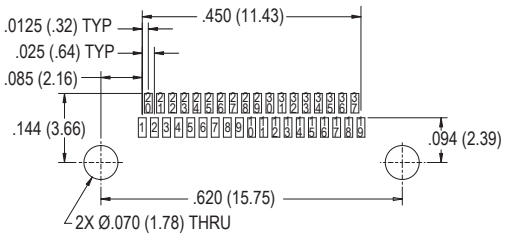

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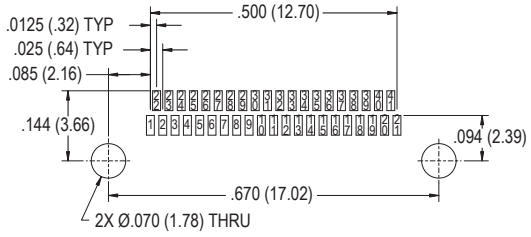
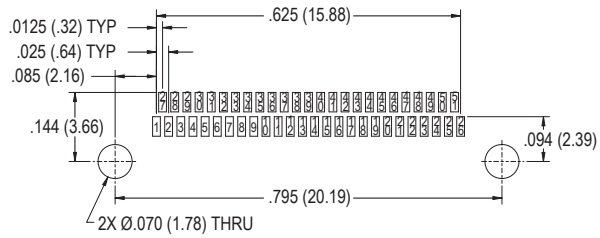


41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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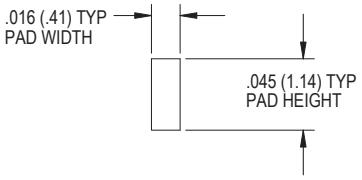
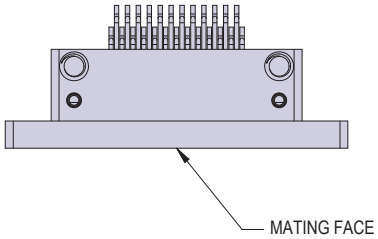
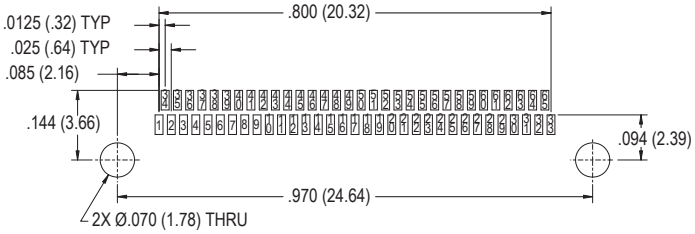
891-052 Front Panel Mount, Right-Angle Surface Mount PCB Receptacle - PCB Pad Footprint

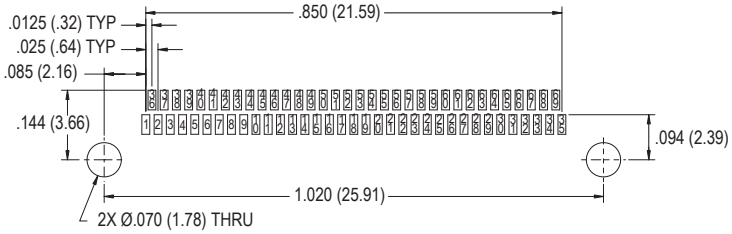


PAD FOOTPRINT DETAIL

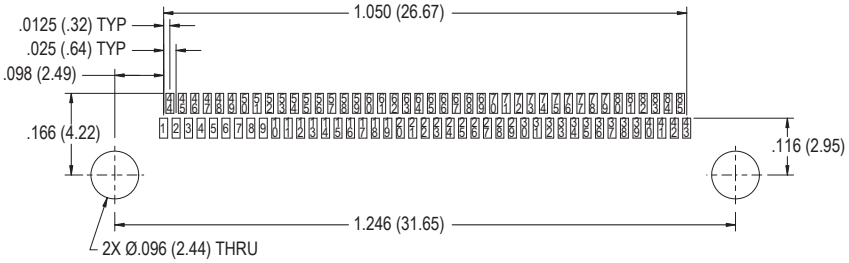




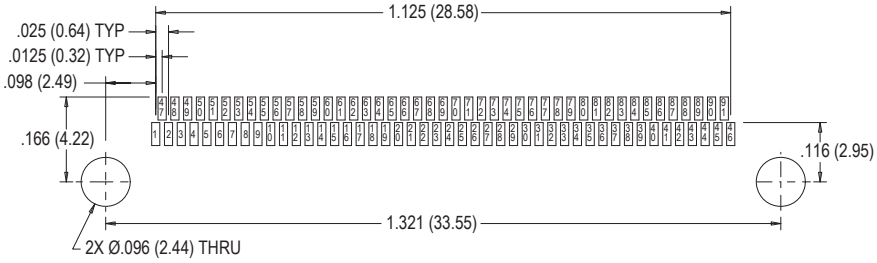
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

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Dual-Row Rectangular Connectors

891-014 and 891-015 Straddle Mount Connector



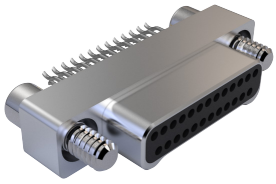
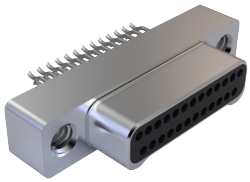
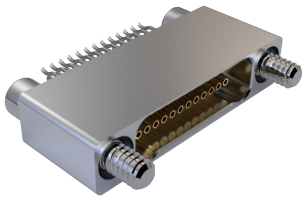
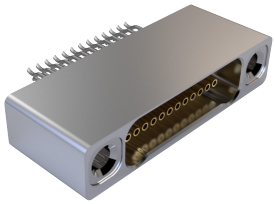
Straddle Mount PCB Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with female threads, or with jackscrews for use with flexible circuits.

Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. Complies to the requirements of MIL-DTL-32139. These connectors are intermateable with any MIL-DTL-32139 compliant connector or Glenair Series 891 Dual-Row metal shell nanominiature connector.

HOW TO ORDER

Sample Part Number	891-014	-25P	A2	-STM	J
Series	**891-014** = Plug **891-015** = Receptacle				
Insert Arrangement/Contact Type	Pins (891-014 Plug): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-015 Receptacle): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**				
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated				
Termination Type	**STM** = Straddle Mount				
Hardware	**J** = Jackscrew **T** = Female Threads (Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells)				

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

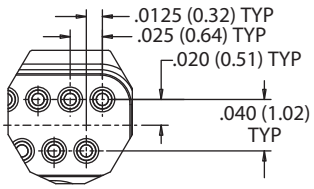
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

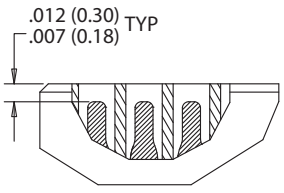
NOTES

1. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Hardware: passivated stainless steel
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 and /4

DETAIL A



DETAIL B



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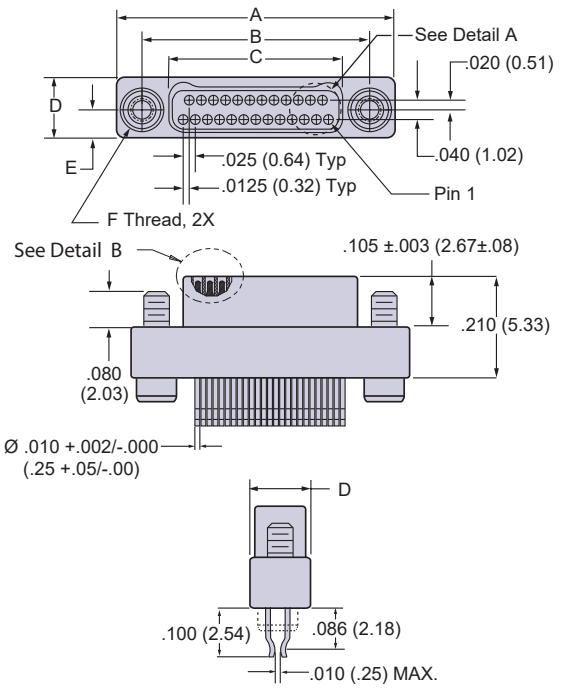
Dual-Row Rectangular Connectors

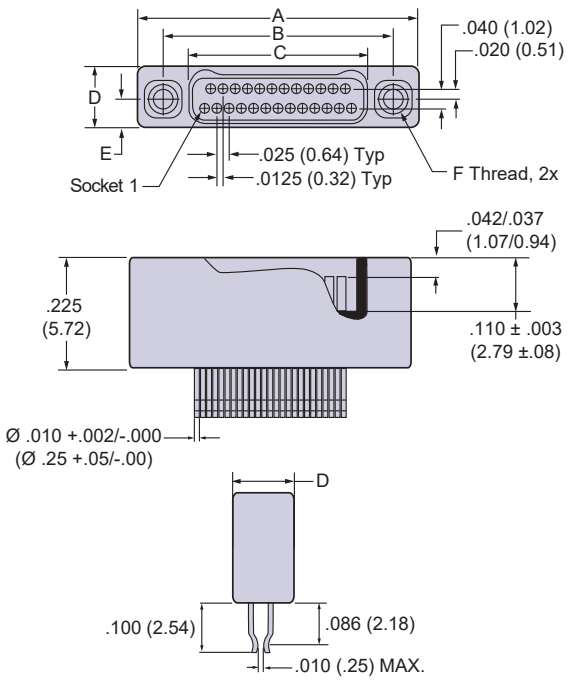
891-014 and 891-015 Straddle Mount Connector

DIMENSIONS

891-014 Plug (Pin) Connectors



891-015 Receptacle (Socket) Connectors



Layout	A ± .005 (± 0.13)	B BSC.	C BSC.	D ± .005 (± 0.13)	E BSC	F Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56UNC
91S	1.452 (36.88)	1.321 (33.55)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56UNC

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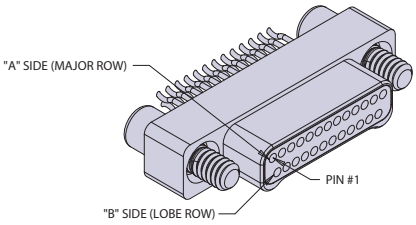
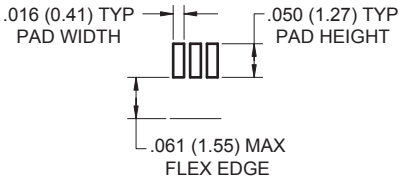
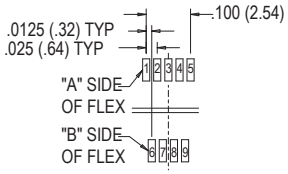
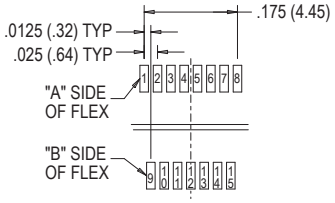
891-014 Straddle Mount Connector - Plug Footprint





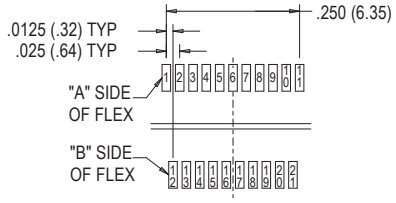
PAD DETAIL

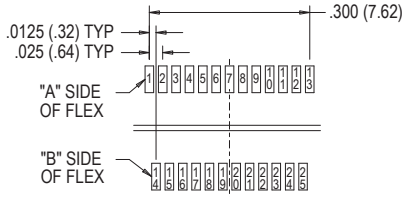




9 Contacts

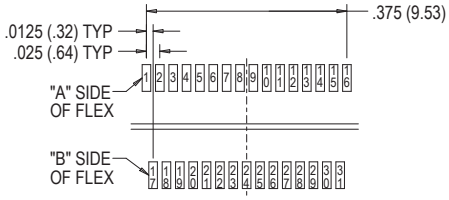
15 Contacts

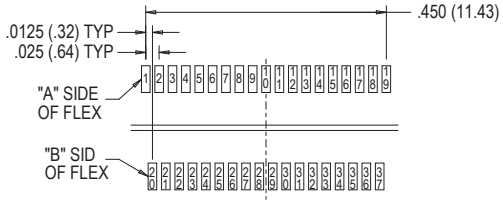




21 Contacts

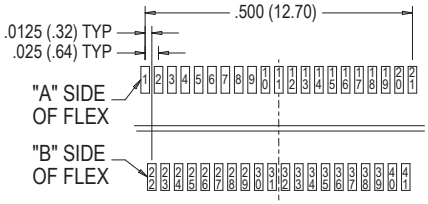
25 Contacts

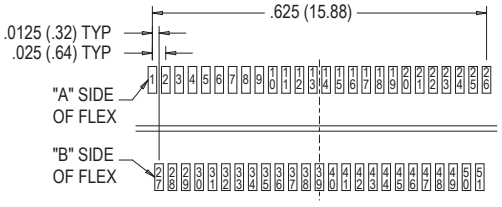




31 Contacts

37 Contacts





41 Contacts

51 Contacts

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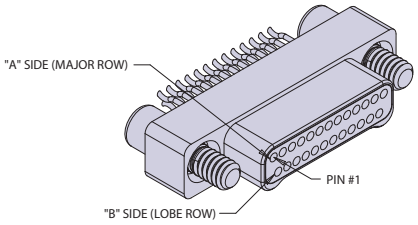
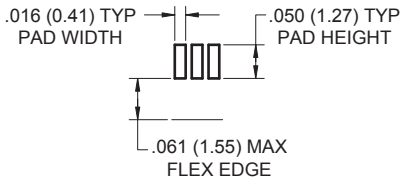
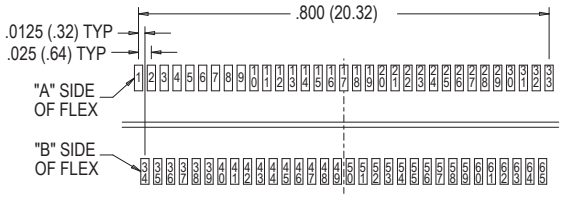
891-014 Straddle Mount Connector - Plug Footprint

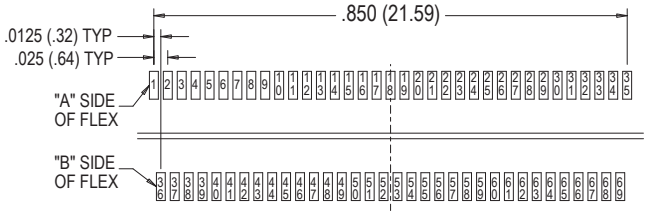




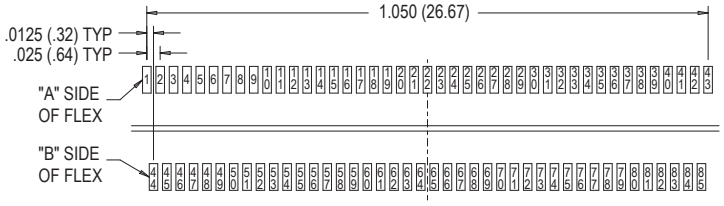
PAD DETAIL



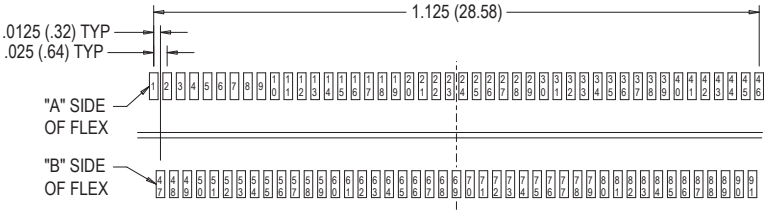
65 Contacts



69 Contacts



85 Contacts



91 Contacts

Layouts shown are for connector mounting side of PC Board.

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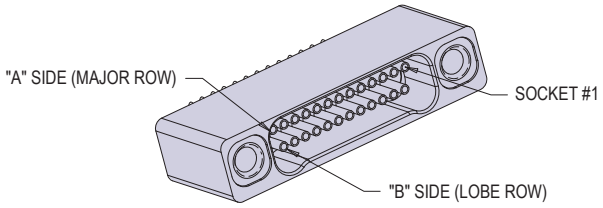
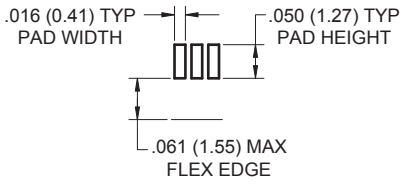
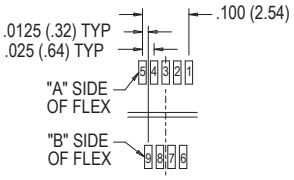
891-015 Straddle Mount Connector - Receptacle Footprint

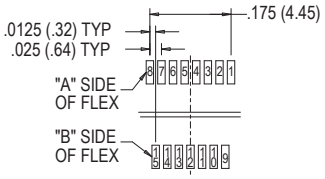




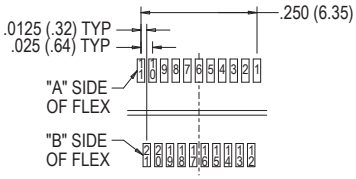
PAD DETAIL



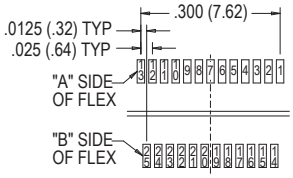
9 Contacts



15 Contacts



21 Contacts



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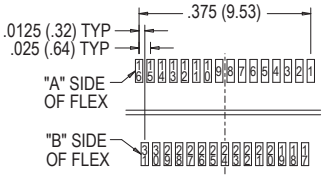
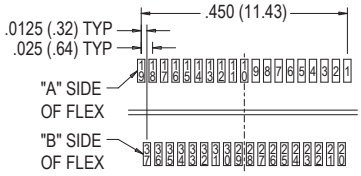
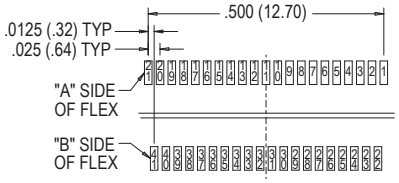


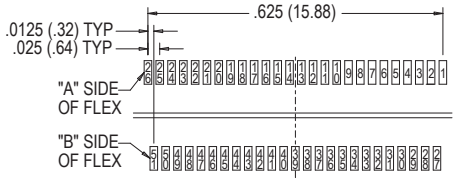
31 Contacts



37 Contacts



41 Contacts



51 Contacts

Layouts shown are for connector mounting side of PC Board.

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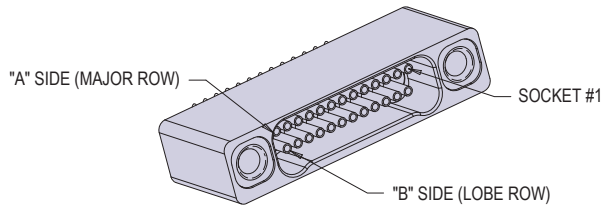
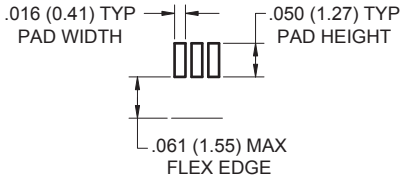
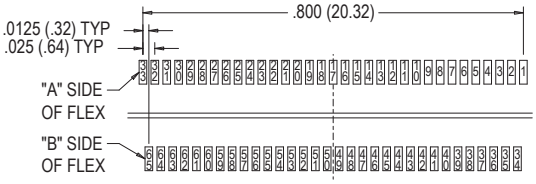
891-015 Straddle Mount Connector - Receptacle Footprint

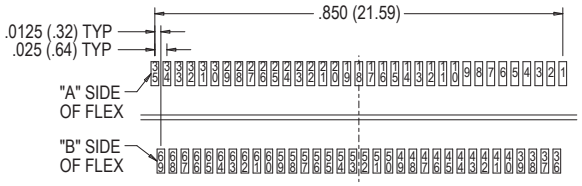




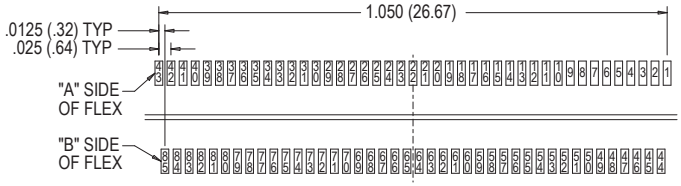
PAD DETAIL



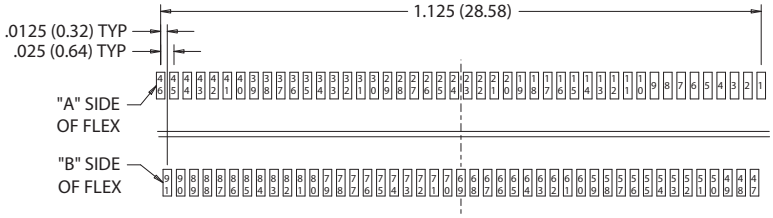
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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Dual-Row Rectangular Connectors

891-035 and 891-036 Rear Panel Mount, Gasket-Sealed, Straddle Mount Connector

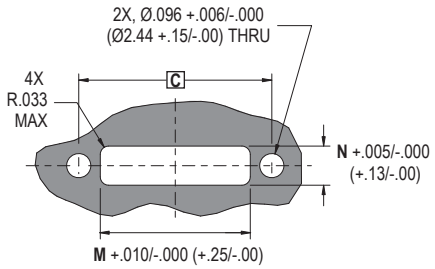


Rear Panel Mount, Straddle Mount PCB Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with female threads for use with flexible circuits. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability. Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. MIL-DTL-32139 type connectors are intermateable with any corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

Gasket Seals fuorosilicone, Cho-Seal 1298 and Cho-Seal 6503 available. For replacement gaskets see 899-015.

HOW TO ORDER

Sample Part Number	891-035	-25P	S	-STM	T	-01	M
Series	**891-035** = Plug, Straddle Mount Connector **891-036** = Receptacle, Straddle Mount Connector						
Insert Arrangement/ Contact Type	Pins (891-035 Plug): **9P**, **15P**, **21P**, **25P**, **31P**, **37P**, **41P**, **51P**, **65P**, **69P**, **85P**, **91P** Sockets (891-036 Receptacle): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**						
Shell Material and Finish	**T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated						
Termination Type	**STM** = Straddle Mount						
Hardware	**T** = Female Thread (#0-80 for size 9-69, #2-56 for size 85 & 91)						
Gasket Material	**Omit** for No Gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528 **03** = Nickel Plated Aluminum Filled Fluorosilicone, (Cho-Seal 6503 or Equivalent)						
Mounting Thread Option	**Omit** for #2-56 UNC-2B **M** = M2X0.4 6H						



PANEL CUT-OUT DIMENSIONS

Shell Size	C	M	N
9	.566 (14.38)	.395 (10.03)	.155 (3.94)
15	.641 (16.28)	.470 (11.94)	.155 (3.94)
21	.716 (18.19)	.545 (13.84)	.155 (3.94)
25	.766 (19.46)	.595 (15.11)	.155 (3.94)
31	.841 (21.36)	.670 (17.02)	.155 (3.94)
37	.916 (23.27)	.745 (18.92)	.155 (3.94)
41	.966 (24.54)	.795 (20.19)	.155 (3.94)
51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)
91	1.643 (41.73)	1.472 (37.39)	.180 (4.57)

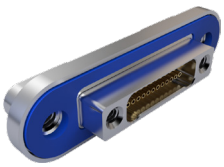
Panel cutout lobe in either up or down orientation.
Recommended panel thickness .100 (2.54)

PLUG HARDWARE



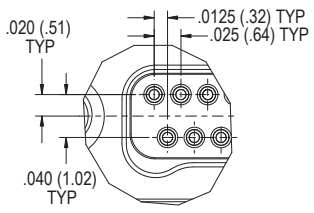
T - Female Thread

RECEPTACLE HARDWARE



T - Female Thread

DETAIL A



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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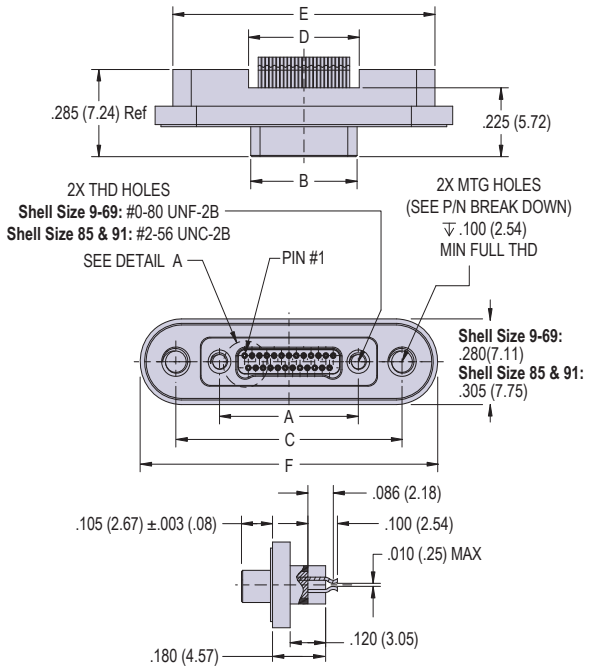
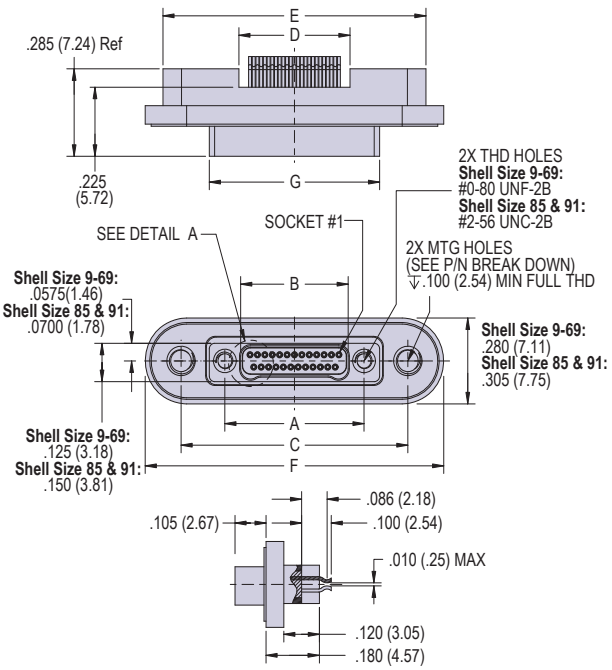
891-035 and 891-036 Rear Panel Mount, Gasket-Sealed, Straddle Mount Connector

DIMENSIONS

891-035 Plug (Pin) Connectors



891-036 Receptacle (Socket) Connectors



Layout	A BSC	B BSC.	C BSC.	D	E	F	G
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	.175 (4.44)	.688 (17.48)	.808 (20.52)	--
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.175 (4.44)	.688 (17.48)	.808 (20.52)	.375 (9.52)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	.250 (6.35)	.763 (19.38)	.883 (22.43)	--
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.250 (6.35)	.763 (19.38)	.883 (22.43)	.450 (11.43)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	.325 (8.25)	.838 (21.29)	.958 (24.33)	--
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.325 (8.25)	.838 (21.29)	.958 (24.33)	.525 (13.34)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	.375 (9.52)	.888 (22.56)	1.008 (25.60)	--
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.375 (9.52)	.888 (22.56)	1.008 (25.60)	.575 (14.60)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	.450 (11.43)	.963 (24.46)	1.083 (27.51)	--
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.450 (11.43)	.963 (24.46)	1.083 (27.51)	.650 (16.51)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	--
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)	.725 (18.42)
41P	.670 (17.02)	.560 (14.22)	.966 (24.54)	.575 (14.60)	1.088 (27.64)	1.208 (30.68)	--
41S	.670 (17.02)	.563 (14.30)	.966 (24.54)	.575 (14.60)	1.088 (27.64)	1.208 (30.68)	.775 (19.68)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	--
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)	.900 (22.86)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	--
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)	1.075 (27.30)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	--
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)	1.125 (28.58)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	--
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)	1.377 (34.98)
91P	1.321 (33.55)	1.185 (30.10)	1.643 (41.73)	1.200 (30.48)	1.765 (44.83)	1.885 (47.88)	--
91S	1.321 (33.55)	1.188 (30.18)	1.643 (41.73)	1.200 (30.48)	1.765 (44.83)	1.885 (47.88)	1.452 (36.88)

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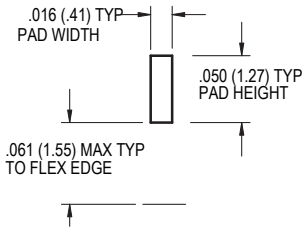
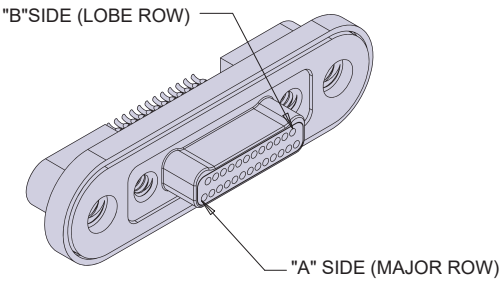
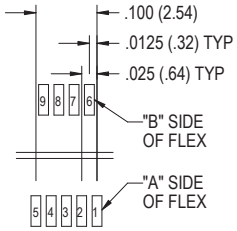
891-035 Rear Panel Mount, Gasket-Sealed, Straddle Mount - Plug Pad Footprint

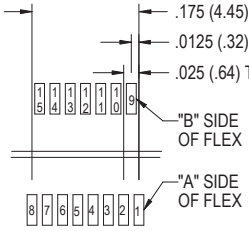


PAD FOOTPRINT DETAIL

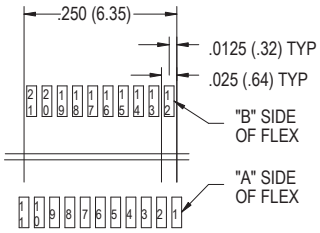




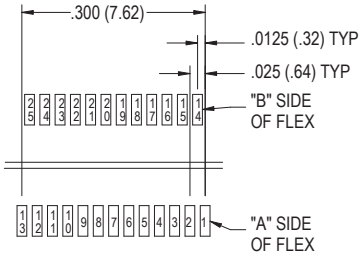
9 Contacts



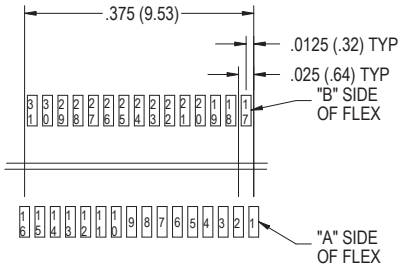
15 Contacts



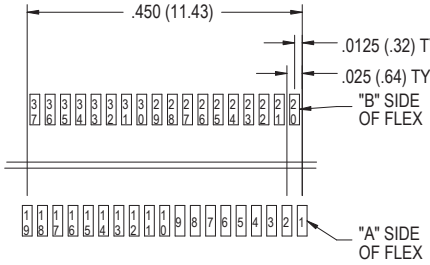
21 Contacts



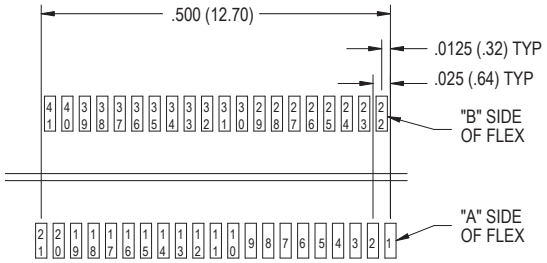
25 Contacts



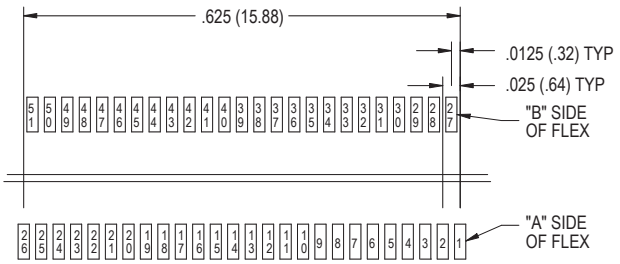
31 Contacts



37 Contacts



41 Contacts



51 Contacts

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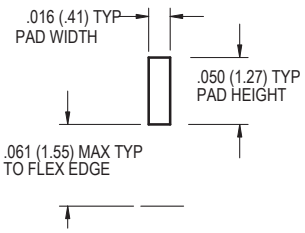
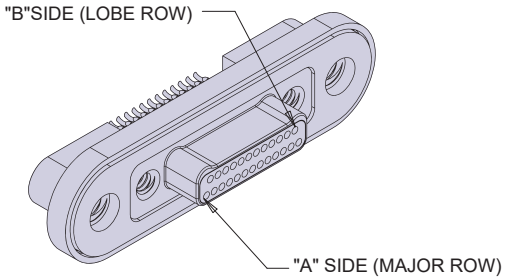
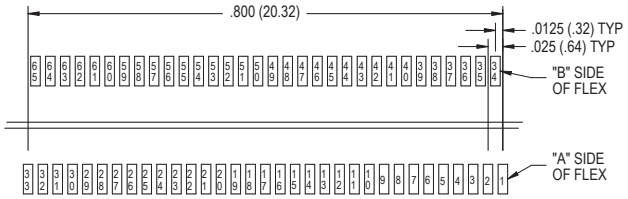
891-035 Rear Panel Mount, Gasket-Sealed, Straddle Mount - Plug Pad Footprint

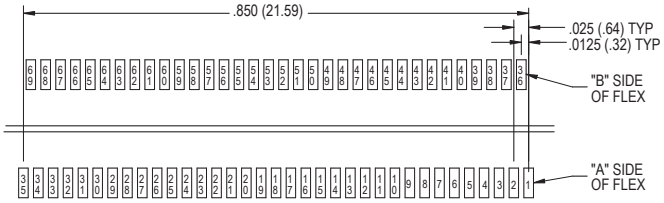


PAD FOOTPRINT DETAIL

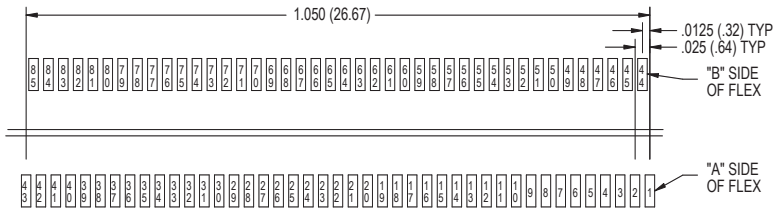




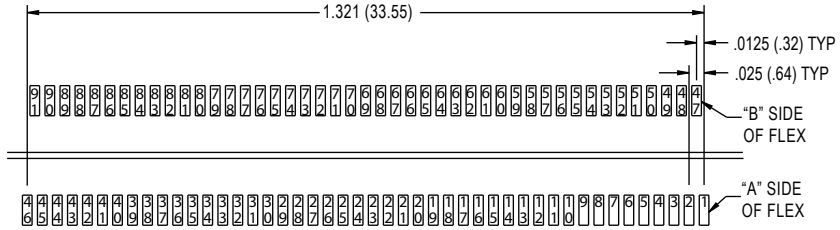
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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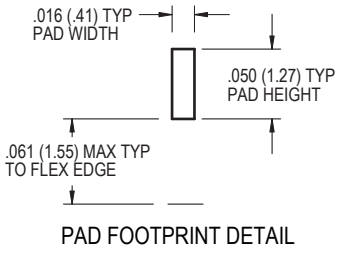
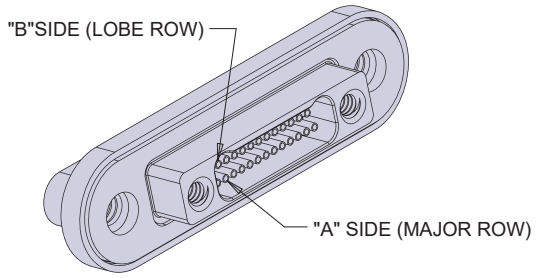
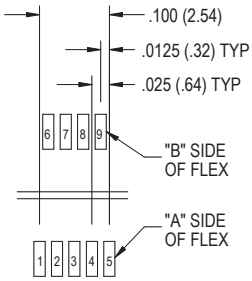
891-036 Rear Panel Mount, Gasket-Sealed, Straddle Mount - Receptacle Pad Footprint



PAD FOOTPRINT DETAIL





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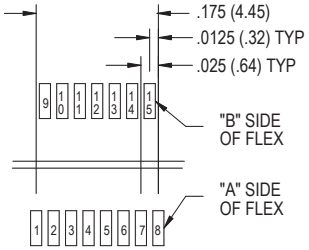

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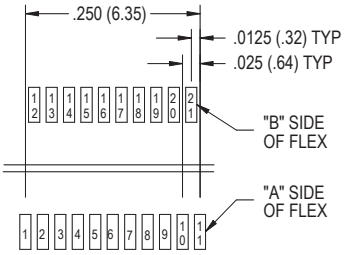

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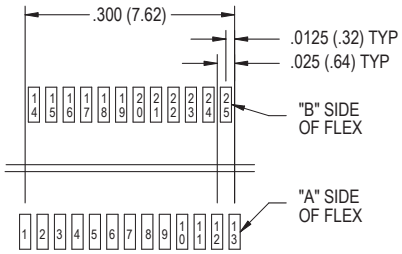

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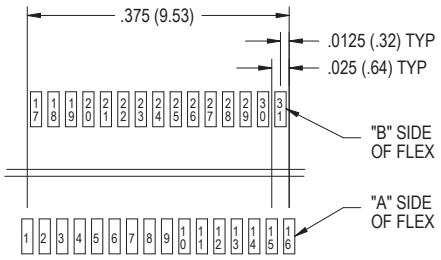
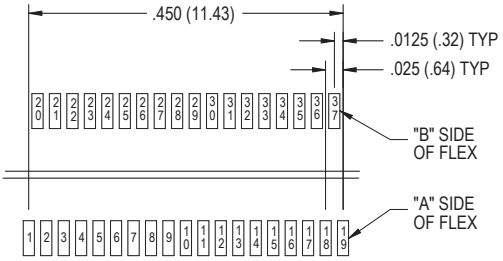
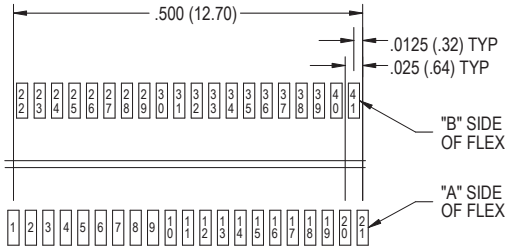


31 Contacts



37 Contacts



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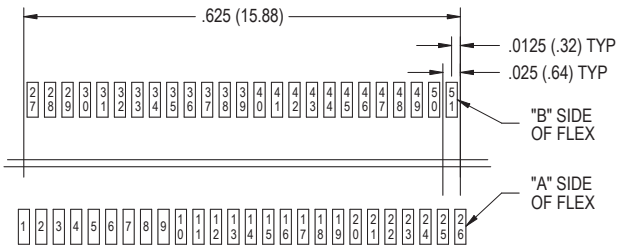

51 Contacts

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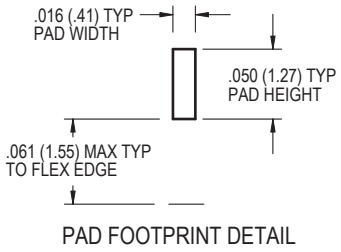
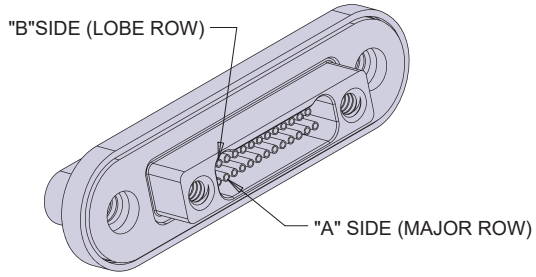
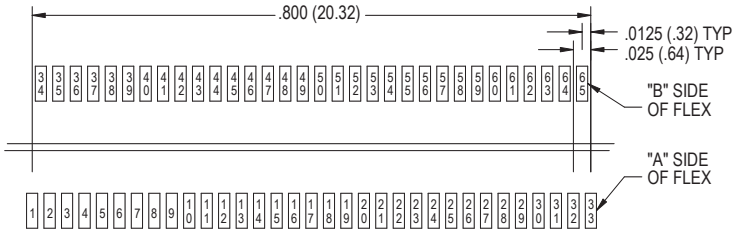
891-036 Rear Panel Mount, Gasket-Sealed, Straddle Mount - Receptacle Pad Footprint

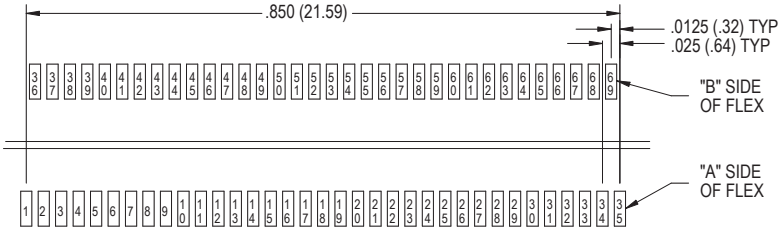


PAD FOOTPRINT DETAIL

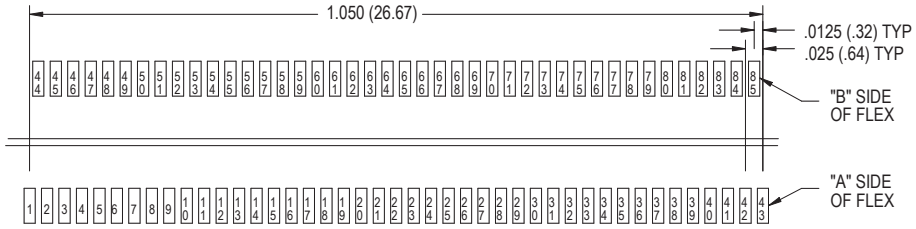




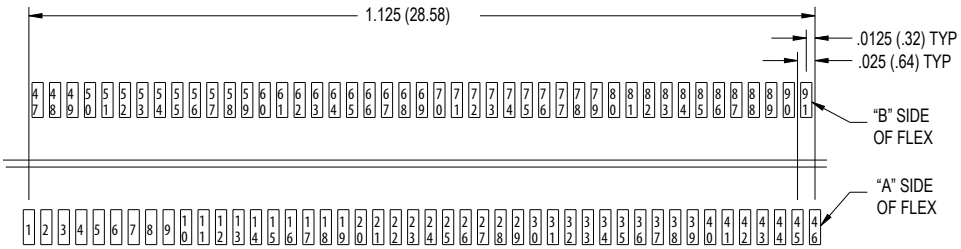
65 Contacts



69 Contacts



85 Contacts



91 Contacts

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Dual-Row Rectangular Connectors

891-051 Front Panel Mount, Straddle Mount Receptacle



Front Panel Mount, Straddle Mount Connectors offer premium performance and reliability for demanding applications. Available with female threads for use with flexible circuits. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

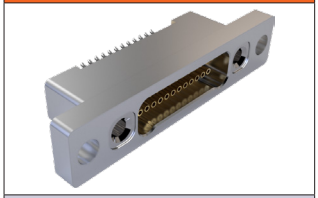
Choose Aluminum, Titanium or Stainless Steel Shells in twelve layouts from 9 to 91 contacts. MIL-DTL-32139 type connectors are intermateable with any corresponding Glenair Series 891 Dual-Row metal shell nanominiature connector.

HOW TO ORDER

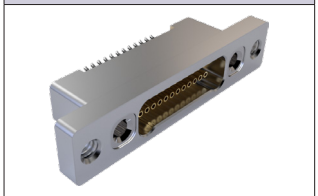
Sample Part Number	891-051	-25S	A2	-STM	T	C

Series	**891-051** = Receptacle, Straddle Mount
Insert Arrangement/ Contact Type	Sockets (Receptacle): **9S**, **15S**, **21S**, **25S**, **31S**, **37S**, **41S**, **51S**, **65S**, **69S**, **85S**, **91S**
Shell Material and Finish	**A1** = Aluminum Shell, Cadmium Plating **A2** = Aluminum Shell, Electroless Nickel Plating **A31** = Aluminum Shell, Zinc Nickel Plating, Black **A33** = Aluminum Shell, Nickel PTFE Plating **T** = Titanium Shell, Unplated **S** = Stainless Steel Shell, Passivated
Termination Type	**STM** = Straddle Mount
Hardware	**T** = Female Thread (#0-80 for size 9-69, #2-56 for size 85) (Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells)
Mounting Hole Option	**C** = Thru-Hole **T** = Female Thread

RECEPTACLE HARDWARE

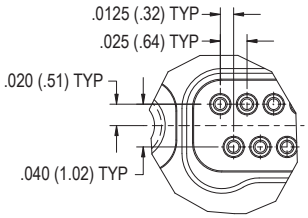


T - Female Thread Hardware
C - Thru-Hole Mount



T - Female Thread Hardware
C - Female Thread Mount

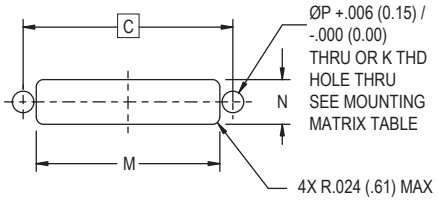
DETAIL A



PANEL MOUNT CONNECTOR MOUNTING MATRIX

Connector Holes	Panel Holes	Mounting Location
Tapped	Clearance	Rear Panel Mount
Clearance	Tapped	Front Panel Mount
Clearance	Clearance	Front or Rear Panel Mount with screw and nut

PANEL CUT-OUT DIMENSIONS



Shell Size	C	K	M	N	P
9	.480 (12.19)	#0-80 UNF-2B	.395 (10.03)	.145 (3.68)	.070 (1.78)
15	.555 (14.10)	#0-80 UNF-2B	.470 (11.94)	.145 (3.68)	.070 (1.78)
21	.630 (16.00)	#0-80 UNF-2B	.545 (13.84)	.145 (3.68)	.070 (1.78)
25	.680 (17.27)	#0-80 UNF-2B	.595 (15.11)	.145 (3.68)	.070 (1.78)
31	.755 (19.18)	#0-80 UNF-2B	.670 (17.02)	.145 (3.68)	.070 (1.78)
37	.830 (21.08)	#0-80 UNF-2B	.745 (18.92)	.145 (3.68)	.070 (1.78)
41	.880 (22.35)	#0-80 UNF-2B	.795 (20.19)	.145 (3.68)	.070 (1.78)
51	1.005 (25.53)	#0-80 UNF-2B	.920 (23.37)	.145 (3.68)	.070 (1.78)
65	1.180 (29.97)	#0-80 UNF-2B	1.095 (27.81)	.145 (3.68)	.070 (1.78)
69	1.230 (31.24)	#0-80 UNF-2B	1.145 (29.08)	.145 (3.68)	.070 (1.78)
85	1.527 (38.79)	#2-56 UNC-2B	1.397 (35.48)	.170 (4.32)	.096 (2.44)
91	1.602 (40.69)	#2-56 UNC-2B	1.472 (37.39)	.170 (4.32)	.096 (2.44)

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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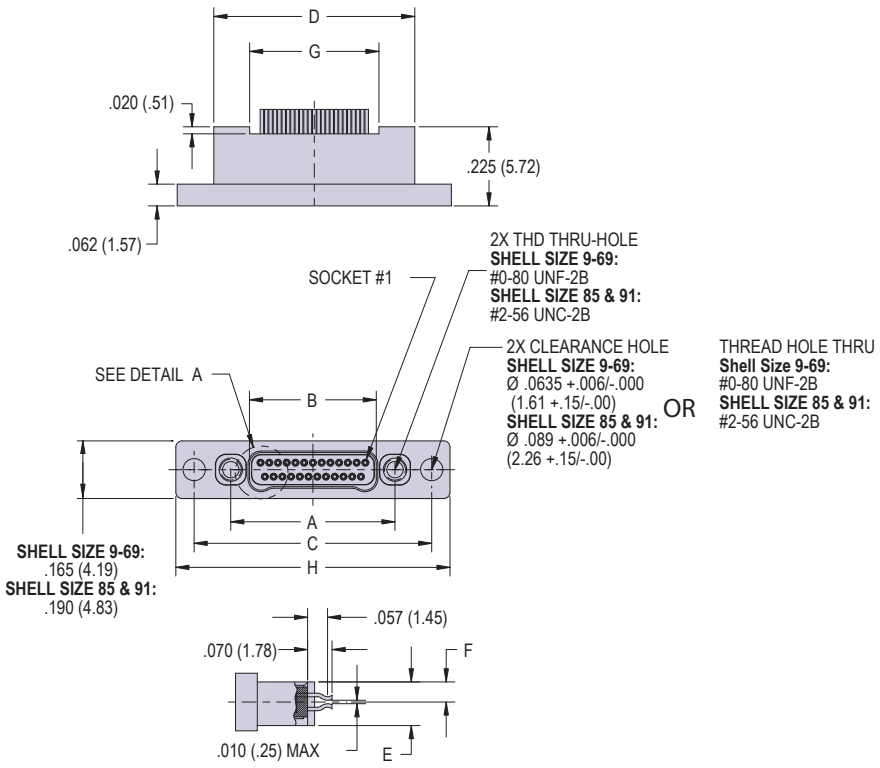
891-051 Front Panel Mount, Straddle Mount Receptacle

DIMENSIONS

891-051 Receptacle (Socket)



Layout	A BSC	B BSC.	C BSC.	D	E	F	G	H
9S	.270 (6.86)	.163 (4.14)	.480 (12.19)	.375 (9.52)	.125 (3.18)	.0575 (1.46)	.170 (4.32)	.585 (14.86)
15S	.345 (8.76)	.238 (6.05)	.555 (14.10)	.450 (11.43)	.125 (3.18)	.0575 (1.46)	.245 (6.22)	.660 (16.76)
21S	.420 (10.67)	.313 (7.95)	.630 (16.00)	.525 (13.34)	.125 (3.18)	.0575 (1.46)	.320 (8.13)	.735 (18.67)
25S	.470 (11.94)	.363 (9.22)	.680 (17.27)	.575 (14.60)	.125 (3.18)	.0575 (1.46)	.370 (9.40)	.785 (19.94)
31S	.545 (13.84)	.438 (11.13)	.755 (19.18)	.650 (16.51)	.125 (3.18)	.0575 (1.46)	.445 (11.30)	.860 (21.84)
37S	.620 (15.75)	.513 (13.03)	.830 (21.08)	.725 (18.42)	.125 (3.18)	.0575 (1.46)	.520 (13.21)	.935 (23.75)
41S	.670 (17.02)	.563 (14.30)	.880 (22.35)	.775 (19.68)	.125 (3.18)	.0575 (1.46)	.570 (14.48)	.985 (25.02)
51S	.795 (20.19)	.688 (17.48)	1.005 (25.53)	.900 (22.86)	.125 (3.18)	.0575 (1.46)	.695 (17.65)	1.110 (28.19)
65S	.970 (24.64)	.863 (21.92)	1.180 (29.97)	1.075 (27.30)	.125 (3.18)	.0575 (1.46)	.870 (22.10)	1.285 (32.64)
69S	1.020 (25.91)	.913 (23.19)	1.230 (31.24)	1.125 (28.58)	.125 (3.18)	.0575 (1.46)	.920 (23.37)	1.335 (33.91)
85S	1.246 (31.65)	1.113 (28.27)	1.527 (38.79)	1.377 (34.98)	.150 (3.81)	.0700 (1.78)	1.120 (28.45)	1.677 (42.60)
91S	1.321 (33.55)	1.188 (30.18)	1.602 (40.69)	1.452 (36.88)	.150 (3.81)	.0700 (1.78)	1.195 (30.35)	1.752 (44.50)

NOTES

1. Inspect and Test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/4
3. Panel cutout is sized to allow connector mounting with either lobe up or down orientation.
4. Connector may be mounted to front or back of panel depending on selected mount hole option
5. Recommended panel thickness: .100 (2.54)
6. Material and Finish
   - Shell: see part number break down
   - Insulator: LCP/N/A
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Jacking hardware: see part number break down

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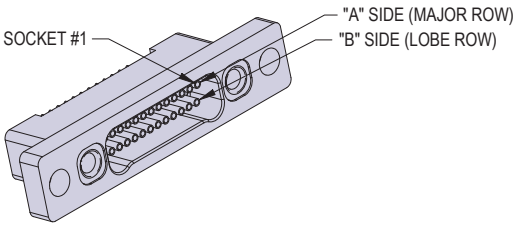
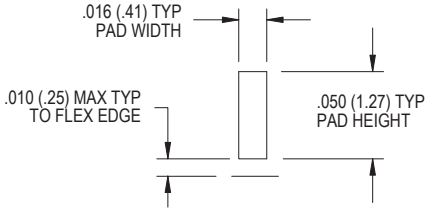
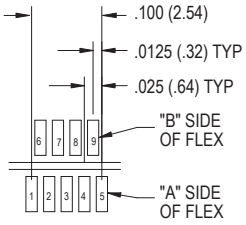
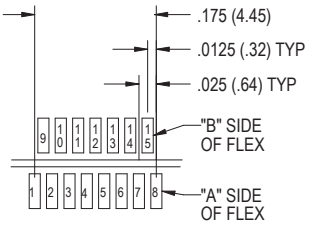
891-051 Front Panel Mount, Straddle Mount Receptacle - Receptacle Pad Footprint



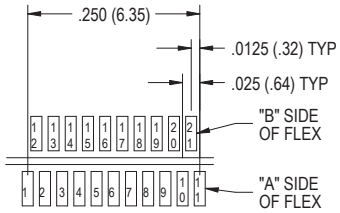


PAD FOOTPRINT DETAIL





9 Contacts



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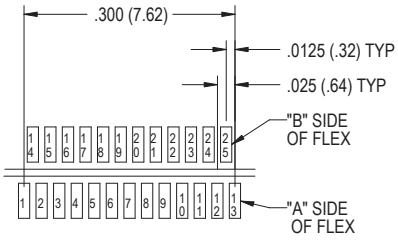
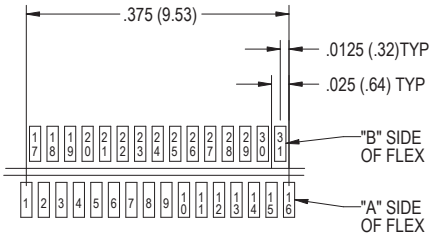


21 Contacts



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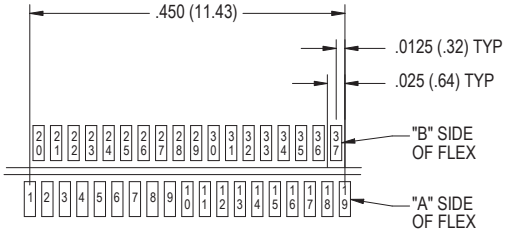
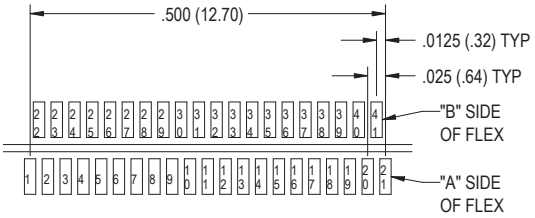
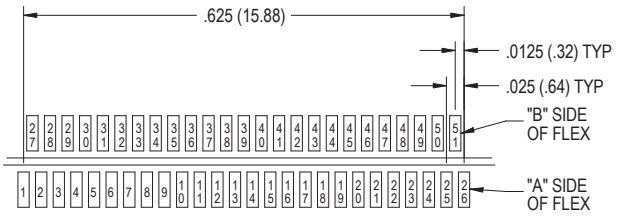


31 Contacts



37 Contacts



41 Contacts

51 Contacts

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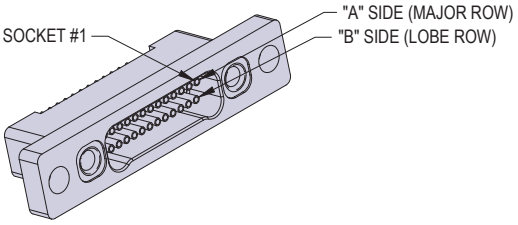
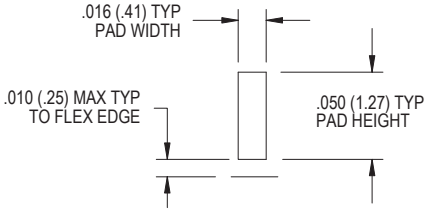
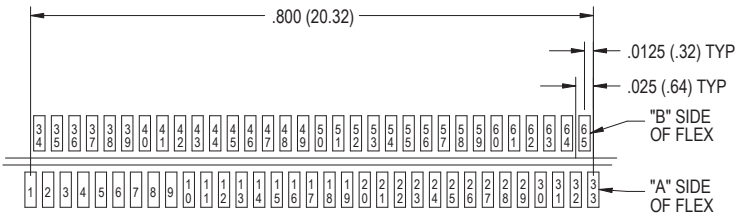
891-051 Front Panel Mount, Straddle Mount Receptacle - Receptacle Pad Footprint

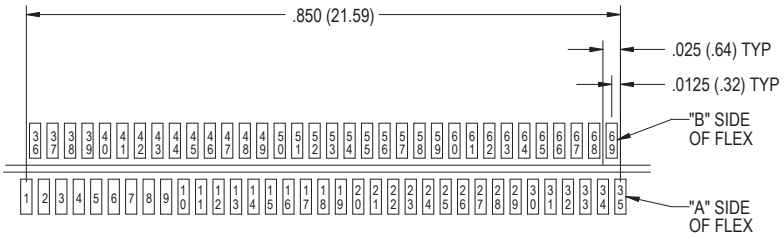




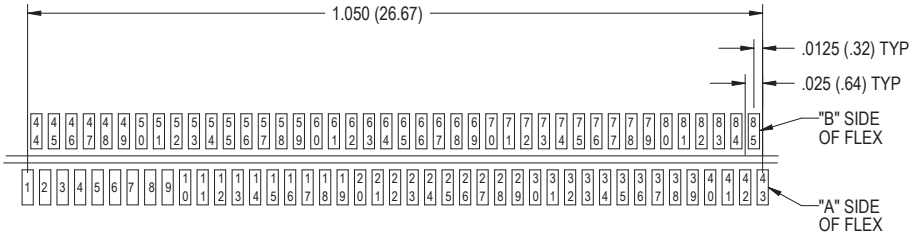
PAD FOOTPRINT DETAIL



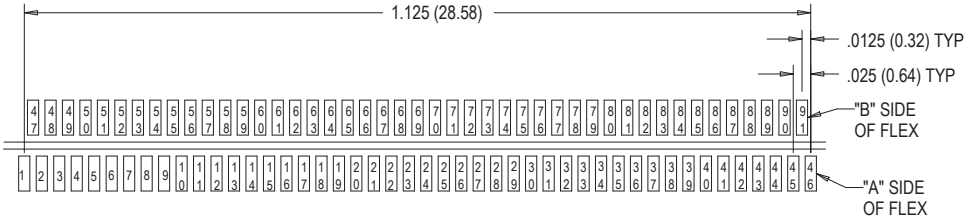
65 Contacts



69 Contacts



85 Contacts



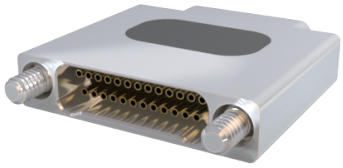
91 Contacts

Layouts shown are for connector mounting side of PC Board.

Dual-Row Rectangular Connectors

891-016 Sav-Con® Connector Saver





Glenair Connector Savers protect expensive connector contacts with Glenair Connector Savers. Once installed this device will reduce wear on vital contacts and eliminate downtime due to fouled or damaged connectors.

HOW TO ORDER

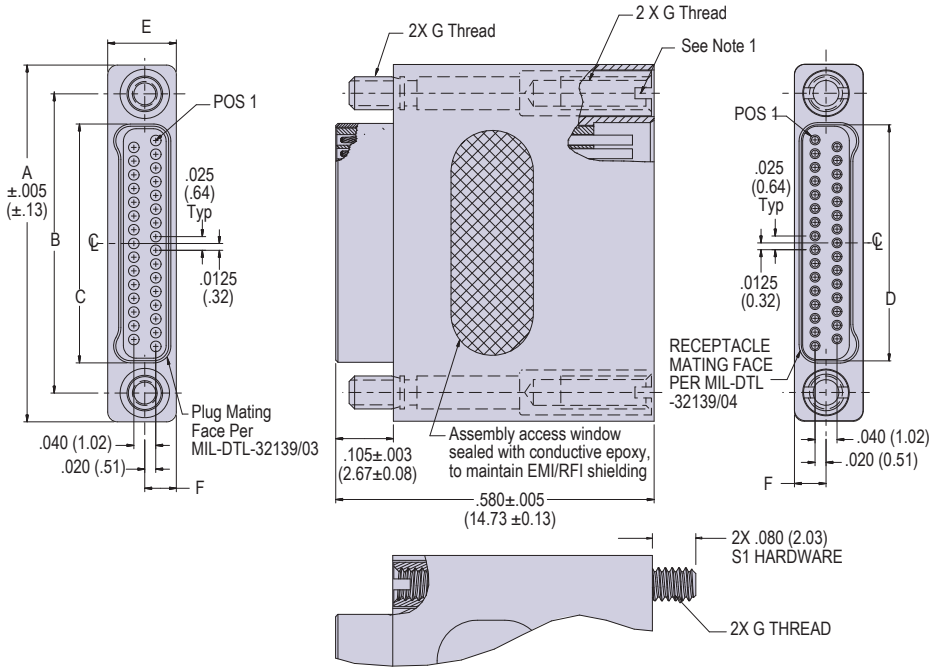
Sample Part Number	891-016	-31	US	P1
Series	**891-016** = Dual-Row Connector Saver			
Number of Contacts	**9, 15, 21, 25, 31, 37, 41, 51, 65, 69, 85, 91**			
Connector Type	**US** = Plug to Socket One Piece Shell			
Hardware	**P1** = Permanently Installed Jackscrew/Jackpost Male Thread on Plug Side **S1** = Permanently installed Jackscrew/Jackpost Male Thread on Receptacle Side			

NOTES

1. Jack post head has a slot drive. Use slotted blade miniature screwdriver. #0-80 Blade tip .018" Thick x .080" Wide. #2-56 Blade tip .025" Thick x .105" wide. Jackscrew/jackpost recommended torque: #0-80 0.5 - 1.0 in-lbs, #2-56 0.75 - 1.5 in-lbs.
2. Aluminum shell, electroless nickel plated

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595



DIMENSIONS

Size	A	B Bsc	C Bsc	D Bsc	E	F	G Thrd
9	.375 (9.52)	.270 (6.86)	.160 (4.06)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15	.450 (11.43)	.345 (8.76)	.235 (5.97)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21	.525 (13.34)	.420 (10.67)	.310 (7.87)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25	.575 (14.60)	.470 (11.94)	.360 (9.14)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31	.650 (16.51)	.545 (13.84)	.435 (11.05)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37	.725 (18.42)	.620 (15.75)	.510 (12.95)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41	.775 (19.68)	.670 (17.02)	.560 (14.22)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51	.900 (22.86)	.795 (20.19)	.685 (17.40)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65	1.075 (27.30)	.970 (24.64)	.860 (21.84)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	1.188 (30.18)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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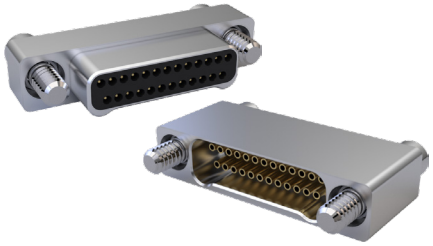
Dual-Row Rectangular Connectors

891-037 and 891-038 Plug and Receptacle Shorting Connector



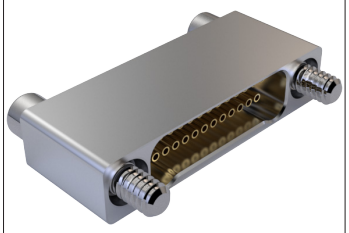
Nano Plug, Dual-Row Shorting Connectors feature gold alloy TwistPin contacts. These nanominiature shorting connectors provide ESD protection for sensitive instrumentation. Available with #0-80 or #2-56 female threads or jackscrews.

Typical Applications shorting plugs and receptacles protect unmated connectors from stray EMI and ESD which could lead to damage of sensitive components.

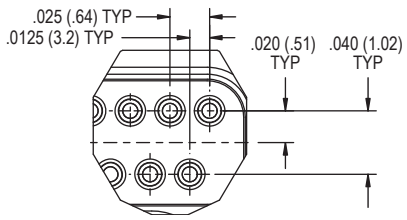
HOW TO ORDER

Sample Part Number	891-037	-25P	A2	-C	-J

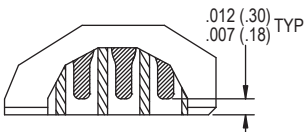
Series	**891-037** Plug Shorting Connector **891-038** Receptacle Shorting Connector
Insert Arrangement/ Contact Type	Plugs (891-037): **9P, 15P, 21P, 25P, 31P, 37P, 41P, 51P, 65P, 69P, 85P** Receptacles (891-038): **9S, 15S, 21S, 25S, 31S, 37S, 41S, 51S, 65S, 69S, 85S**
Shell Material and Finish	**A1** - Aluminum Shell, Cadmium Plating **A2** - Aluminum Shell, Electroless Nickel Plating **A31** - Aluminum Shell, Zinc Nickel Plating, Black **A33** - Aluminum Shell, Nickel PTFE Plating **T** - Titanium Shell, Unplated **S** - Stainless Steel Shell, Passivated
Shorting Combination	**C** = All contacts shorted together, isolated from the shell **G** = All contacts shorted together, and grounded to the shell
Hardware	**J** - Hex Head Jackscrew **T** - Female Thread Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
J - Jackscrew	T - Female Thread	J - Jackscrew	T - Female Thread

DETAIL A



DETAIL B



NOTES

1. Inspect and Test IAW MIL-DTL-32139
2. Interface dimensions per MIL-DTL-32139/3 and MIL-DTL-32139/4

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 2v0

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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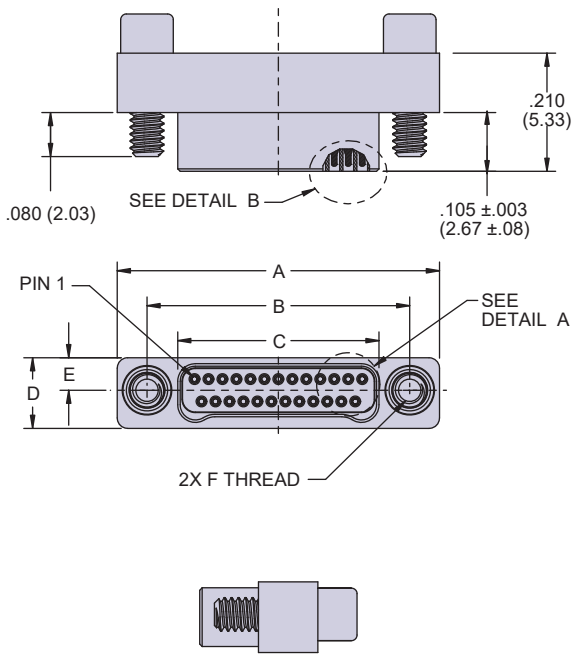
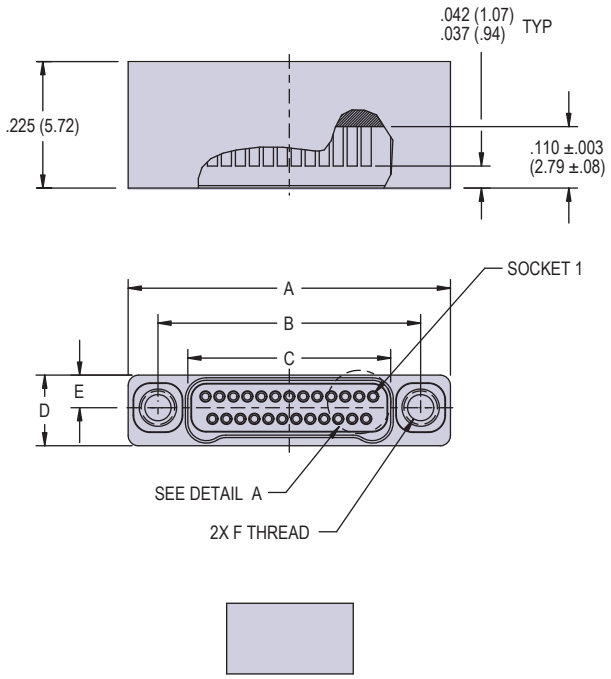
891-037 and 891-038 Plug and Receptacle Shorting Connector

DIMENSIONS

891-037 Plug (Pin) Connector



891-038 Receptacle (Socket) Connector



Layout	A ± .005(0.13)	B BSC.	C BSC.	D ± .005(0.13)	E BSC.	F Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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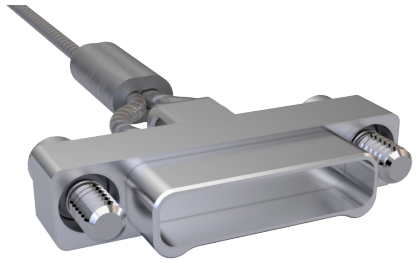
899-011 EMI Cover



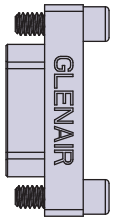
Glenair EMI Covers offer the same EMI protection as a mated connector from electromagnetic interference as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. These covers feature a solid one piece construction machined from your choice of aluminum, stainless steel or titanium. Standard aluminum finishes include cadmium or electroless nickel plating. Available with or without lanyard attachment. Covers are in accordance with interface dimensions for MIL-DTL-32139/3 and /4.

HOW TO ORDER

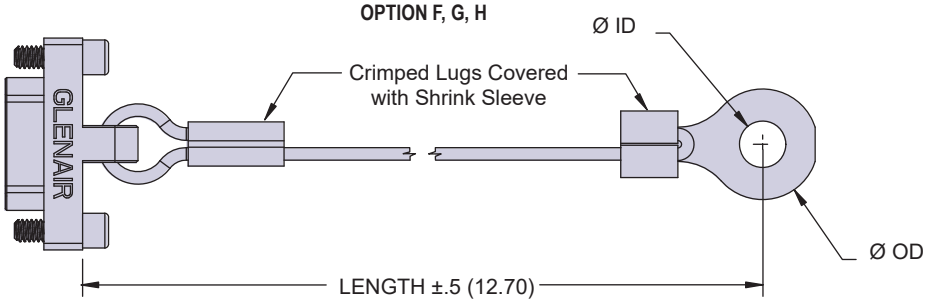
Sample Part Number	**899-011**	**-25**	**P**	**S**	**J**	**F**	**3**	**-126**

Series	**899-011** = Plug or Receptacle Cover
Insert Arrangement	**9**, **15**, **21**, **25**, **31**, **37**, **41**, **51**, **65**, **69**, **85**, **91**; See Dimensions Table
Body Style	**P** = Plug **S** = Receptacle
Cover Material and Finish	**A1** - Aluminum Shell, Cadmium Plating **A2** - Aluminum Shell, Electroless Nickel Plating **A31** - Aluminum Shell, Zinc Nickel Plating, Black **A33** - Aluminum Shell, Nickel PTFE Plating **T** - Titanium Shell, Unplated **S** - Stainless Steel Shell, Passivated
Hardware	**J** = Jackscrew **T** = Female Thread Stainless steel inserts installed in aluminum shells, tapped directly into stainless steel and titanium shells
Attachment Type	**N** = No Lanyard **F** = Stainless Steel Wire Rope, Nylon Jacket, Black, Ø .034 (0.86) **G** = Flexible Dacron Cord, MIL-DTL-5040, Type 1, Natural, Ø .0625 (1.59) **H** = Stainless Steel Wire Rope, Teflon Jacket, Black, Ø .034 (0.86) **K** = No Lanyard/No Eyelet Attachment Point
Attachment Length	Attachment Length in Inches; **Omit** for No Lanyard
Attachment Diameter	See Attachment Diameter Table; **Omit** for No Lanyard

OPTION K



OPTION F, G, H



ATTACHMENT DIAMETER

Attachment Diameter Code	-098	-126	-140	-156	-167	-188	-197	-218
ID	.098 (2.49)	.126 (3.20)	.140 (3.56)	.156 (3.96)	.167 (4.24)	.188 (4.78)	.197 (5.00)	.223/.218 (5.66/5.54)
OD	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)	.300 (7.62)

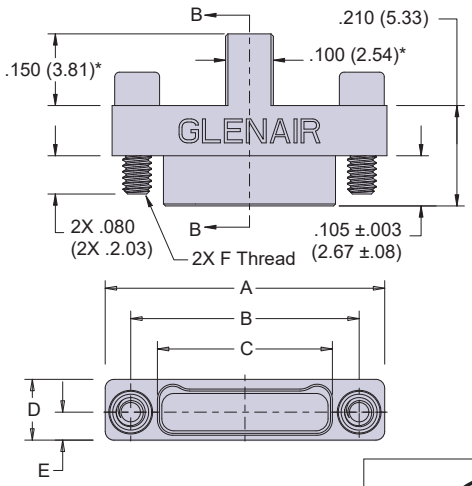
PERFORMANCE SPECIFICATIONS

Operating Temperature: -55° C. to +125° C.
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B

899-011 EMI Cover

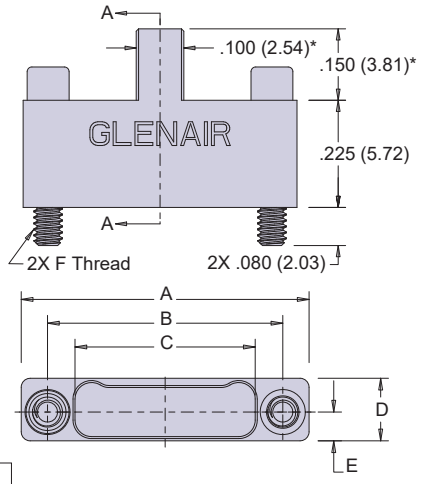
DIMENSIONS

Plug Cover

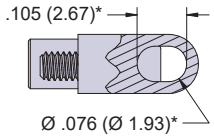


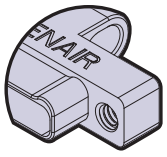
*** Dimensions are not applicable if attachment type "K" is chosen in part number.**

Receptacle Cover

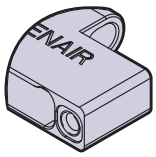


SECTION B-B



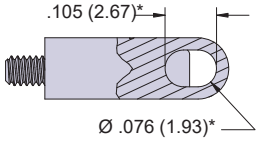


Plug with "T" Female Thread Option 2X F Thread
(Tapped Into Titanium or Stainless Steel Covers)



Receptacle with "T" Female Thread Option 2X F Thread
(Inserts Installed in Aluminum Covers)

SECTION A-A



Layout	A	B BSC.	C BSC.	D ± .005(0.13)	E	F Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41P	.775 (19.69)	.670 (17.02)	.560 (14.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
41S	.775 (19.69)	.670 (17.02)	.563 (14.30)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91P	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
91S	1.452 (36.88)	1.321 (33.55)	1.185 (30.10)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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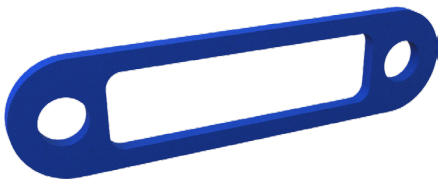
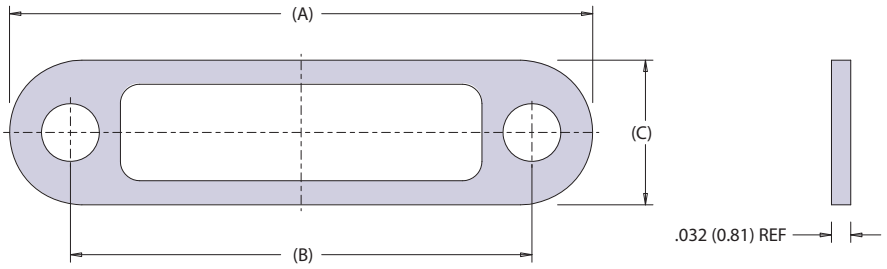
899-015 Nano Rear Panel Mount Gasket



Replacement Gasket Seals offered as a replacement for lost or damaged rear panel mount Nano Miniature gasket seals. Available for all shell sizes in fluorosilicone, Passivated Silver Plated Aluminum Filled Fluorosilicone, Nickel Plated Aluminum Filled Fluorosilicone, and Viton.

HOW TO ORDER NANO DUAL-ROW EMI COVER			
Sample Part Number	**899-015**	**-25**	**-01**
Series	**899-015** = Nano Rear Panel Mount Gasket		
Connector Size	**9**, **15**, **21**, **25**, **31**, **37**, **41**, **51**, **65**, **69**, **85**, **91**; See Dimensions Table		
Gasket Material	**01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 60 **02** = Passivated Silver Plated Aluminum Filled Fluorosilicone IAW MIL-DTL-83528, Type "D" (CHO-SEAL 1298 or Equivalent) **03** = Nickel Plated Aluminum Filled Fluorosilicone, (CHO-SEAL 6503 or equivalent) **04** = Viton, 75 Shore A, IAW ASTM D1418 / ISO 1629 Designation FKM, ASTM D2000 / SAE J200 Type/Class HK, MIL-R-3065 Class TB.		

DIMENSIONS			
Part Number	**A**	**B**	**C**
899-015-09-XX	.768 (19.51)	.566 (14.38)	.240 (6.10)
899-015-15-XX	.843 (21.41)	.641 (16.28)	.240 (6.10)
899-015-21-XX	.918 (23.32)	.716 (18.19)	.240 (6.10)
899-015-25-XX	.968 (24.59)	.766 (19.46)	.240 (6.10)
899-015-31-XX	1.043 (26.49)	.841 (21.36)	.240 (6.10)
899-015-37-XX	1.118 (28.40)	.916 (23.27)	.240 (6.10)
899-015-41-XX	1.168 (29.67)	.966 (24.54)	.240 (6.10)
899-015-51-XX	1.293 (32.84)	1.091 (27.71)	.240 (6.10)
899-015-65-XX	1.468 (37.29)	1.266 (32.16)	.240 (6.10)
899-015-69-XX	1.518 (38.56)	1.316 (33.43)	.240 (6.10)
899-015-85-XX	1.770 (44.96)	1.568 (39.83)	.265 (6.73)
899-015-91-XX	1.845 (46.86)	1.643 (41.73)	.265 (6.73)



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SERIES 89

nano miniature™

Single and Dual-Row Nano Strip Connectors

Lightweight thermoplastic shell rectangular connectors. PCB mount and pre-wired configurations with TwistPin contacts, guide pins, and mounting holes



Glenair Nanominiature strip connectors provide lightweight, ultra-small form-factor interconnection of sensors and transmit / receive nodes in electronic equipment. Aerospace-grade thermoplastic single-row and dual-row plug and receptacle designs are available as pre-wired or PCB mount with guide pins and available mounting holes. Glenair Nano strips are set on .025 inch contact spacing with a DWV rating of 250 volts AC. Three wire type options available: Ultra lightweight XLETFE insulation with silver-coated high-strength copper; extruded PTFE insulation with silver-coated copper; and crosslink modified ETFE insulation with high-strength silver-coated copper. Select from 1 to 80 contact cavities. Applications include transmitter and receiver boxes for aviation, space, and satellites.

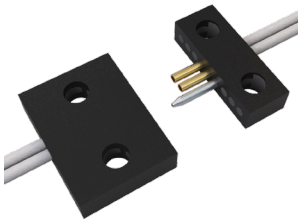
- **Single- and dual-row, 1–80 way**
- **Composite thermoplastic shells**
- **High vibration and shock gold alloy TwistPin contact system**
- **Straight and right-angle thru-hole PCB versions**

Single and Dual Row Nano Strip Connectors

Product Selection Guide



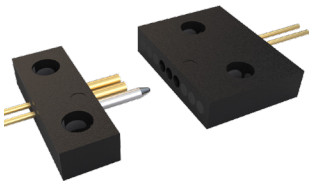
890-042
Single Row, Plastic Shell Nano Strip, Right-Angle Surface Mount PCB Connector **D-2**



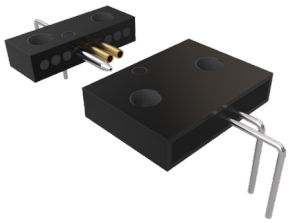
890-045
Single Row, Plastic Shell Nano Strip Connector with Insulated Wire **D-4**



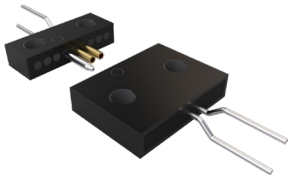
890-046
Single Row, Plastic Shell Nano Strip, Back-to-Back Cable Assembly **D-6**



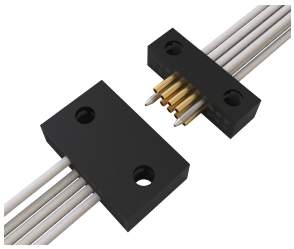
890-047
Single Row, Plastic Shell Nano Strip, Connector with Uninsulated Wire **D-8**



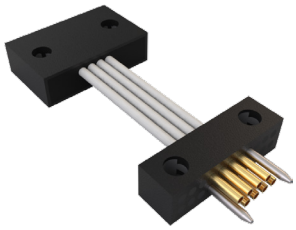
890-048
Single Row, Plastic Shell Nano Strip, Right-Angle Mount Thru-Hole PCB Connector **D-10**



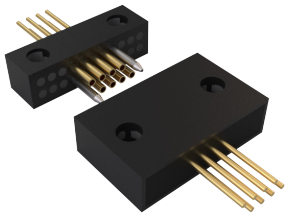
890-049
Single Row, Plastic Shell Nano Strip, Vertical Mount Thru-Hole PCB Connector **D-12**



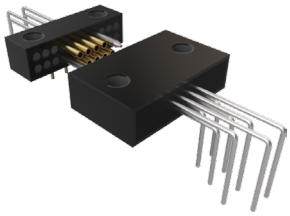
891-045
Dual Row, Plastic Shell Nano Strip Connector with Insulated Wire **D-14**



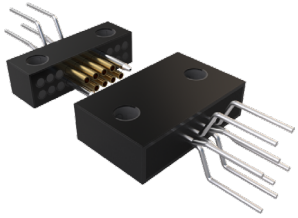
891-046
Dual Row, Plastic Shell Nano Strip, Back-to-Back Cable Assembly **D-16**



891-047
Dual Row, Plastic Shell Nano Strip Connector with Uninsulated Wire **D-18**



891-048
Dual Row, Plastic Shell Nano Strip, Right-Angle Mount Thru-Hole PCB Connector **D-20**



891-049
Dual Row, Plastic Shell Nano Strip, Vertical Mount Thru-Hole PCB Connector **D-22**

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Single and Dual Row Nano Strip Connectors

890-042 Single Row, Plastic Shell, Nano Strip, Right-Angle Surface Mount PCB Connector



Nano Strip Connectors with Insulated Wire feature gold alloy TwistPin contacts. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Pre-Tinned PC Tail are coated with Sn63Pb37 or Sn60Pb40 Tin-Lead for excellent solderability

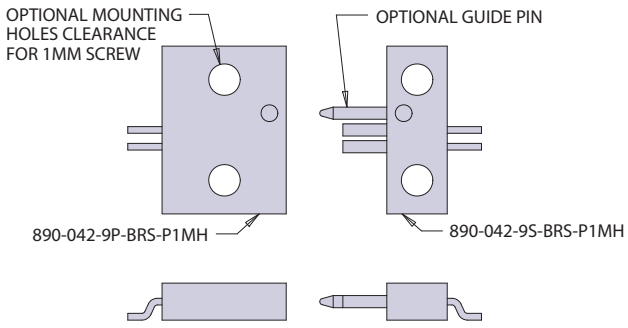
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-042	-9	P	-BRS	-P1	MH

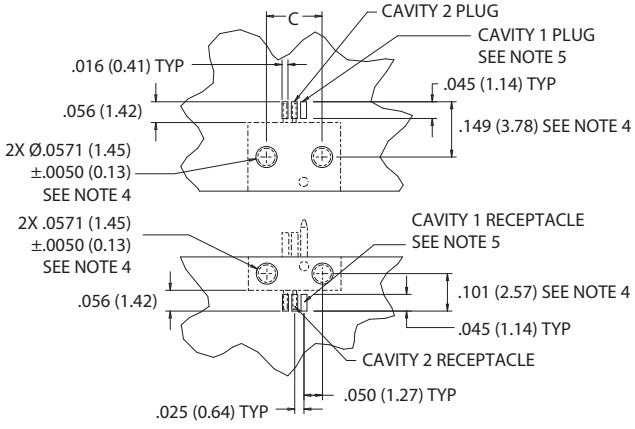
Series	**890-042** = Single Row, Plastic Shell, Nano Strip Right-Angle Surface Mount PCB
Number of Cavities	**1** thru **40** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (Plug) **S** = Socket (Receptacle)
Termination Type	**BRS** = Board Right-Angle Surface Mount
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 6 cavities to number of active contacts)



NUMBER OF CAVITIES EXAMPLE
2 ACTIVE CONTACTS + 1 P1 GUIDE PIN + 6 MOUNTING HOLES
9 TOTAL

NANO STRIP PCB LAYOUT

NANO STRIP PLUG PCB LAYOUT, COMPONENT SIDE



NANO STRIP RECEPTACLE, COMPONENT SIDE, PCB LAYOUT

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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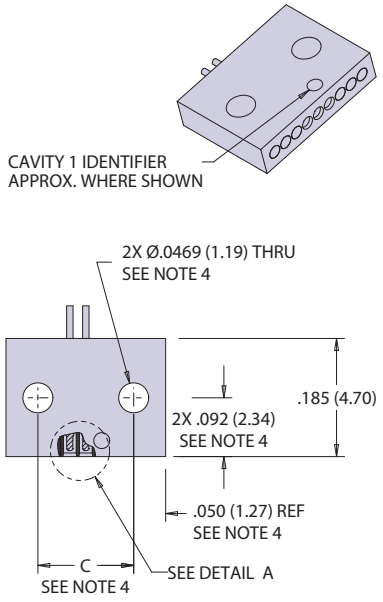
Single and Dual Row Nano Strip Connectors

890-042 Single Row, Plastic Shell, Nano Strip, Right-Angle Surface Mount PCB Connector

DIMENSIONS

Plug



Receptacle

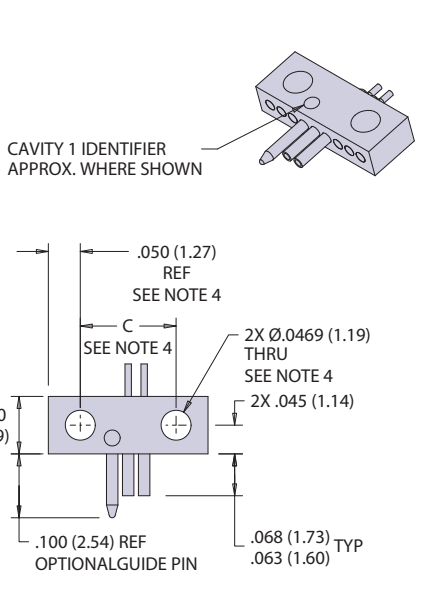


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 4
1	0.050 (1.27)	N/A
2	0.075 (1.91)	N/A
3	0.100 (2.54)	N/A
4	0.125 (3.18)	N/A
5	0.150 (3.81)	N/A
6	0.175 (4.45)	N/A
7	0.200 (5.08)	0.100 (2.54)
8	0.225 (5.72)	0.125 (3.18)
9	0.250 (6.35)	0.150 (3.81)
10	0.275 (6.99)	0.175 (4.45)
11	0.300 (7.62)	0.200 (5.08)
12	0.325 (8.26)	0.225 (5.72)
13	0.350 (8.89)	0.250 (6.35)
14	0.375 (9.53)	0.275 (6.99)
15	0.400 (10.16)	0.300 (7.62)
16	0.425 (10.80)	0.325 (8.26)
17	0.450 (11.43)	0.350 (8.89)
18	0.475 (12.07)	0.375 (9.53)
19	0.500 (12.70)	0.400 (10.16)
20	0.525 (13.34)	0.425 (10.80)
21	0.550 (13.97)	0.450 (11.43)
22	0.575 (14.61)	0.475 (12.07)
23	0.600 (15.24)	0.500 (12.70)
24	0.625 (15.88)	0.525 (13.34)
25	0.650 (16.51)	0.550 (13.97)
26	0.675 (17.15)	0.575 (14.61)
27	0.700 (17.78)	0.600 (15.24)
28	0.725 (18.42)	0.625 (15.88)
29	0.750 (19.05)	0.650 (16.51)
30	0.775 (19.69)	0.675 (17.15)
31	0.800 (20.32)	0.700 (17.78)
32	0.825 (20.96)	0.725 (18.42)
33	0.850 (21.59)	0.750 (19.05)
34	0.875 (22.23)	0.775 (19.69)
35	0.900 (22.86)	0.800 (20.32)
36	0.925 (23.50)	0.825 (20.96)
37	0.950 (24.13)	0.850 (21.59)
38	0.975 (24.77)	0.875 (22.23)
39	1.000 (25.40)	0.900 (22.86)
40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: Coated with Sn63Pb37 or Sn60Pb40 tin-lead solder
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Only applies if ordered with optional mounting holes
5. Pads corresponding to guide pin(s) or cavities that accept guide pin(s) can be omitted

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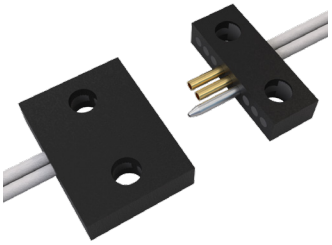
Single and Dual Row Nano Strip Connectors

890-045 Single Row, Plastic Shell, Nano Strip Connector with Insulated Wire



Nano Strip Connectors with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Wire gages #30 and #32 AWG.

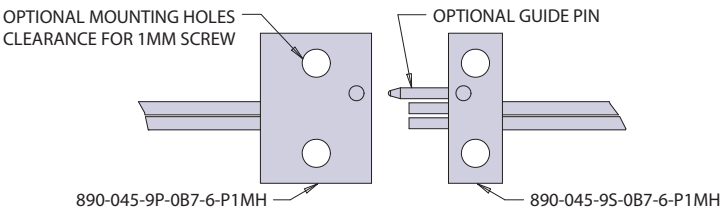
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-045	-9	P	-0	B	7	-6	-P1	MH

Series	**890-045** = Single Row Plastic Shell Nano Strip Connector with Insulated Wire
Number of Cavities	**1** thru **40** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (Plug) **S** = Socket (Receptacle)
Wire Gage	**0** = #30 AWG (wire types A, B, C, E, and F) **2** = #32 AWG (wire type B only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross linked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color	**1** = White **2** = Yellow **7** = 10 color repeating (wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length	**Wire** length in inches, as required (I.E. 12 = 12 inches)
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 6 cavities to number of active contacts)



NUMBER OF CAVITIES EXAMPLE
2 ACTIVE CONTACTS
+1 P1 GUIDE PIN
+6 MOUNTING HOLES
9 TOTAL

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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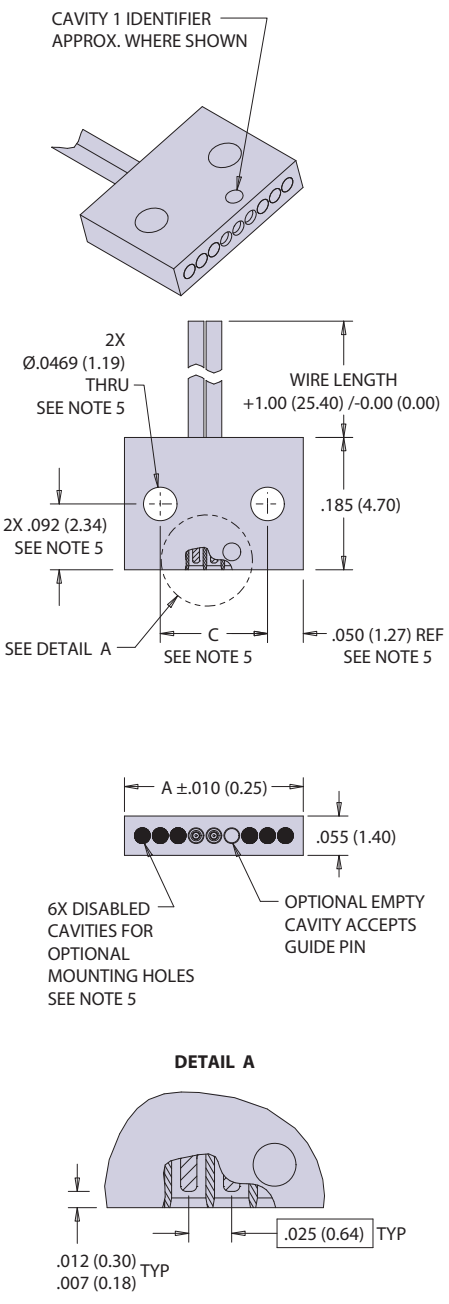
Single and Dual Row Nano Strip Connectors

890-045 Single Row, Plastic Shell, Nano Strip Connector with Insulated Wire

DIMENSIONS

Plug



Receptacle

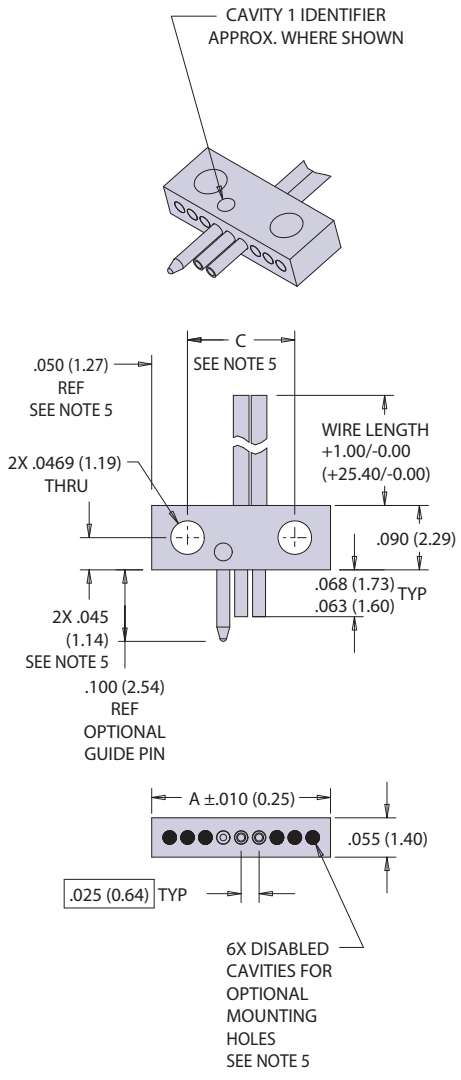


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 5
1	0.050 (1.27)	N/A
2	0.075 (1.91)	N/A
3	0.100 (2.54)	N/A
4	0.125 (3.18)	N/A
5	0.150 (3.81)	N/A
6	0.175 (4.45)	N/A
7	0.200 (5.08)	0.100 (2.54)
8	0.225 (5.72)	0.125 (3.18)
9	0.250 (6.35)	0.150 (3.81)
10	0.275 (6.99)	0.175 (4.45)
11	0.300 (7.62)	0.200 (5.08)
12	0.325 (8.26)	0.225 (5.72)
13	0.350 (8.89)	0.250 (6.35)
14	0.375 (9.53)	0.275 (6.99)
15	0.400 (10.16)	0.300 (7.62)
16	0.425 (10.80)	0.325 (8.26)
17	0.450 (11.43)	0.350 (8.89)
18	0.475 (12.07)	0.375 (9.53)
19	0.500 (12.70)	0.400 (10.16)
20	0.525 (13.34)	0.425 (10.80)
21	0.550 (13.97)	0.450 (11.43)
22	0.575 (14.61)	0.475 (12.07)
23	0.600 (15.24)	0.500 (12.70)
24	0.625 (15.88)	0.525 (13.34)
25	0.650 (16.51)	0.550 (13.97)
26	0.675 (17.15)	0.575 (14.61)
27	0.700 (17.78)	0.600 (15.24)
28	0.725 (18.42)	0.625 (15.88)
29	0.750 (19.05)	0.650 (16.51)
30	0.775 (19.69)	0.675 (17.15)
31	0.800 (20.32)	0.700 (17.78)
32	0.825 (20.96)	0.725 (18.42)
33	0.850 (21.59)	0.750 (19.05)
34	0.875 (22.23)	0.775 (19.69)
35	0.900 (22.86)	0.800 (20.32)
36	0.925 (23.50)	0.825 (20.96)
37	0.950 (24.13)	0.850 (21.59)
38	0.975 (24.77)	0.875 (22.23)
39	1.000 (25.40)	0.900 (22.86)
40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. For 10 repeating colors, wire color skipped for guide pin designated cavity(ies)
5. Only applies if ordered with optional mounting holes

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Single and Dual Row Nano Strip Connectors

890-046 Single Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly



Nano Strip Jumper with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Wire gages #30 and #32 AWG.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-046	-9	CS	-0	B	7	-6	-P1	MH

Series	**890-046** = Single Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly
Number of Cavities	**1** thru **40** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**GP** = Pin (plug) connector for both ends **GS** = Socket (receptacle) connector for both ends **CS** = Pin (plug) connector to socket (receptacle) connector
Wire Gage	**0** = #30 AWG (wire types A, B, C, E, and F) **2** = #32 AWG (wire type B only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Cross linked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33-30 **E** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver Coated High Strength Copper Alloy. SAE AS22759/51-30 **F** = Cross Linked Modified ETFE Insulation, Low Fluoride, Lightweight, Silver- Coated Copper, SAE AS22759/52-30
Wire Color	**1** = White **2** = Yellow **7** = 10 color repeating (wire Type A is striped, Types B, C, E and F are solid colors)
Wire Length	**Wire** length in inches, as required (I.E. 12 = 12 inches; 2" minimum)
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 6 cavities to number of active contacts)

NUMBER OF CAVITIES EXAMPLE
2 ACTIVE CONTACTS
+1 P1 GUIDE PIN
+6 MOUNTING HOLES
9 TOTAL

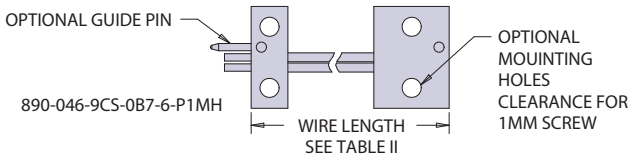

TABLE II
WIRE LENGTH TOLERANCE

LENGTH RANGE	TOLERNACE
2 (50.80) -48 (1219.20)	+0.50 (12.70) /-0.00 (0.00)
>48 (1219.20) -72 (1828.80)	+1.00 (25.40) /-0.00 (0.00)
>72 (1828.80) -120 (3048.00)	+2.00 (50.80) /-0.00 (0.00)
>120 (3048.00)	+4.00 (101.60) /-0.00 (0.00)

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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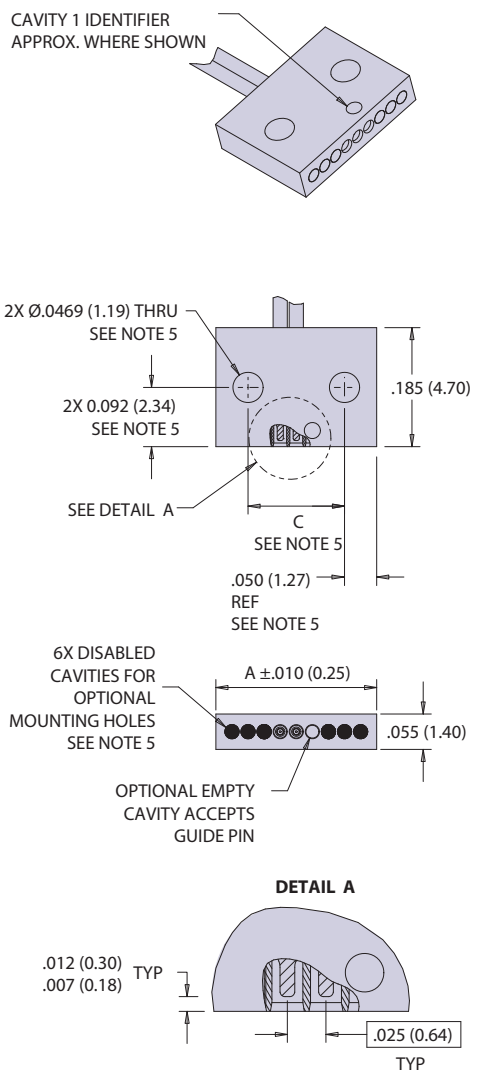
Single and Dual Row Nano Strip Connectors

890-046 Single Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly

DIMENSIONS

Plug



Receptacle

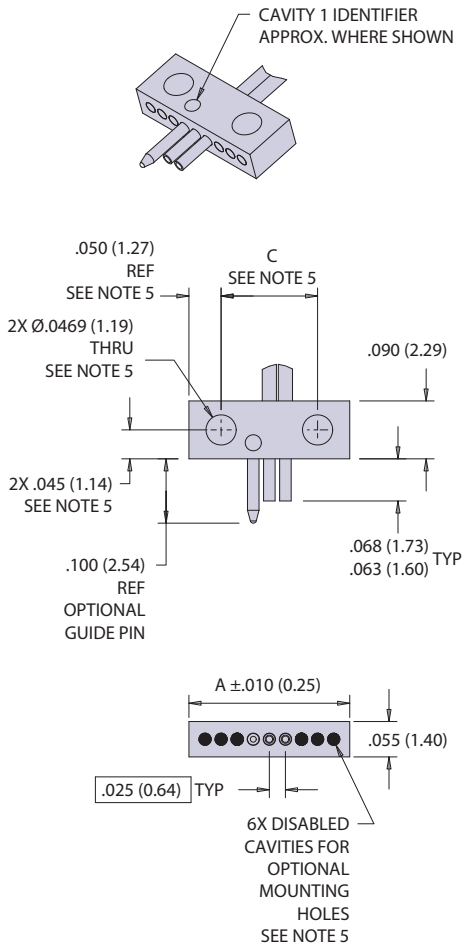


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 5
1	0.050 (1.27)	N/A
2	0.075 (1.91)	N/A
3	0.100 (2.54)	N/A
4	0.125 (3.18)	N/A
5	0.150 (3.81)	N/A
6	0.175 (4.45)	N/A
7	0.200 (5.08)	0.100 (2.54)
8	0.225 (5.72)	0.125 (3.18)
9	0.250 (6.35)	0.150 (3.81)
10	0.275 (6.99)	0.175 (4.45)
11	0.300 (7.62)	0.200 (5.08)
12	0.325 (8.26)	0.225 (5.72)
13	0.350 (8.89)	0.250 (6.35)
14	0.375 (9.53)	0.275 (6.99)
15	0.400 (10.16)	0.300 (7.62)
16	0.425 (10.80)	0.325 (8.26)
17	0.450 (11.43)	0.350 (8.89)
18	0.475 (12.07)	0.375 (9.53)
19	0.500 (12.70)	0.400 (10.16)
20	0.525 (13.34)	0.425 (10.80)
21	0.550 (13.97)	0.450 (11.43)
22	0.575 (14.61)	0.475 (12.07)
23	0.600 (15.24)	0.500 (12.70)
24	0.625 (15.88)	0.525 (13.34)
25	0.650 (16.51)	0.550 (13.97)
26	0.675 (17.15)	0.575 (14.61)
27	0.700 (17.78)	0.600 (15.24)
28	0.725 (18.42)	0.625 (15.88)
29	0.750 (19.05)	0.650 (16.51)
30	0.775 (19.69)	0.675 (17.15)
31	0.800 (20.32)	0.700 (17.78)
32	0.825 (20.96)	0.725 (18.42)
33	0.850 (21.59)	0.750 (19.05)
34	0.875 (22.23)	0.775 (19.69)
35	0.900 (22.86)	0.800 (20.32)
36	0.925 (23.50)	0.825 (20.96)
37	0.950 (24.13)	0.850 (21.59)
38	0.975 (24.77)	0.875 (22.23)
39	1.000 (25.40)	0.900 (22.86)
40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. For 10 repeating colors, wire color skipped for guide pin designated cavity(ies)
5. Only applies if ordered with optional mounting holes

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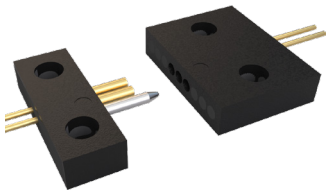
Single and Dual Row Nano Strip Connectors

890-047 Single Row, Plastic Shell, Nano Strip Connector with Uninsulated Wire



Nano Strip Connectors with Uninsulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to uninsulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Wire gages #30 and #32 AWG.

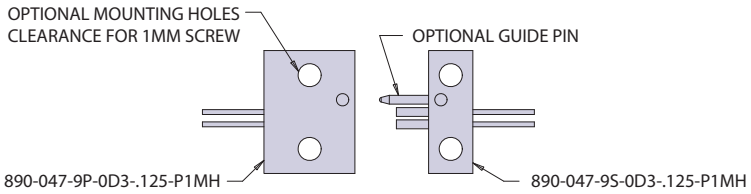
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, prototyping, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-047	-9	P	-0	D3	-.125	-P1	MH

Series	**890-047** = Single row plastic shell Nano Strip with un-insulated wire
Number of Cavities	**1** thru **40** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (plug) **S** = Socket (receptacle)
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single strand copper wire, uninsulated with gold plating
Wire Length	**.125 .250 .375 .500**; wire length in inches
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 6 cavities to number of active contacts)



NUMBER OF CAVITIES EXAMPLE
2 ACTIVE CONTACTS
+1 P1 GUIDE PIN
+6 MOUNTING HOLES
9 TOTAL

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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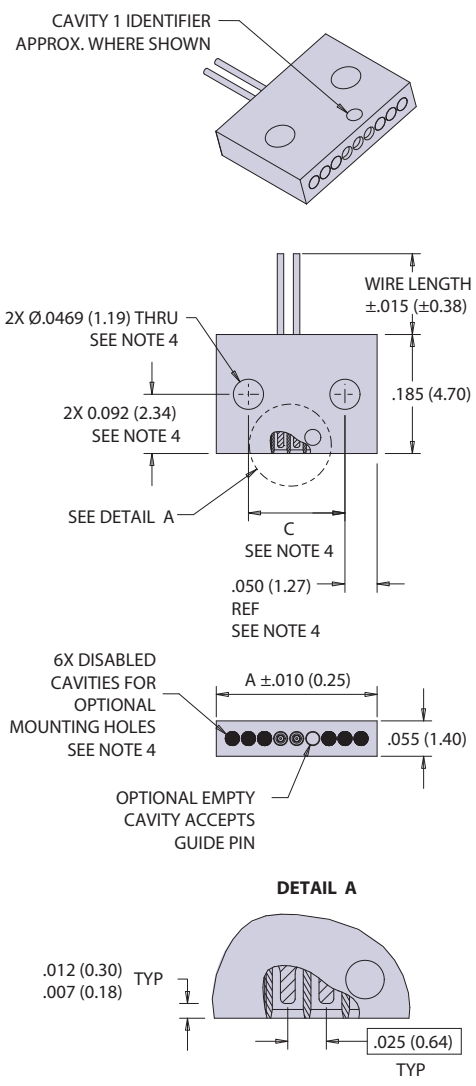
Single and Dual Row Nano Strip Connectors

890-047 Single Row, Plastic Shell, Nano Strip Connector with Uninsulated Wire

DIMENSIONS

Plug



Receptacle

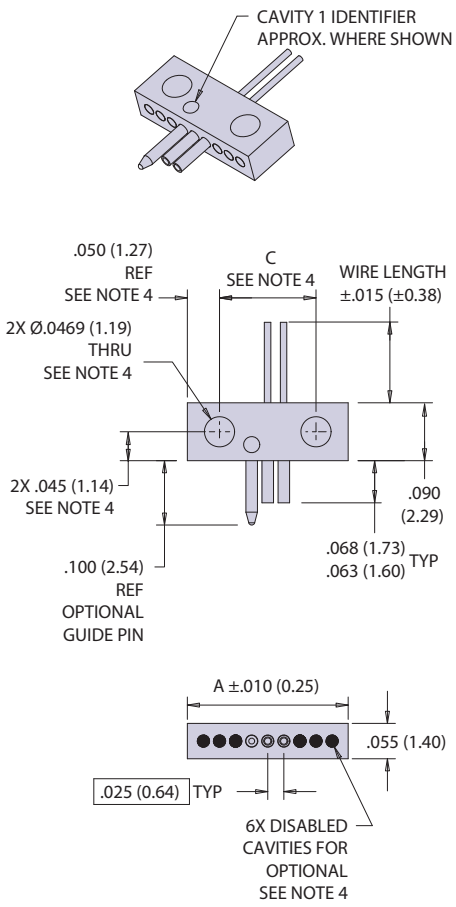


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 4
1	0.050 (1.27)	N/A
2	0.075 (1.91)	N/A
3	0.100 (2.54)	N/A
4	0.125 (3.18)	N/A
5	0.150 (3.81)	N/A
6	0.175 (4.45)	N/A
7	0.200 (5.08)	0.100 (2.54)
8	0.225 (5.72)	0.125 (3.18)
9	0.250 (6.35)	0.150 (3.81)
10	0.275 (6.99)	0.175 (4.45)
11	0.300 (7.62)	0.200 (5.08)
12	0.325 (8.26)	0.225 (5.72)
13	0.350 (8.89)	0.250 (6.35)
14	0.375 (9.53)	0.275 (6.99)
15	0.400 (10.16)	0.300 (7.62)
16	0.425 (10.80)	0.325 (8.26)
17	0.450 (11.43)	0.350 (8.89)
18	0.475 (12.07)	0.375 (9.53)
19	0.500 (12.70)	0.400 (10.16)
20	0.525 (13.34)	0.425 (10.80)
21	0.550 (13.97)	0.450 (11.43)
22	0.575 (14.61)	0.475 (12.07)
23	0.600 (15.24)	0.500 (12.70)
24	0.625 (15.88)	0.525 (13.34)
25	0.650 (16.51)	0.550 (13.97)
26	0.675 (17.15)	0.575 (14.61)
27	0.700 (17.78)	0.600 (15.24)
28	0.725 (18.42)	0.625 (15.88)
29	0.750 (19.05)	0.650 (16.51)
30	0.775 (19.69)	0.675 (17.15)
31	0.800 (20.32)	0.700 (17.78)
32	0.825 (20.96)	0.725 (18.42)
33	0.850 (21.59)	0.750 (19.05)
34	0.875 (22.23)	0.775 (19.69)
35	0.900 (22.86)	0.800 (20.32)
36	0.925 (23.50)	0.825 (20.96)
37	0.950 (24.13)	0.850 (21.59)
38	0.975 (24.77)	0.875 (22.23)
39	1.000 (25.40)	0.900 (22.86)
40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Only applies if ordered with optional mounting holes

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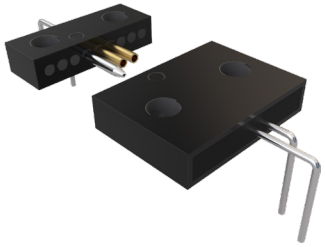
Single and Dual Row Nano Strip Connectors

890-048 Single Row, Plastic Shell, Nano Strip, Right-Angle Mount Thru-Hole PCB Connector



Nano Strip Right-Angle Thru-Hole PCB Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to uninsulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Pre-Tinned PC Tail are coated with Sn63Pb37 or Sn60Pb40 Tin-Lead for excellent solderability

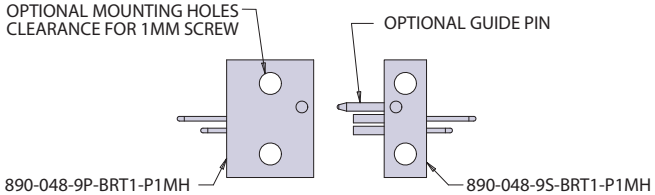
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

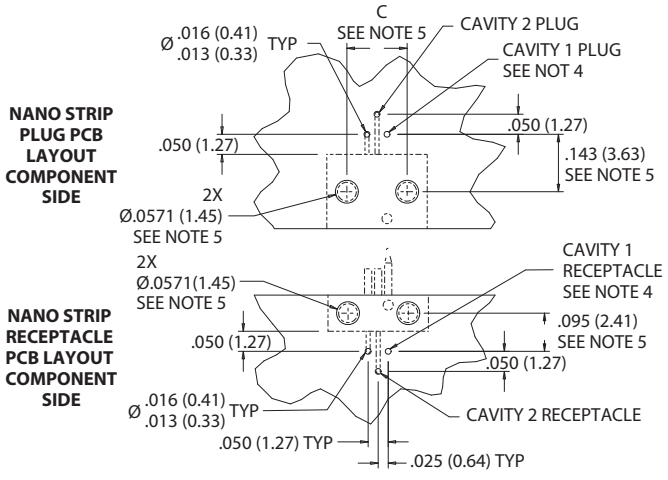
Sample Part Number	890-048	-9	P	-BRT	1	-P1	MH

Series	**890-048** = single row, plastic shell Nano Strip RA thru-hole PCB connector
Number of Cavities	**1** thru **40** = total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = pin (plug) **S** = socket (receptacle)
Termination Type	**BRT** = board right-angle thru-hole
PC Tail Length	**1** = .110 **2** = .172 **3** =.140; wire length in inches
Optional Guide Pin	**Omit** for no guide pin (guide pin in receptacle, accepts guide pin in plug) **P1** = guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = mounting holes (add 6 cavities to number of active contacts)



NUMBER OF CAVITIES EXAMPLE	
2	ACTIVE CONTACTS
+1	P1 GUIDE PIN
+6	MOUNTING HOLES
9	TOTAL

NANO STRIP PCB LAYOUT



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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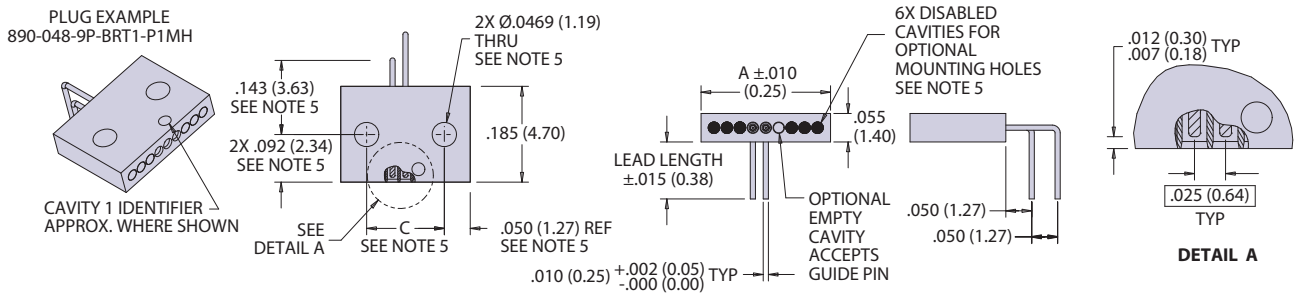
Single and Dual Row Nano Strip Connectors

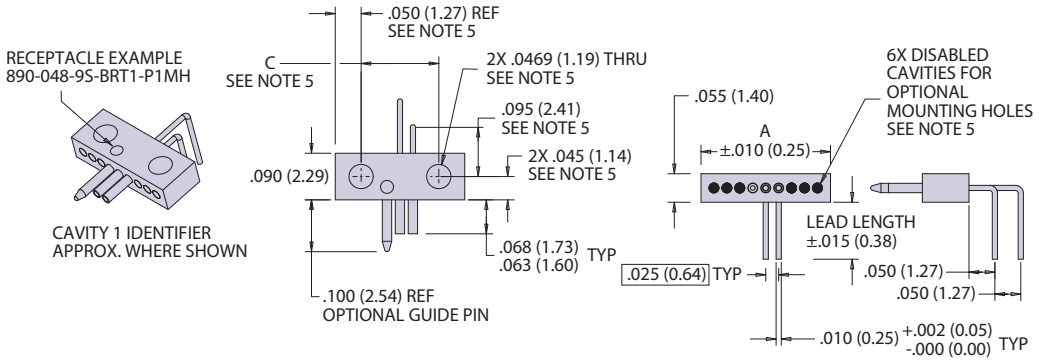
890-048 Single Row, Plastic Shell, Nano Strip, Right-Angle Mount Thru-Hole PCB Connector

TABLE I: DIMENSIONS

Plug



Receptacle



Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5	Number Cavities	A	Optional C See Note 5	Number Cavities	A	C See Note 5
1	0.050 (1.27)	N/A	11	0.300 (7.62)	0.200 (5.08)	21	0.550 (13.97)	0.450 (11.43)	31	0.800 (20.32)	0.700 (17.78)
2	0.075 (1.91)	N/A	12	0.325 (8.26)	0.225 (5.72)	22	0.575 (14.61)	0.475 (12.07)	32	0.825 (20.96)	0.725 (18.42)
3	0.100 (2.54)	N/A	13	0.350 (8.89)	0.250 (6.35)	23	0.600 (15.24)	0.500 (12.70)	33	0.850 (21.59)	0.750 (19.05)
4	0.125 (3.18)	N/A	14	0.375 (9.53)	0.275 (6.99)	24	0.625 (15.88)	0.525 (13.34)	34	0.875 (22.23)	0.775 (19.69)
5	0.150 (3.81)	N/A	15	0.400 (10.16)	0.300 (7.62)	25	0.650 (16.51)	0.550 (13.97)	35	0.900 (22.86)	0.800 (20.32)
6	0.175 (4.45)	N/A	16	0.425 (10.80)	0.325 (8.26)	26	0.675 (17.15)	0.575 (14.61)	36	0.925 (23.50)	0.825 (20.96)
7	0.200 (5.08)	0.100 (2.54)	17	0.450 (11.43)	0.350 (8.89)	27	0.700 (17.78)	0.600 (15.24)	37	0.950 (24.13)	0.850 (21.59)
8	0.225 (5.72)	0.125 (3.18)	18	0.475 (12.07)	0.375 (9.53)	28	0.725 (18.42)	0.625 (15.88)	38	0.975 (24.77)	0.875 (22.23)
9	0.250 (6.35)	0.150 (3.81)	19	0.500 (12.70)	0.400 (10.16)	29	0.750 (19.05)	0.650 (16.51)	39	1.000 (25.40)	0.900 (22.86)
10	0.275 (6.99)	0.175 (4.45)	20	0.525 (13.34)	0.425 (10.80)	30	0.775 (19.69)	0.675 (17.15)	40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: Coated with Sn63Pb37 or Sn60Pb40 tin-lead solder
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Pads corresponding to guide pin(s) or cavities that accept guide pin(s) can be omitted
5. Only applies if ordered with optional mounting holes

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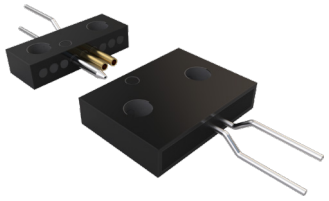
Single and Dual Row Nano Strip Connectors

890-049 Single Row, Plastic Shell, Nano Strip, Vertical Mount Thru-Hole PCB Connector



Nano Strip Vertical Thru-Hole PCB Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to uninsulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Pre-Tinned PC Tail are coated with Sn63Pb37 or Sn60Pb40 Tin-Lead for excellent solderability.

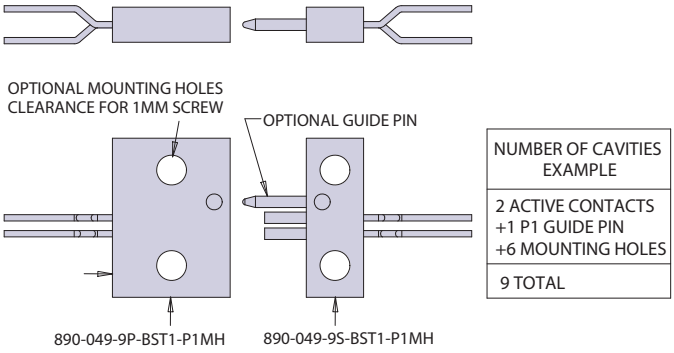
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	890-049	-9	P	-BST	1	-P1	MH

Series	**890-049** = single row, plastic shell Nano Strip vertical thru-hole PCB connector
Number of Cavities	**1** thru **40** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (plug) **S** = Socket (receptacle)
Termination Type	**BST** = Board straight thru-hole
PC Tail Length	**1** = .110 **2** = .172 **3** = .140; wire length in inches
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 6 cavities to number of active contacts)

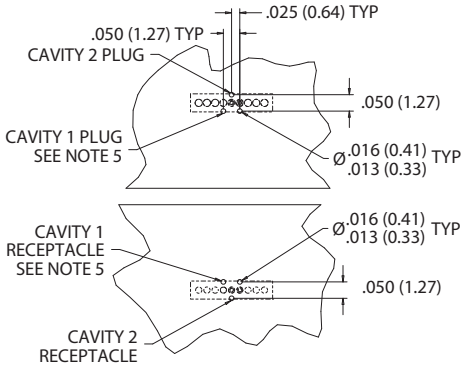


NUMBER OF CAVITIES EXAMPLE
2 ACTIVE CONTACTS +1 P1 GUIDE PIN +6 MOUNTING HOLES
9 TOTAL

PCB LAYOUT

NANO STRIP PLUG PCB LAYOUT COMPONENT SIDE

NANO STRIP RECEPTACLE PCB LAYOUT COMPONENT SIDE



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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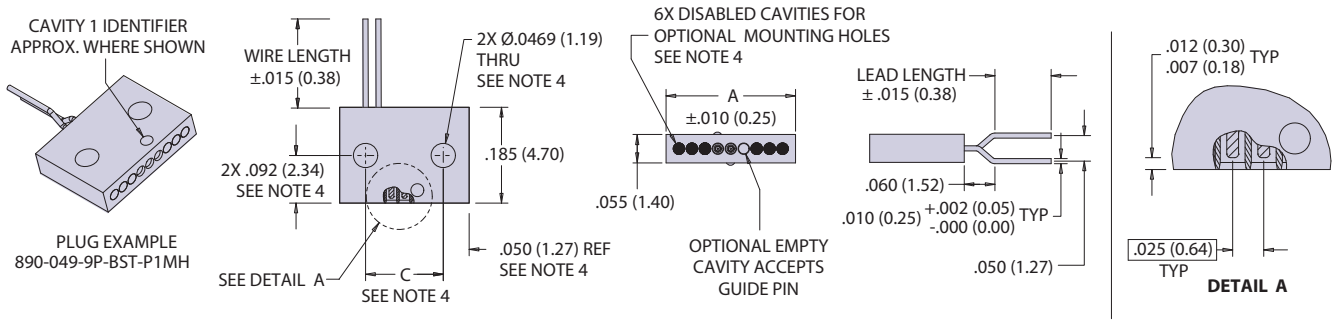
Single and Dual Row Nano Strip Connectors

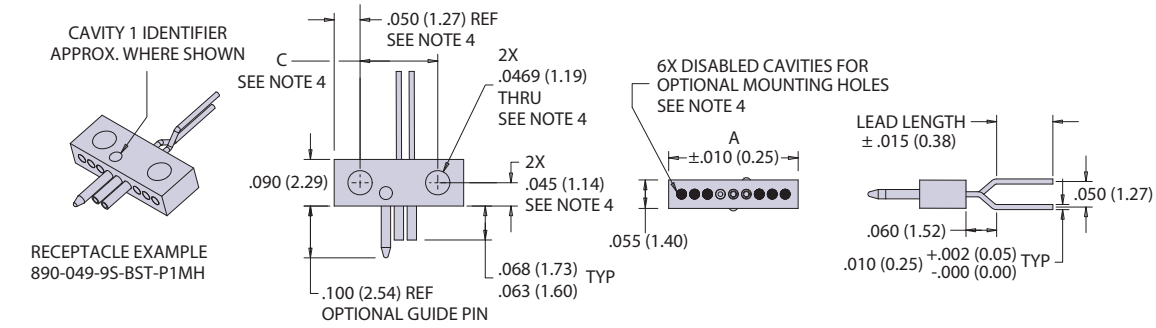
890-049 Single Row, Plastic Shell, Nano Strip, Vertical Mount Thru-Hole PCB Connector

TABLE I: DIMENSIONS

Plug



Receptacle



Number Cavities	A	C See Note 4	Number Cavities	A	C See Note 4	Number Cavities	A	C See Note 4	Number Cavities	A	C See Note 4
1	0.050 (1.27)	N/A	11	0.300 (7.62)	0.200 (5.08)	21	0.550 (13.97)	0.450 (11.43)	31	0.800 (20.32)	0.700 (17.78)
2	0.075 (1.91)	N/A	12	0.325 (8.26)	0.225 (5.72)	22	0.575 (14.61)	0.475 (12.07)	32	0.825 (20.96)	0.725 (18.42)
3	0.100 (2.54)	N/A	13	0.350 (8.89)	0.250 (6.35)	23	0.600 (15.24)	0.500 (12.70)	33	0.850 (21.59)	0.750 (19.05)
4	0.125 (3.18)	N/A	14	0.375 (9.53)	0.275 (6.99)	24	0.625 (15.88)	0.525 (13.34)	34	0.875 (22.23)	0.775 (19.69)
5	0.150 (3.81)	N/A	15	0.400 (10.16)	0.300 (7.62)	25	0.650 (16.51)	0.550 (13.97)	35	0.900 (22.86)	0.800 (20.32)
6	0.175 (4.45)	N/A	16	0.425 (10.80)	0.325 (8.26)	26	0.675 (17.15)	0.575 (14.61)	36	0.925 (23.50)	0.825 (20.96)
7	0.200 (5.08)	0.100 (2.54)	17	0.450 (11.43)	0.350 (8.89)	27	0.700 (17.78)	0.600 (15.24)	37	0.950 (24.13)	0.850 (21.59)
8	0.225 (5.72)	0.125 (3.18)	18	0.475 (12.07)	0.375 (9.53)	28	0.725 (18.42)	0.625 (15.88)	38	0.975 (24.77)	0.875 (22.23)
9	0.250 (6.35)	0.150 (3.81)	19	0.500 (12.70)	0.400 (10.16)	29	0.750 (19.05)	0.650 (16.51)	39	1.000 (25.40)	0.900 (22.86)
10	0.275 (6.99)	0.175 (4.45)	20	0.525 (13.34)	0.425 (10.80)	30	0.775 (19.69)	0.675 (17.15)	40	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: Coated with Sn63Pb37 or Sn60Pb40 tin-lead solder
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139
3. Strip shell may have a half cavity on either end or each end
4. Only applies if ordered with optional mounting holes
5. Pads corresponding to guide pin(s) or cavities that accept guide pin(s) can be omitted

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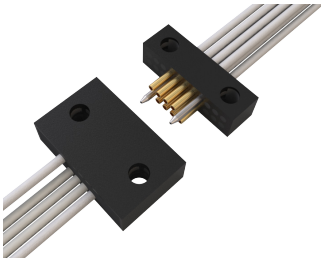
Single and Dual Row Nano Strip Connectors

891-045 Dual Row, Plastic Shell, Nano Strip Connector with Insulated Wire



Nano Strip Connectors with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

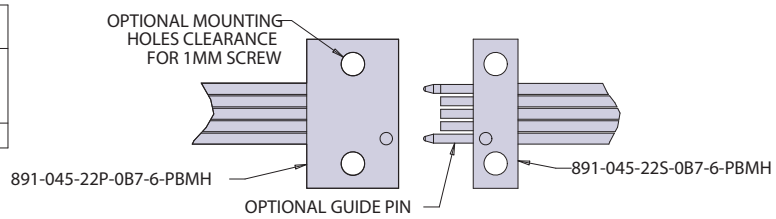
Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-045	-9	P	-0	B	7	-6	-P1	MH

Series	**891-045** = Dual Row, Plastic Shell, Nano Strip Connector with Insulated Wire
Number of Cavities	**2** thru **80** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (Plug) **S** = Socket (Receptacle)
Wire Gage	**0** = #30 AWG (wire types A, B, C, E, and F) **2** = #32 AWG (wire type B only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33-30 **E** = Crosslinked modified ETFE insulation, low flouride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51-30 **F** = Crosslinked modified ETFE insulation, low flouride, lightweight, silver-coated copper, SAE AS22759/52-30
Wire Color	**1** = White **2** = Yellow **7** = 10 color repeating (wire Type A is striped, Types B, C, E and F are solid colors)
Wire Length	**Wire** length in inches, as required (I.E. 12 = 12 inches)
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 12 cavities to number of active contacts)

NUMBER OF CAVITIES EXAMPLE
8 ACTIVE CONTACTS
+2 PB GUIDE PINS
+12 MOUNTING HOLES
22 TOTAL



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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Single and Dual Row Nano Strip Connectors

891-045 Dual Row, Plastic Shell, Nano Strip Connector with Insulated Wire

DIMENSIONS

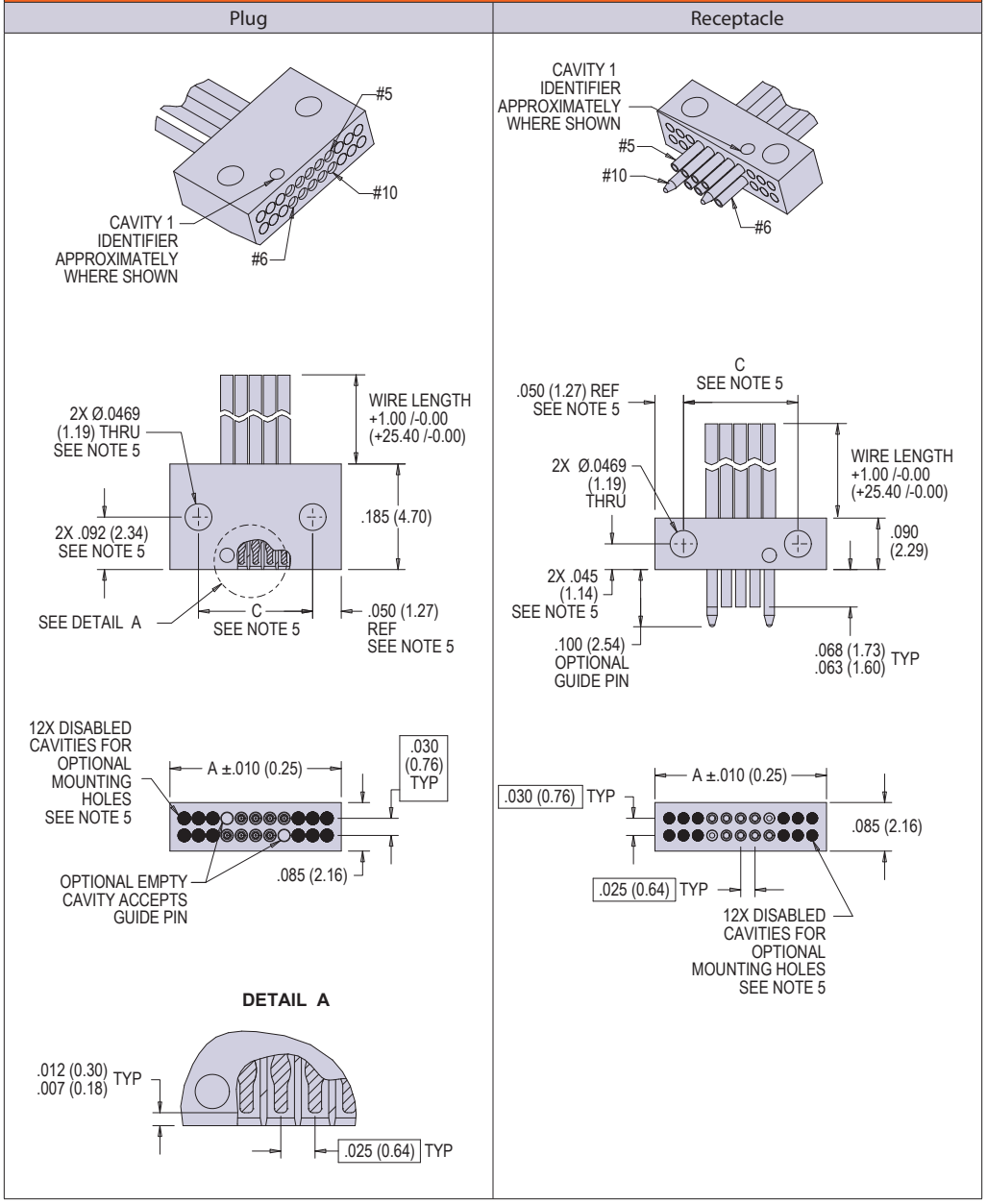

TABLE I : DIMENSIONS

Number Cavities	A	C See Note 5
2	0.050 (1.27)	N/A
4	0.075 (1.91)	N/A
6	0.100 (2.54)	N/A
8	0.125 (3.18)	N/A
10	0.150 (3.81)	N/A
12	0.175 (4.45)	N/A
14	0.200 (5.08)	0.100 (2.54)
16	0.225 (5.72)	0.125 (3.18)
18	0.250 (6.35)	0.150 (3.81)
20	0.275 (6.99)	0.175 (4.45)
22	0.300 (7.62)	0.200 (5.08)
24	0.325 (8.26)	0.225 (5.72)
26	0.350 (8.89)	0.250 (6.35)
28	0.375 (9.53)	0.275 (6.99)
30	0.400 (10.16)	0.300 (7.62)
32	0.425 (10.80)	0.325 (8.26)
34	0.450 (11.43)	0.350 (8.89)
36	0.475 (12.07)	0.375 (9.53)
38	0.500 (12.70)	0.400 (10.16)
40	0.525 (13.34)	0.425 (10.80)
42	0.550 (13.97)	0.450 (11.43)
44	0.575 (14.61)	0.475 (12.07)
46	0.600 (15.24)	0.500 (12.70)
48	0.625 (15.88)	0.525 (13.34)
50	0.650 (16.51)	0.550 (13.97)
52	0.675 (17.15)	0.575 (14.61)
54	0.700 (17.78)	0.600 (15.24)
56	0.725 (18.42)	0.625 (15.88)
58	0.750 (19.05)	0.650 (16.51)
60	0.775 (19.69)	0.675 (17.15)
62	0.800 (20.32)	0.700 (17.78)
64	0.825 (20.96)	0.725 (18.42)
66	0.850 (21.59)	0.750 (19.05)
68	0.875 (22.23)	0.775 (19.69)
70	0.900 (22.86)	0.800 (20.32)
72	0.925 (23.50)	0.825 (20.96)
74	0.950 (24.13)	0.850 (21.59)
76	0.975 (24.77)	0.875 (22.23)
78	1.000 (25.40)	0.900 (22.86)
80	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. For 10 repeating colors, wire color skipped for guide pin designated cavity(ies)
5. Only applies if ordered with optional mounting holes

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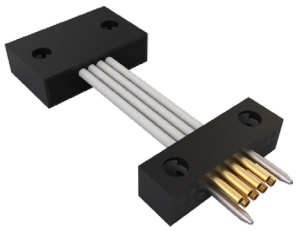
Single and Dual Row Nano Strip Connectors

891-046 Dual Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly



Nano Strip Jumpers with Insulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Wire gages #30 and #32 AWG.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

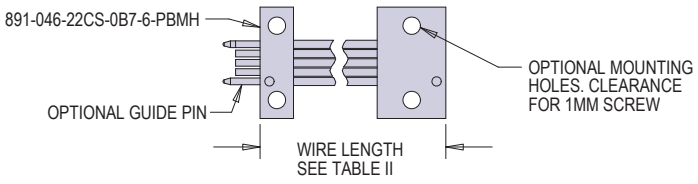
Sample Part Number	891-046	-22	CS	-0	B	7	-6	-PB	MH

Series	**891-046** = Dual Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly
Number of Cavities	**2** thru **80** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**GP** = Pin (plug) connector for both ends **GS** = Socket (receptacle) connector for both ends **CS** = Pin (plug) connector to socket (receptacle) connector
Wire Gage	**0** = #30 AWG (wire types A, B, C, E, and F) **2** = #32 AWG (wire type B only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP3-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33-30 **E** = Crosslinked modified ETFE insulation, low flouride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51-30 **F** = Crosslinked modified ETFE insulation, low flouride, lightweight, silver-coated copper, SAE AS22759/52-30
Wire Color	**1** = White **2** = Yellow **7** = 10 color repeating (wire Type A is striped, Types B, C, E and F are solid colors)
Wire Length	**Wire** length in inches, as required (I.E. 12 = 12 inches); 2 inches minimum
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 12 cavities to number of active contacts)

NUMBER OF CAVITIES EXAMPLE	
8	ACTIVE CONTACTS
+2	PB GUIDE PINS
+12	MOUNTING HOLES
22	TOTAL

TABLE II
WIRE LENGTH TOLERANCE

LENGTH RANGE	TOLERNACE
2 (50.80) -48 (1219.20)	+0.50 (12.70) /-0.00 (0.00)
>48 (1219.20) -72 (1828.80)	+1.00 (25.40) /-0.00 (0.00)
>72 (1828.80) -120 (3048.00)	+2.00 (50.80) /-0.00 (0.00)
>120 (3048.00)	+4.00 (101.60) /-0.00 (0.00)



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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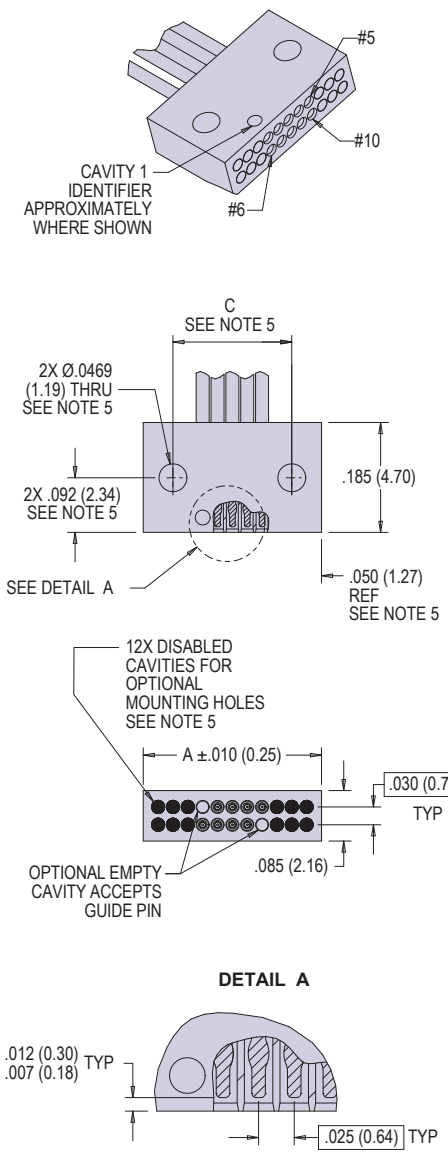
Single and Dual Row Nano Strip Connectors

891-046 Dual Row, Plastic Shell, Nano Strip, Back-to-Back Cable Assembly

DIMENSIONS

Plug



Receptacle

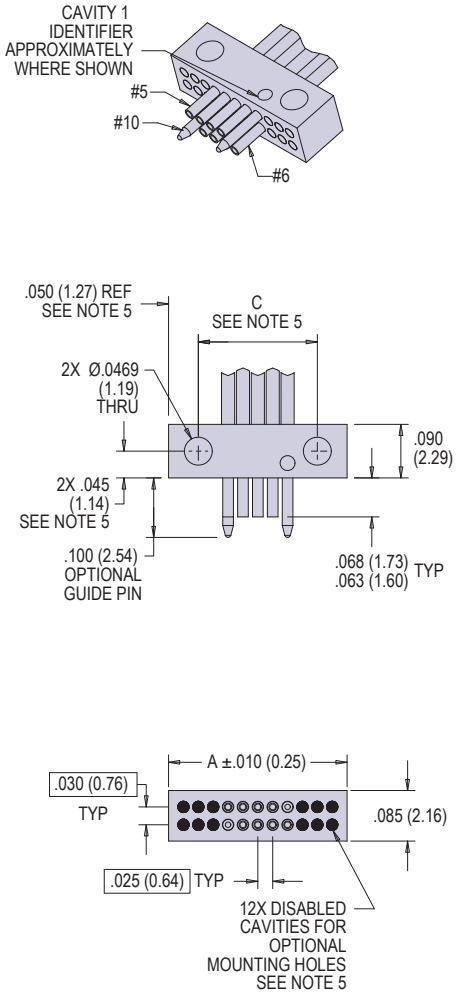


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 5
2	0.050 (1.27)	N/A
4	0.075 (1.91)	N/A
6	0.100 (2.54)	N/A
8	0.125 (3.18)	N/A
10	0.150 (3.81)	N/A
12	0.175 (4.45)	N/A
14	0.200 (5.08)	0.100 (2.54)
16	0.225 (5.72)	0.125 (3.18)
18	0.250 (6.35)	0.150 (3.81)
20	0.275 (6.99)	0.175 (4.45)
22	0.300 (7.62)	0.200 (5.08)
24	0.325 (8.26)	0.225 (5.72)
26	0.350 (8.89)	0.250 (6.35)
28	0.375 (9.53)	0.275 (6.99)
30	0.400 (10.16)	0.300 (7.62)
32	0.425 (10.80)	0.325 (8.26)
34	0.450 (11.43)	0.350 (8.89)
36	0.475 (12.07)	0.375 (9.53)
38	0.500 (12.70)	0.400 (10.16)
40	0.525 (13.34)	0.425 (10.80)
42	0.550 (13.97)	0.450 (11.43)
44	0.575 (14.61)	0.475 (12.07)
46	0.600 (15.24)	0.500 (12.70)
48	0.625 (15.88)	0.525 (13.34)
50	0.650 (16.51)	0.550 (13.97)
52	0.675 (17.15)	0.575 (14.61)
54	0.700 (17.78)	0.600 (15.24)
56	0.725 (18.42)	0.625 (15.88)
58	0.750 (19.05)	0.650 (16.51)
60	0.775 (19.69)	0.675 (17.15)
62	0.800 (20.32)	0.700 (17.78)
64	0.825 (20.96)	0.725 (18.42)
66	0.850 (21.59)	0.750 (19.05)
68	0.875 (22.23)	0.775 (19.69)
70	0.900 (22.86)	0.800 (20.32)
72	0.925 (23.50)	0.825 (20.96)
74	0.950 (24.13)	0.850 (21.59)
76	0.975 (24.77)	0.875 (22.23)
78	1.000 (25.40)	0.900 (22.86)
80	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. For 10 repeating colors, wire color skipped for guide pin designated cavity(ies)
5. Only applies if ordered with optional mounting holes

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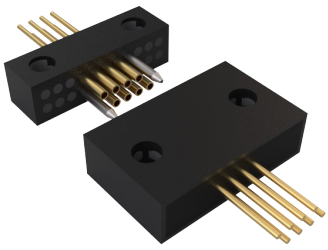
Single and Dual Row Nano Strip Connectors

891-047 Dual Row, Plastic Shell, Nano Strip Connector with Uninsulated Wire



Nano Strip Connectors with Uninsulated Wire feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Wire gages #30 and #32 AWG.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

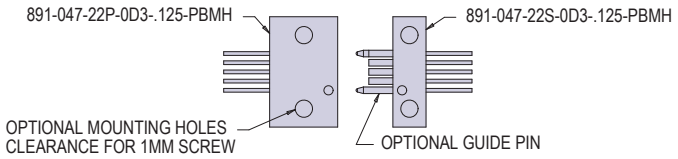
Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	891-047	-22	P	-0	B	.125	-P1	MH

Series	**891-047** = Dual row plastic shell Nano Strip connector with uninsulated wire
Number of Cavities	**2** thru **80** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (plug) **S** = Socket (receptacle)
Wire Gage	**0** = #30 AWG **2** = #32 AWG
Wire Type	**D3** = Single strand copper wire, uninsulated with gold plating
Wire Length	**.125, .250, .375, .500**; length in inches
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 12 cavities to number of active contacts)

NUMBER OF CAVITIES EXAMPLE
8 ACTIVE CONTACTS
+2 PB GUIDE PINS
+12 MOUNTING HOLES
22 TOTAL



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hour salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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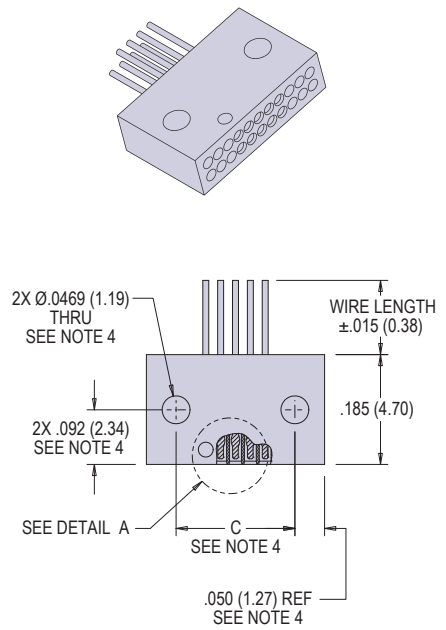
Single and Dual Row Nano Strip Connectors

891-047 Dual Row, Plastic Shell, Nano Strip Connector with Uninsulated Wire

DIMENSIONS

Plug



Receptacle

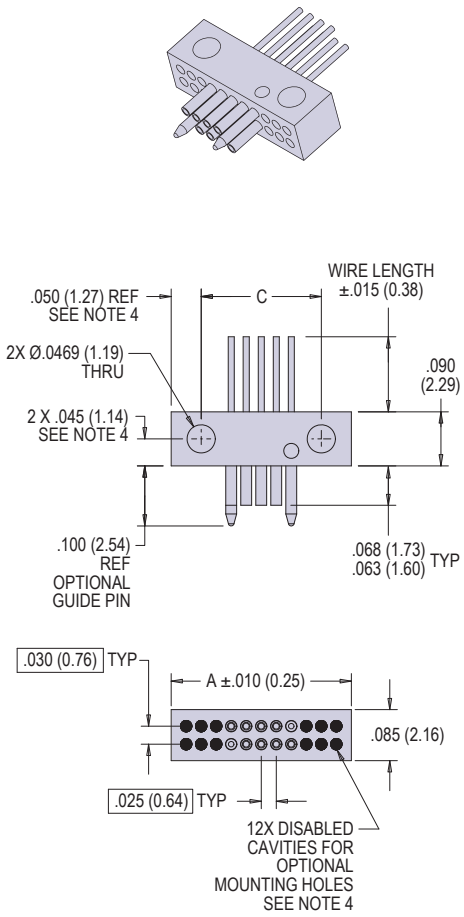


TABLE I : DIMENSIONS

Number Cavities	A	C See Note 4
2	0.050 (1.27)	N/A
4	0.075 (1.91)	N/A
6	0.100 (2.54)	N/A
8	0.125 (3.18)	N/A
10	0.150 (3.81)	N/A
12	0.175 (4.45)	N/A
14	0.200 (5.08)	0.100 (2.54)
16	0.225 (5.72)	0.125 (3.18)
18	0.250 (6.35)	0.150 (3.81)
20	0.275 (6.99)	0.175 (4.45)
22	0.300 (7.62)	0.200 (5.08)
24	0.325 (8.26)	0.225 (5.72)
26	0.350 (8.89)	0.250 (6.35)
28	0.375 (9.53)	0.275 (6.99)
30	0.400 (10.16)	0.300 (7.62)
32	0.425 (10.80)	0.325 (8.26)
34	0.450 (11.43)	0.350 (8.89)
36	0.475 (12.07)	0.375 (9.53)
38	0.500 (12.70)	0.400 (10.16)
40	0.525 (13.34)	0.425 (10.80)
42	0.550 (13.97)	0.450 (11.43)
44	0.575 (14.61)	0.475 (12.07)
46	0.600 (15.24)	0.500 (12.70)
48	0.625 (15.88)	0.525 (13.34)
50	0.650 (16.51)	0.550 (13.97)
52	0.675 (17.15)	0.575 (14.61)
54	0.700 (17.78)	0.600 (15.24)
56	0.725 (18.42)	0.625 (15.88)
58	0.750 (19.05)	0.650 (16.51)
60	0.775 (19.69)	0.675 (17.15)
62	0.800 (20.32)	0.700 (17.78)
64	0.825 (20.96)	0.725 (18.42)
66	0.850 (21.59)	0.750 (19.05)
68	0.875 (22.23)	0.775 (19.69)
70	0.900 (22.86)	0.800 (20.32)
72	0.925 (23.50)	0.825 (20.96)
74	0.950 (24.13)	0.850 (21.59)
76	0.975 (24.77)	0.875 (22.23)
78	1.000 (25.40)	0.900 (22.86)
80	1.025 (26.04)	0.925 (23.50)

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Wire: see part number break down
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Only applies if ordered with optional mounting holes

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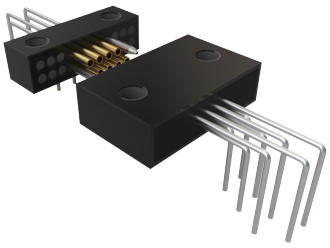
Single and Dual Row Nano Strip Connectors

891-048 Dual Row, Plastic Shell, Nano Strip, Right-Angle Mount Thru-Hole PCB Connector



Nano Strip Right-Angle Thru-Hole PCB Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Pre-Tinned PC Tail are coated with Sn63Pb37 or Sn60Pb40 Tin-Lead for excellent solderability.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

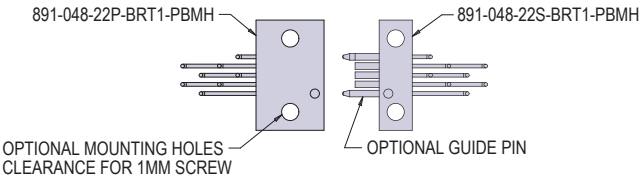
HOW TO ORDER

Sample Part Number	891-048	-22	P	-BRT	1	-PB	MH

Series	**891-048** = Dual Row Plastic Shell Nano Strip Right-Angle Thru-Hole PCB Connector
Number of Cavities	**2** thru **80** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (plug) **S** = Socket (receptacle)
Termination Type	**BRT** = Board right-angle thru-hole
PC Tail Length	**1** = .110, **2** = .172, **3** = .140; length in inches
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (add 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 12 cavities to number of active contacts)

OPTIONAL MOUNTING HOLE EXAMPLE

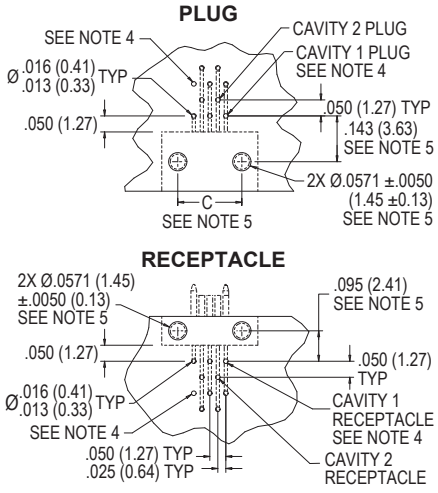
NUMBER OF CAVITIES EXAMPLE
8 ACTIVE CONTACTS
+2 PB GUIDE PINS
+12 MOUNTING HOLES
22 TOTAL



NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Pretinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Pads corresponding to guide pin(s) or cavities that accept guide pin(s) can be omitted
5. Only applies if ordered with optional mounting holes

NANO STRIP PCB LAYOUT



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

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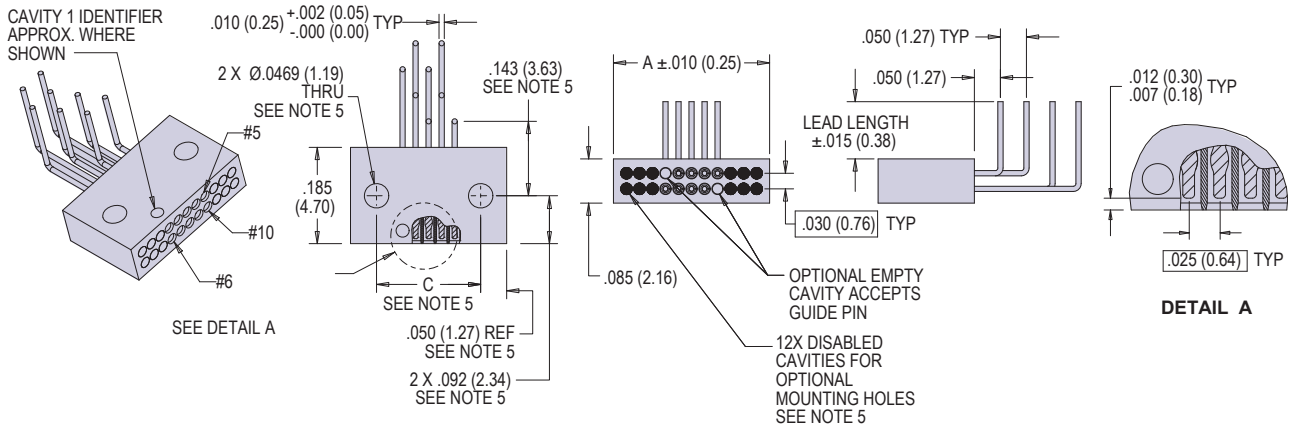
Dimensions in Inches (millimeters) are subject to change without notice.

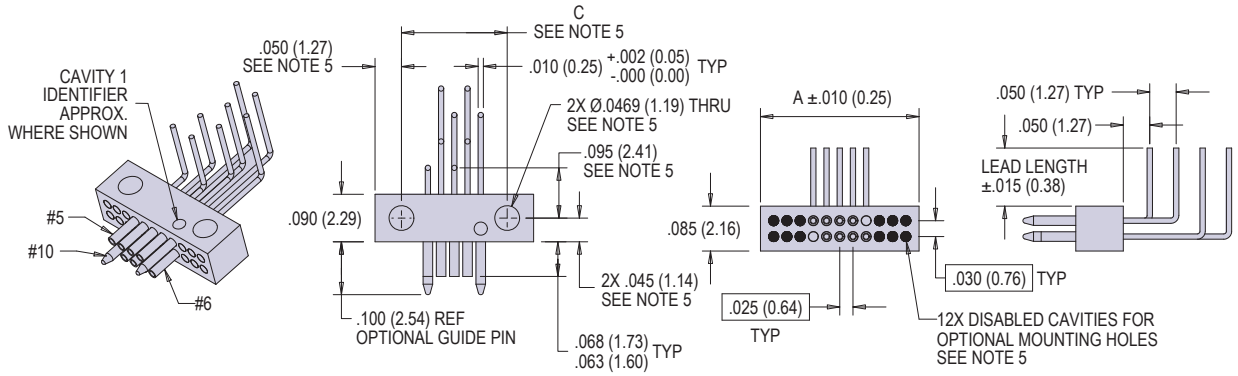
891-048 Dual Row, Plastic Shell, Nano Strip, Right-Angle Mount Thru-Hole PCB Connector

TABLE I: DIMENSIONS

Plug



Receptacle



Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5
2	0.050 (1.27)	N/A	22	0.300 (7.62)	0.200 (5.08)	42	0.550 (13.97)	0.450 (11.43)	62	0.800 (20.32)	0.700 (17.78)
4	0.075 (1.91)	N/A	24	0.325 (8.26)	0.225 (5.72)	44	0.575 (14.61)	0.475 (12.07)	64	0.825 (20.96)	0.725 (18.42)
6	0.100 (2.54)	N/A	26	0.350 (8.89)	0.250 (6.35)	46	0.600 (15.24)	0.500 (12.70)	66	0.850 (21.59)	0.750 (19.05)
8	0.125 (3.18)	N/A	28	0.375 (9.53)	0.275 (6.99)	48	0.625 (15.88)	0.525 (13.34)	68	0.875 (22.23)	0.775 (19.69)
10	0.150 (3.81)	N/A	30	0.400 (10.16)	0.300 (7.62)	50	0.650 (16.51)	0.550 (13.97)	70	0.900 (22.86)	0.800 (20.32)
12	0.175 (4.45)	N/A	32	0.425 (10.80)	0.325 (8.26)	52	0.675 (17.15)	0.575 (14.61)	72	0.925 (23.50)	0.825 (20.96)
14	0.200 (5.08)	0.100 (2.54)	34	0.450 (11.43)	0.350 (8.89)	54	0.700 (17.78)	0.600 (15.24)	74	0.950 (24.13)	0.850 (21.59)
16	0.225 (5.72)	0.125 (3.18)	36	0.475 (12.07)	0.375 (9.53)	56	0.725 (18.42)	0.625 (15.88)	76	0.975 (24.77)	0.875 (22.23)
18	0.250 (6.35)	0.150 (3.81)	38	0.500 (12.70)	0.400 (10.16)	58	0.750 (19.05)	0.650 (16.51)	78	1.000 (25.40)	0.900 (22.86)
20	0.275 (6.99)	0.175 (4.45)	40	0.525 (13.34)	0.425 (10.80)	60	0.775 (19.69)	0.675 (17.15)	80	1.025 (26.04)	0.925 (23.50)

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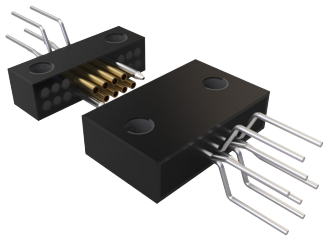
Single and Dual Row Nano Strip Connectors

891-049 Dual Row, Plastic Shell, Nano Strip, Vertical Mount Thru-Hole PCB Connector



Nano Strip Vertical Thru-Hole PCB connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to Insulated wire. These nanominiature strip connectors offer premium performance and reliability for demanding applications. Pre-tinned PC tails are coated with Sn63Pb37 or Sn60Pb40 Tin-Lead for excellent solderability.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

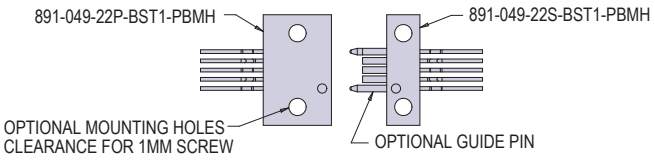
HOW TO ORDER

Sample Part Number	891-049	-22	P	-BST	1	-PB	MH

Series	**891-049** = Dual row plastic shell Nano Strip vertical thru-hole PCB connectors
Number of Cavities	**2** thru **80** = Total number of cavities including cavities used for guide pins and disabled cavities used for mounting holes, if any. See Table I
Contact Type	**P** = Pin (plug) **S** = Socket (receptacle)
Termination Type	**BST** = Board straight thru-hole
PC Tail Length	**1** = .110, **2** = .172, **3** = .140; length in inches
Optional Guide Pin	**Omit** for no guide pin (Guide pin in receptacle, accepts guide pin in plug) **P1** = Guide pin or accepts guide pin in position 1 (ad 1 cavity to number of active contacts) **PB** = Guide pin or accepts guide pin in 1 and last position (add 2 cavities to number of active contacts) **PX** = Guide pin or accepts guide pin in position specified by "X" (add 1 cavity to number of active contacts)
Optional Mounting Holes	**Omit** for no mounting holes **MH** = Mounting holes (add 12 cavities to number of active contacts)

OPTIONAL MOUNTING HOLE EXAMPLE

NUMBER OF CAVITIES EXAMPLE
8 ACTIVE CONTACTS
+2 PB GUIDE PINS
+12 MOUNTING HOLES
22 TOTAL



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

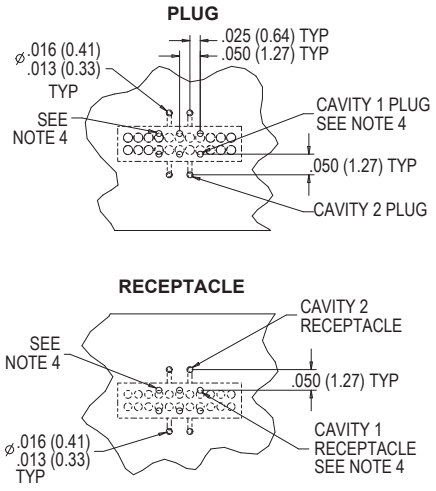
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensible material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and Finishes:
   - Shell: polyphenylene sulfide (PPS)
   - Contacts: gold alloy / unplated
   - Pre-tinned PC tails: coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Optional guide pin: stainless steel, passivated
2. Inspect and test IAW MIL-DTL-32139 where applicable
3. Strip shell may have a half cavity on either end or each end
4. Pads corresponding to guide pin(s) or cavities that accept guide pin(s) can be omitted
5. Only applies if ordered with optional mounting holes

NANO STRIP PCB LAYOUT



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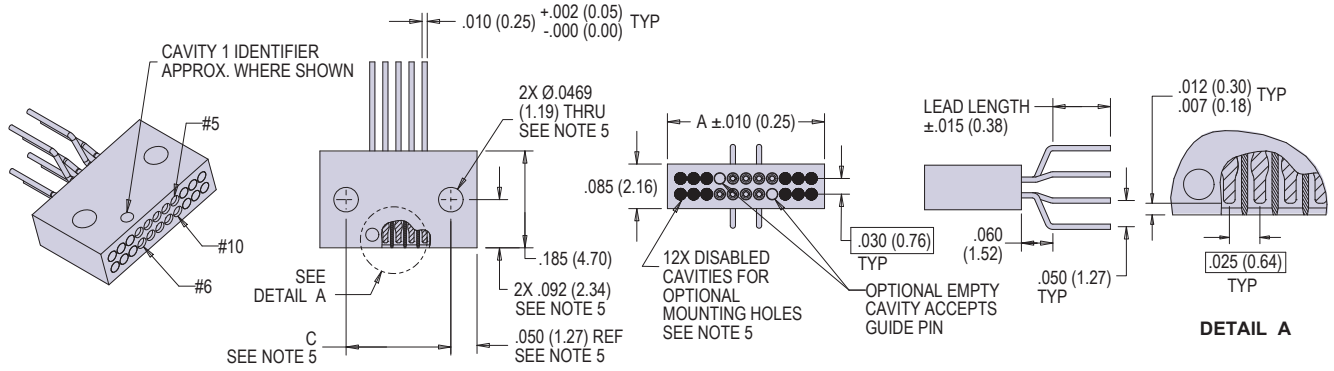
Dimensions in Inches (millimeters) are subject to change without notice.

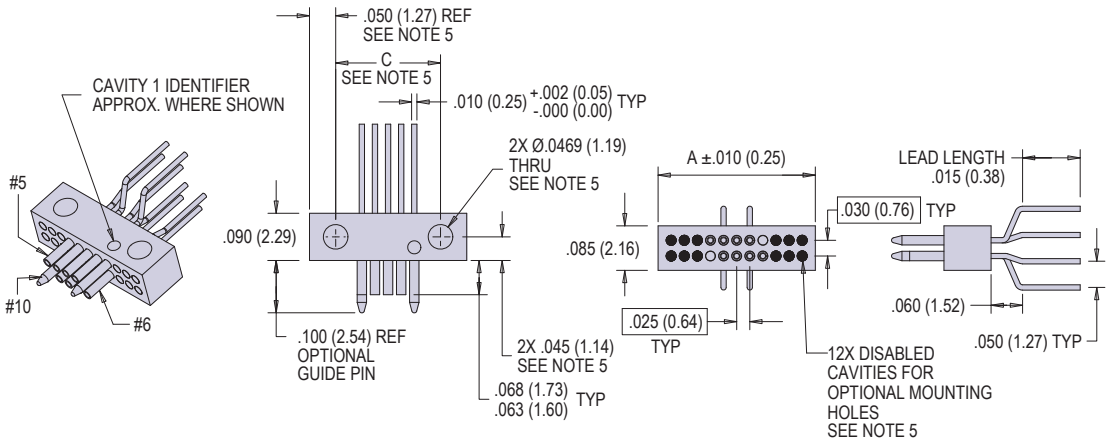
891-049 Dual Row, Plastic Shell, Nano Strip, Vertical Mount Thru-Hole PCB Connector

DIMENSIONS

Plug



Receptacle



Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5	Number Cavities	A	C See Note 5
2	0.050 (1.27)	N/A	22	0.300 (7.62)	0.200 (5.08)	42	0.550 (13.97)	0.450 (11.43)	62	0.800 (20.32)	0.700 (17.78)
4	0.075 (1.91)	N/A	24	0.325 (8.26)	0.225 (5.72)	44	0.575 (14.61)	0.475 (12.07)	64	0.825 (20.96)	0.725 (18.42)
6	0.100 (2.54)	N/A	26	0.350 (8.89)	0.250 (6.35)	46	0.600 (15.24)	0.500 (12.70)	66	0.850 (21.59)	0.750 (19.05)
8	0.125 (3.18)	N/A	28	0.375 (9.53)	0.275 (6.99)	48	0.625 (15.88)	0.525 (13.34)	68	0.875 (22.23)	0.775 (19.69)
10	0.150 (3.81)	N/A	30	0.400 (10.16)	0.300 (7.62)	50	0.650 (16.51)	0.550 (13.97)	70	0.900 (22.86)	0.800 (20.32)
12	0.175 (4.45)	N/A	32	0.425 (10.80)	0.325 (8.26)	52	0.675 (17.15)	0.575 (14.61)	72	0.925 (23.50)	0.825 (20.96)
14	0.200 (5.08)	0.100 (2.54)	34	0.450 (11.43)	0.350 (8.89)	54	0.700 (17.78)	0.600 (15.24)	74	0.950 (24.13)	0.850 (21.59)
16	0.225 (5.72)	0.125 (3.18)	36	0.475 (12.07)	0.375 (9.53)	56	0.725 (18.42)	0.625 (15.88)	76	0.975 (24.77)	0.875 (22.23)
18	0.250 (6.35)	0.150 (3.81)	38	0.500 (12.70)	0.400 (10.16)	58	0.750 (19.05)	0.650 (16.51)	78	1.000 (25.40)	0.900 (22.86)
20	0.275 (6.99)	0.175 (4.45)	40	0.525 (13.34)	0.425 (10.80)	60	0.775 (19.69)	0.675 (17.15)	80	1.025 (26.04)	0.925 (23.50)

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

SERIES 89

nano miniature™

MIL-DTL-32139 Qualified Connectors

MIL-DTL-32139, pre-wired and PCB rectangular TwistPin Nano Miniature connectors

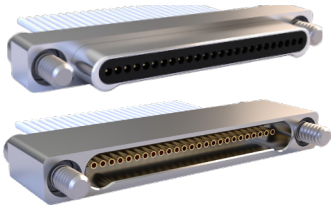


Glenair Series 89 connectors are qualified to the MIL-DTL-32139 specification. MIL-DTL-32139 single and dual row plug and receptacle shell connectors are offered as pre-wired and PCB mount versions and are available in titanium, stainless steel, or aluminum shells. Connectors are configured with .025 inch contact spacing and a DWV rating of 250 volts AC. Ten contact layouts are available from 9 to 85 way. All connectors are offered with 30 AWG stranded wire in accordance with M32139 including NEMA HP3-ETXBBB, 04047-30A and M22759/33, /51, /52 types. Connector hardware includes jackscrew or female threaded shells. Applications include downhole electronics, missile systems, launch vehicles and satellites.

- **Single- and dual-row, 9–85 way**
- **Aluminum, titanium, or stainless steel shells**
- **High vibration and shock gold alloy TwistPin contact system**
- **Straight and right-angle thru-hole PCB versions**

Single and Dual Row Rectangular Connectors

Connector Selection Guide



MIL-DTL-32139/01 and /02 Plug and Receptacle, Single Row Connectors with Insulated Wire — **E-2**



MIL-DTL-32139/03 and /04 Plug and Receptacle, Dual Row Connectors with Insulated Wire — **E-4**



MIL-DTL-32139/05 and /06 Plug and Receptacle, Single Row, Vertical Mount, Thru-Hole PCB Connectors — **E-6**



MIL-DTL-32139/07 and /08 Plug and Receptacle, Single Row, Right-Angle Mount Thru-Hole PCB Connectors — **E-10**



MIL-DTL-32139/09 and /10 Plug and Receptacle, Rear Panel Mount, Dual Row Connectors with Insulated Wire — **E-14**

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MIL-DTL-32139 NANOMINIATURE
Single and Dual Row Rectangular Connectors

M32139/01 and /02 Plug and Receptacle, Single Row Connectors with Insulated Wire



M32139/01 and /02 Insulated Wire Nano Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

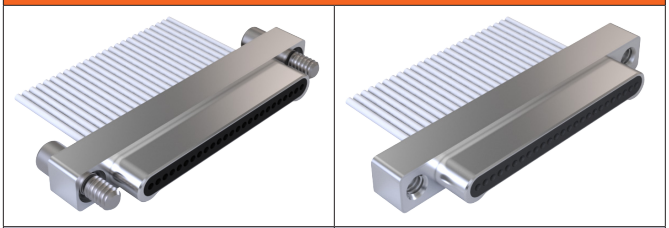
Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number:	M32139/01	-D	01	S	N	S

Series	**M32139/01** = Plug, Pin Contacts, Single Row, Nanominiature **M32139/02** = Receptacle, Socket Contacts, Single Row, Nanominiature
Insert Arrangements	**A** = 9 contacts **B** = 15 contacts **C** = 21 contacts **D** = 25 contacts **E** = 31 contacts **F** = 37 contacts **G** = 51 contacts
Wire Type	All wire types specify 30 AWG stranded wire. See M32139 Wire Type Table
Hardware	**S** = Jackscrew M32139/01 Plug Only **T** = Threaded Hole M32139/02 Receptacle Only
Shell Material and Finish	**C** = Aluminum, Cadmium Finish (Not for Space) **S** = Stainless Steel, Passivated Finish **F** = Nickel Fluorocarbon Polymer **N** = Aluminum, Electroless Nickel Finish **T** = Titanium (Unplated) **Z** = Zinc Nickel
Space Class	**(Omit)** = Non-space applications **S** = Space Grade

PLUG (PIN) CONNECTOR



S - Jackscrew | T - Female Thread

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP N/A
   - Contacts: gold alloy/unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/1 & MIL-DTL-32139/2

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
01	NEMA HP3-ETXBBB	White	6 (152.40)
02	NEMA HP3-ETXBBB	White	18 (457.20)
03	NEMA HP3-ETXBBB	White	36 (914.40)
04	NEMA HP3-ETXBBB	10 Color[2]	6 (152.40)
05	NEMA HP3-ETXBBB	10 Color[2]	18 (457.20)
06	NEMA HP3-ETXBBB	10 Color[2]	36 (914.40)
07	M22759/33-30	White	6 (152.40)
08	M22759/33-30	White	18 (457.20)
09	M22759/33-30	White	36 (914.40)
10	M22759/33-30	10 Color[2]	6 (152.40)
11	M22759/33-30	10 Color[2]	18 (457.20)
12	M22759/33-30	10 Color[2]	36 (914.40)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
13	04047-30A[1]	White	6 (152.40)
14	04047-30A[1]	White	18 (457.20)
15	04047-30A[1]	White	36 (914.40)
16	04047-30A[1]	10 Color[2]	6 (152.40)
17	04047-30A[1]	10 Color[2]	18 (457.20)
18	04047-30A[1]	10 Color[2]	36 (914.40)
25	M22759/51-30-9	White	6 (152.40)
26	M22759/51-30-9	White	18 (457.20)
27	M22759/51-30-9	White	36 (914.40)
28	M22759/51-30-( )	10 Color[2]	6 (152.40)
29	M22759/51-30-( )	10 Color[2]	18 (457.20)
30	M22759/51-30-( )	10 Color[2]	36 (914.40)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
31	M22759/52-30-9	White	6 (152.40)
32	M22759/52-30-9	White	18 (457.20)
33	M22759/52-30-9	White	36 (914.40)
34	M22759/52-30-( )	10 Color[2]	6 (152.40)
35	M22759/52-30-( )	10 Color[2]	18 (457.20)
36	M22759/52-30-( )	10 Color[2]	36 (914.40)

1. DSCC 04047 is a special composite wire subject to additional cost and longer delivery.
2. Color coding per MIL-STF-681, System 1, except using ten solid colors in repeating sequence.

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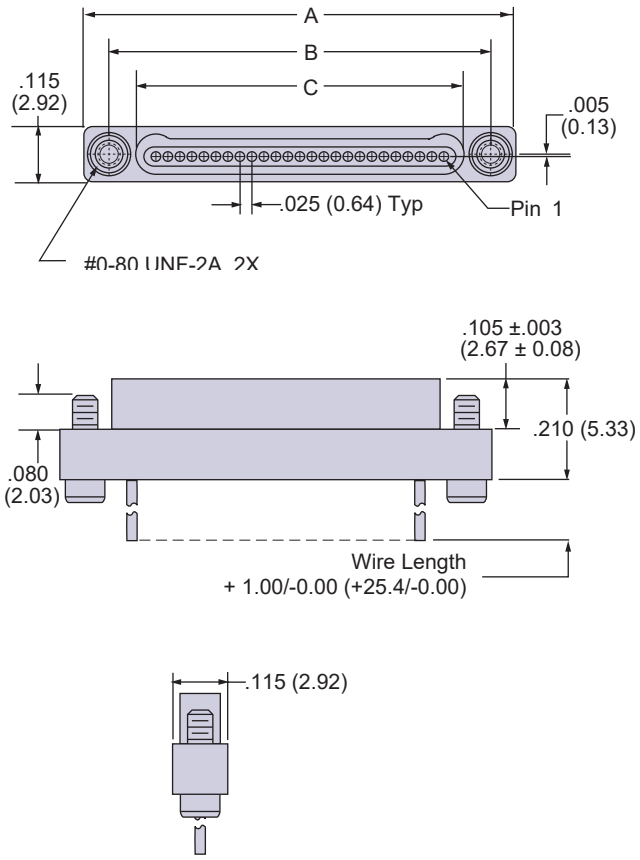
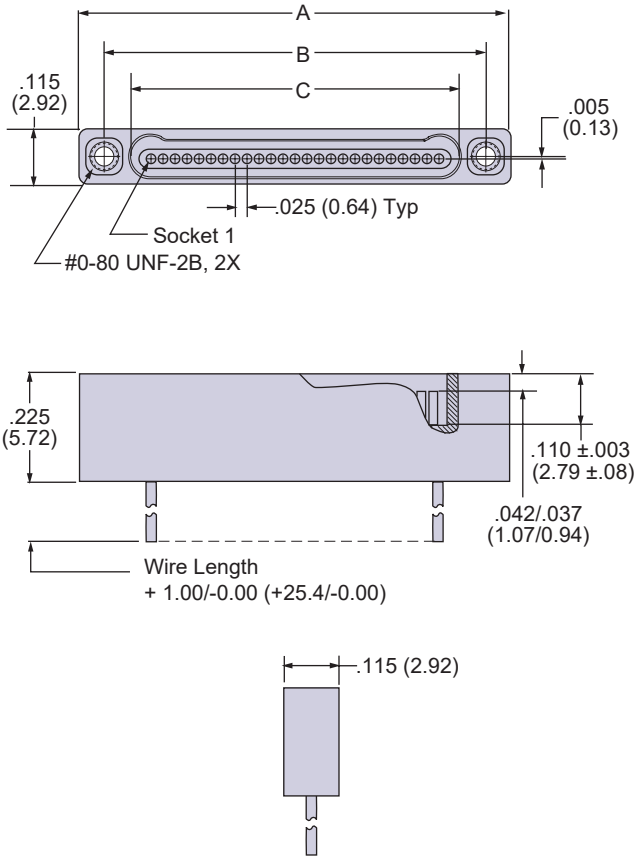
M32139/01 and /02 Plug and Receptacle, Single Row Connectors with Insulated Wire

SINGLE ROW NANO INSULATED WIRE DIMENSIONS

32139/01 Plug (Pin) Connectors



32139/02 Receptacle (Socket) Connectors



Layout	A ± .005(0.13)	B BSC.	C BSC.
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)
31S	1.050 (2 6.67)	.945 (24.00)	.835 (21.21)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)

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MIL-DTL-32139 NANOMINIATURE
Single and Dual Row Rectangular Connectors

M32139/03 and /04 Plug and Receptacle, Dual Row Connectors with Insulated Wire



M32139/03 and /04 Insulated Wire Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

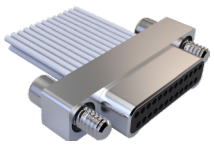
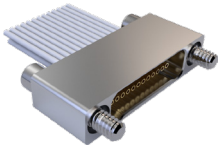
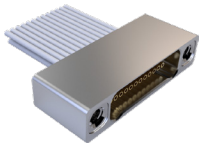
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

HOW TO ORDER

Sample Part Number	M32139/03	-D	01	S	N	S

Series	**M32139/03** = Plug, Pin Contacts, Dual Row, Nanominiature **M32139/04** = Receptacle, Socket Contacts, Dual Row, Nanominiature
Insert Arrangements	**A** = 9 contacts **B** =15 contacts **C** = 21 contacts **D** = 25 contacts **E** = 31 contacts **F** = 37 contacts **G** = 51 contacts **H** = 65 contacts **J** = 69 contacts **K** = 85 contacts
Wire Type	All wire types specify 30 AWG stranded wire. See M32139 Wire Type Table
Hardware	**S** = Jackscrew **T** = Threaded Hole Female threads available for plug connectors only if shell material is titanium or stainless steel
Shell Material and Finish	**C** = Aluminum, Cadmium Finish (Not for Space) **S** = Stainless Steel, Passivated Finish **F** = Nickel Fluorocarbon Polymer **N** = Aluminum, Electroless Nickel Finish **T** = Titanium (Unplated) **Z** = Zinc Nickel
Space Class	**(Omit)** = Non-space applications **S** = Space Grade

PLUG (PIN) CONNECTOR		RECEPTACLE (SOCKET) CONNECTOR	
			
S - Jackscrew Option	T - Female Thread Option	S - Jackscrew Option	T - Female Thread Option

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP/N/A
   - Contacts: gold alloy/unplated
   - Wire: see part number breakdown
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/3 & MIL-DTL-32139/4

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
01	NEMA HP3-ETXBBB	White	6 (152.40)
02	NEMA HP3-ETXBBB	White	18 (457.20)
03	NEMA HP3-ETXBBB	White	36 (914.40)
04	NEMA HP3-ETXBBB	10 Color[2]	6 (152.40)
05	NEMA HP3-ETXBBB	10 Color[2]	18 (457.20)
06	NEMA HP3-ETXBBB	10 Color[2]	36 (914.40)
07	M22759/33-30	White	6 (152.40)
08	M22759/33-30	White	18 (457.20)
09	M22759/33-30	White	36 (914.40)
10	M22759/33-30	10 Color[2]	6 (152.40)
11	M22759/33-30	10 Color[2]	18 (457.20)
12	M22759/33-30	10 Color[2]	36 (914.40)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
13	04047-30A[1]	White	6 (152.40)
14	04047-30A[1]	White	18 (457.20)
15	04047-30A[1]	White	36 (914.40)
16	04047-30A[1]	10 Color[2]	6 (152.40)
17	04047-30A[1]	10 Color[2]	18 (457.20)
18	04047-30A[1]	10 Color[2]	36 (914.40)
25	M22759/51-30-9	White	6 (152.40)
26	M22759/51-30-9	White	18 (457.20)
27	M22759/51-30-9	White	36 (914.40)
28	M22759/51-30-( )	10 Color[2]	6 (152.40)
29	M22759/51-30-( )	10 Color[2]	18 (457.20)
30	M22759/51-30-( )	10 Color[2]	36 (914.40)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
31	M22759/52-30-9	White	6 (152.40)
32	M22759/52-30-9	White	18 (457.20)
33	M22759/52-30-9	White	36 (914.40)
34	M22759/52-30-( )	10 Color[2]	6 (152.40)
35	M22759/52-30-( )	10 Color[2]	18 (457.20)
36	M22759/52-30-( )	10 Color[2]	36 (914.40)

1. DSCC 04047 is a special composite wire subject to additional cost and longer delivery.
2. Color coding per MIL-STF-681, System 1, except using ten solid colors in repeating sequence.

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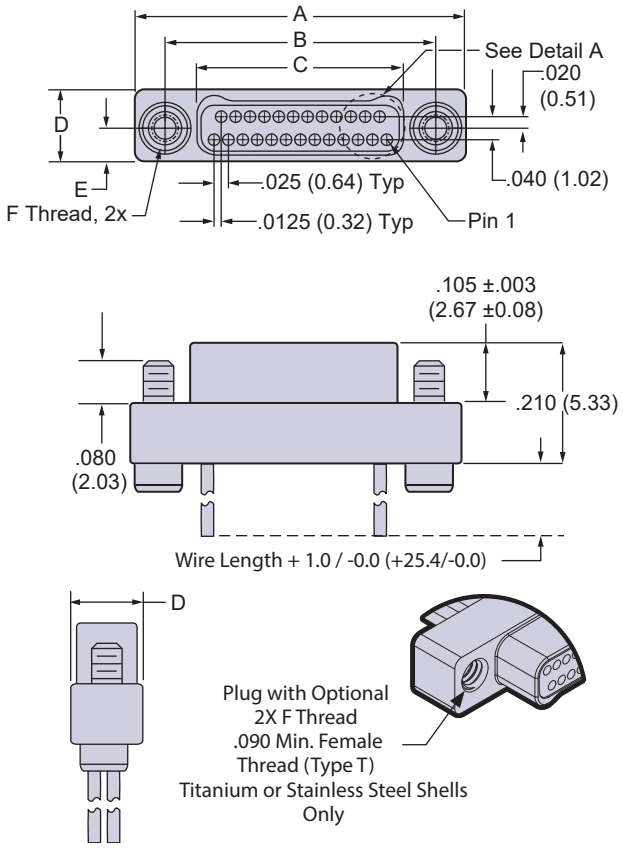
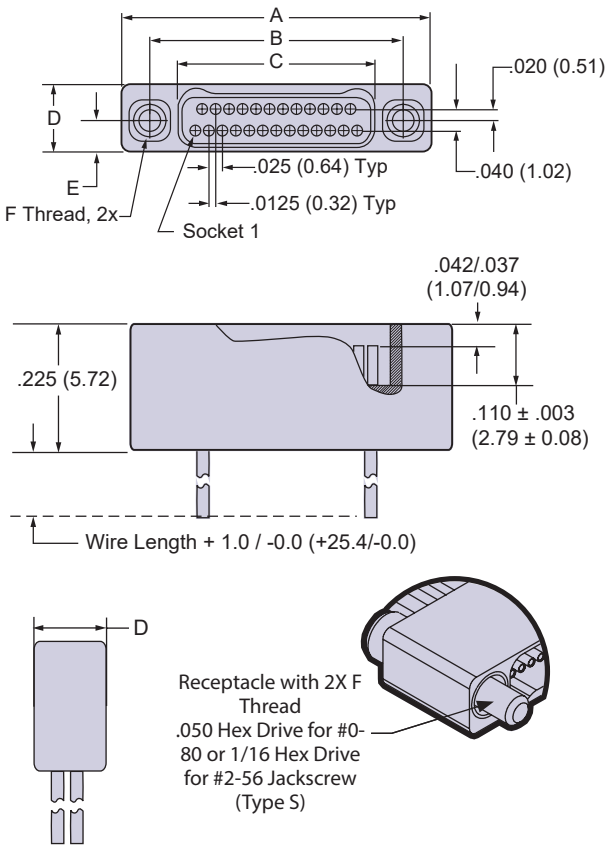
M32139/03 and /04 Plug and Receptacle, Dual Row Connectors with Insulated Wire

DIMENSIONS

M32139/03 Plug (pin) Connector



M32139/04 Receptacle (socket) Connector



Layout	A ± .005(0.13)	B BSC.	C BSC.	D ± .005(0.13)	E BSC.	F Thread
9P	.375 (9.53)	.270 (6.86)	.160 (4.06)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
9S	.375 (9.53)	.270 (6.86)	.163 (4.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15P	.450 (11.43)	.345 (8.76)	.235 (5.97)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
15S	.450 (11.43)	.345 (8.76)	.238 (6.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21P	.525 (13.34)	.420 (10.67)	.310 (7.87)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
21S	.525 (13.34)	.420 (10.67)	.313 (7.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25P	.575 (14.61)	.470 (11.94)	.360 (9.14)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
25S	.575 (14.61)	.470 (11.94)	.363 (9.22)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31P	.650 (16.51)	.545 (13.84)	.435 (11.05)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
31S	.650 (16.51)	.545 (13.84)	.438 (11.13)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37P	.725 (18.42)	.620 (15.75)	.510 (12.95)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
37S	.725 (18.42)	.620 (15.75)	.513 (13.03)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51P	.900 (22.86)	.795 (20.19)	.685 (17.40)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
51S	.900 (22.86)	.795 (20.19)	.688 (17.48)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65P	1.075 (27.31)	.970 (24.64)	.860 (21.84)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
65S	1.075 (27.31)	.970 (24.64)	.863 (21.92)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69P	1.125 (28.58)	1.020 (25.91)	.910 (23.11)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
69S	1.125 (28.58)	1.020 (25.91)	.913 (23.19)	.125 (3.18)	.0575 (1.46)	#0-80 UNF
85P	1.377 (34.98)	1.246 (31.65)	1.110 (28.19)	.150 (3.81)	.0700 (1.78)	#2-56 UNC
85S	1.377 (34.98)	1.246 (31.65)	1.113 (28.27)	.150 (3.81)	.0700 (1.78)	#2-56 UNC

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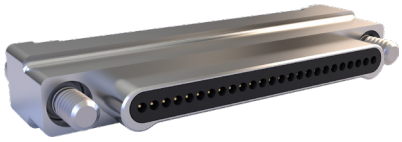
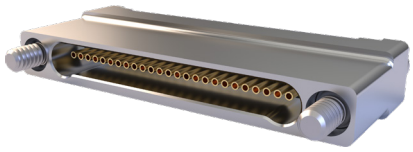
Single and Dual Row Rectangular Connectors

M32139/05 and /06 Plug and Receptacle, Single Row, Vertical Mount Thru-Hole PCB Connectors





M32139/05 and /06 Single Row Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to 30 AWG copper wire PC tails with gold over nickel plating. These nanominiature connectors offer premium performance and reliability for demanding applications and are in accordance with MIL-DTL-32139. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

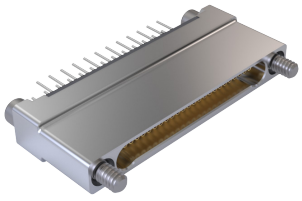
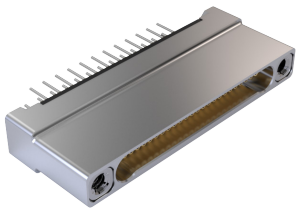
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

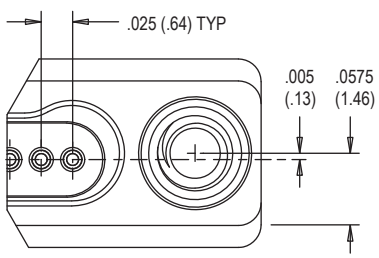
HOW TO ORDER

Sample Part Number	M32139/05	-D	01	S	N	S

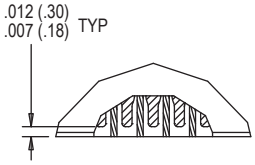
Series	**M32139/05** = Plug, Pin Contacts, Single Row, Nanominiature **M32139/06** = Receptacle, Socket Contacts, Single Row, Nanominiature
Insert Arrangements	**A** = 9 contacts **B** =15 contacts **C** = 21 contacts **D** = 25 contacts **E** = 31 contacts **F** = 37 contacts **G** = 51 contacts
PC Tail Finish	**01** = Tin/Lead (Sn63Pb37 or Sn60Pb40) **02** = Gold
Hardware	**S** = Jackscrew T = Threaded Hole
Shell Material and Finish	**C** = Aluminum, Cadmium Finish (Not for Space) **N** = Aluminum, Electroless Nickel Finish **F** = Aluminum, Nickel PTFE Finish **T** = Titanium (Unplated) **S** = Stainless Steel, Passivated Finish **Z** = Aluminum, Zinc Nickel (Black) Finish
Space Class	**(Omit)** = Non-space applications **S** = Space Grade

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
S - Jackscrew Option	T - Female Thread Option	S - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



DETAIL B

NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP/N/A
   - Contacts: gold alloy/unplated
   - PC tails: 30 AWG copper wire with gold over nickel plating
   - Hardware: stainless steel, passivated
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/5 & MIL-DTL-32139/6

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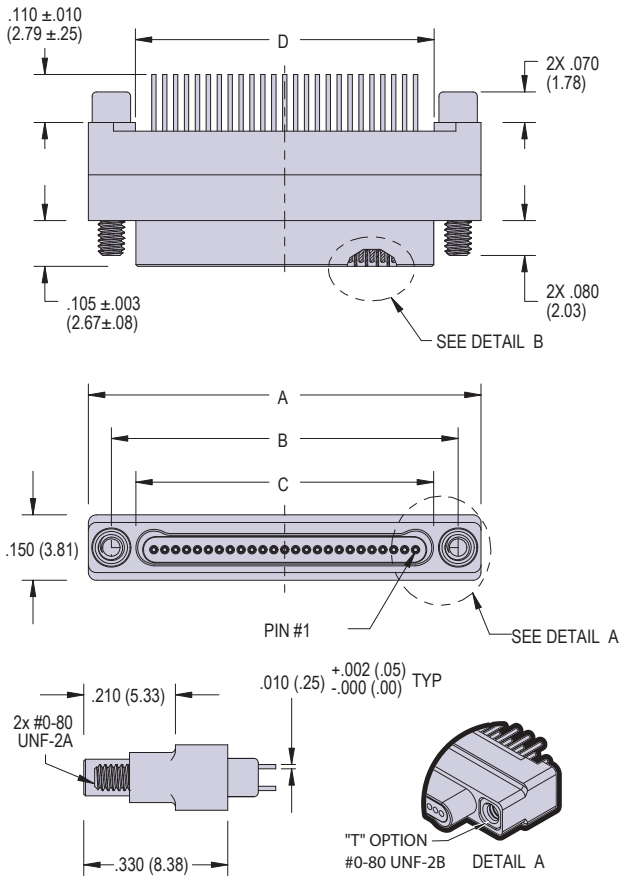
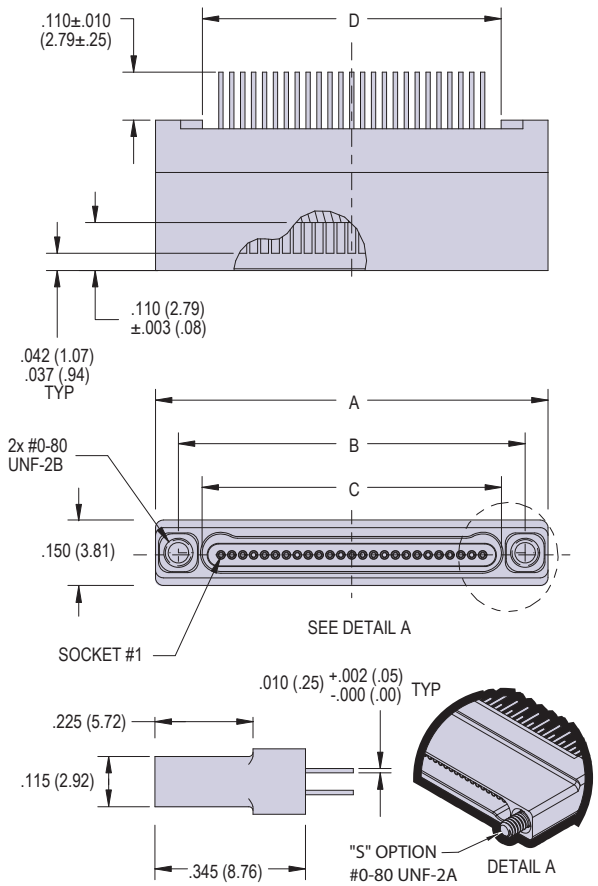
M32139/05 and /06 Plug and Receptacle, Single Row, Vertical Mount Thru-Hole PCB Connectors

DUAL ROW INSULATED WIRE DIMENSIONS

32139/05 Plug (Pin) Connectors



32139/06 Receptacle (Socket) Connectors



Layout	A	B BSC.	C BSC.	D Max
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	.295 (7.49)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)	.295 (7.49)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)	.445 (11.30)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	.595 (15.11)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	.595 (15.11)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)	.695 (17.65)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)	.845 (21.46)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)	.845 (21.46)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	.995 (25.27)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)	.995 (25.27)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.345 (34.16)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)	1.345 (34.16)

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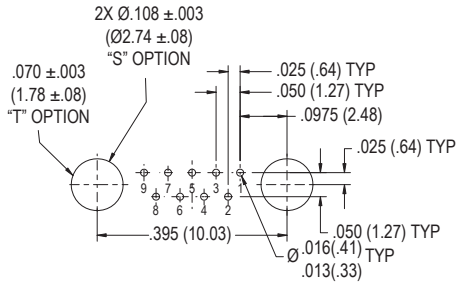
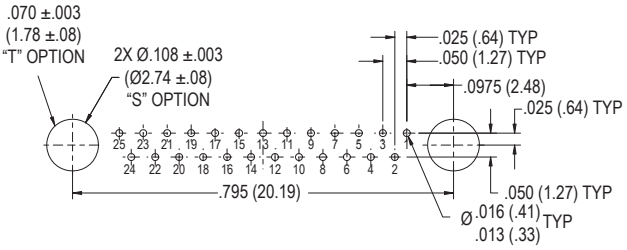
M32139/05 Plug Single Row PCB Footprint

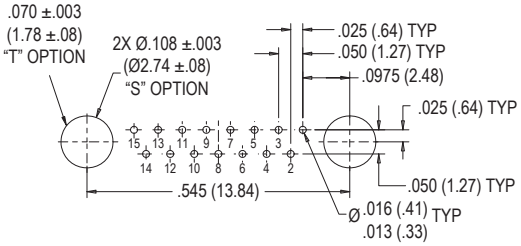
PCB layout patterns shown are for the connector mounting side of PC board



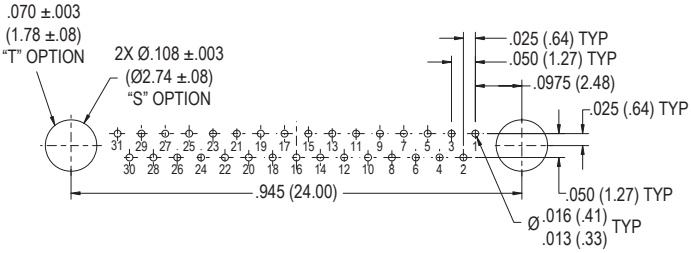
9 Contacts



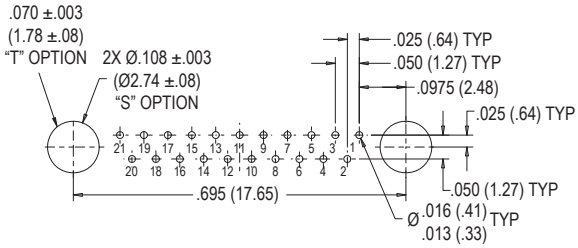
25 Contacts



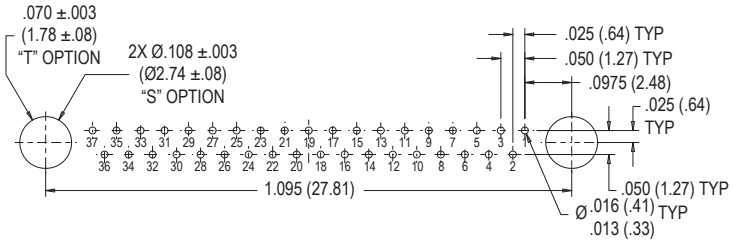
15 Contacts



31 Contacts



21 Contacts



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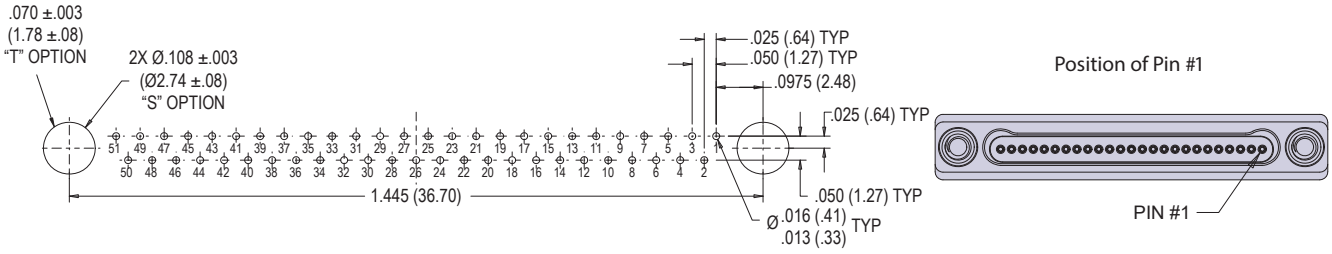

51 Contacts

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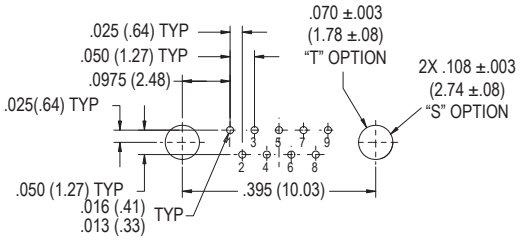
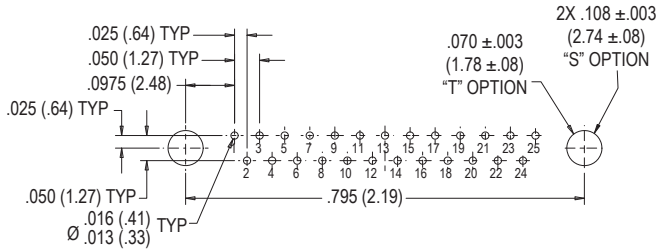
M32139/06 Receptacle Single Row PCB Footprint

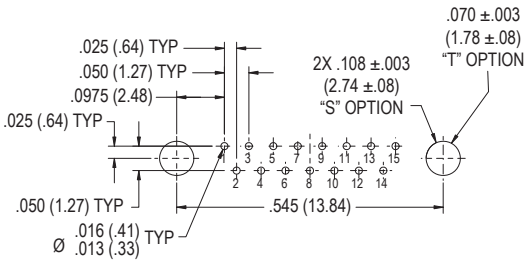
PCB layout patterns shown are for the connector mounting side of PC board



9 Contacts



25 Contacts



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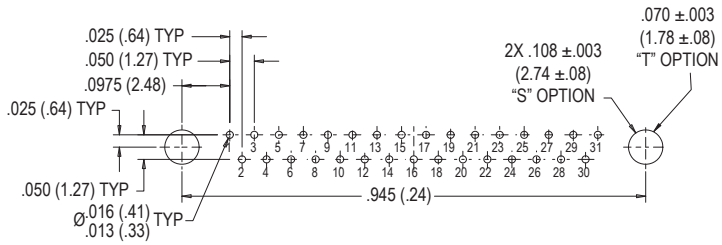
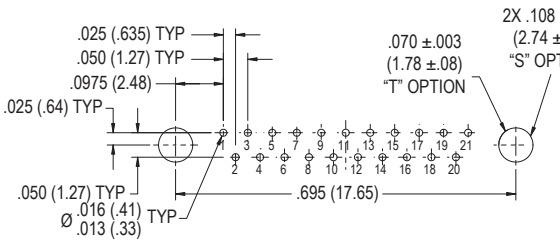
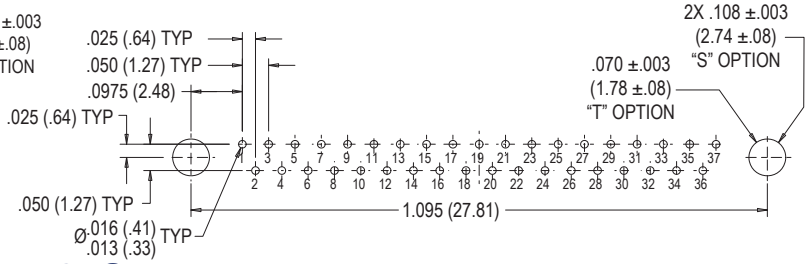


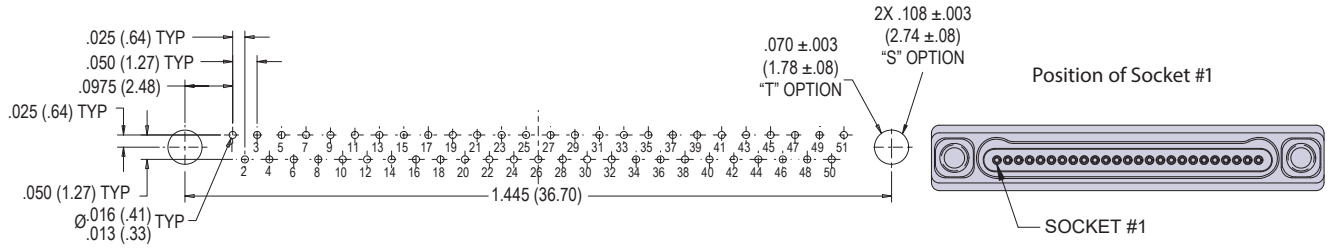
31 Contacts



21 Contacts



37 Contacts



51 Contacts

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MIL-DTL-32139 NANOMINIATURE

Single and Dual Row Rectangular Connectors

M32139/07 and /08 Plug and Receptacle, Single Row, Right-Angle Thru-Hole PCB Connectors



M32139/07 and /08 Single Row Right-Angle Mount Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to 30 AWG copper wire PC tails with gold over nickel plating. These nanominiature connectors offer premium performance and reliability for demanding applications and are in accordance with MIL-DTL-32139. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

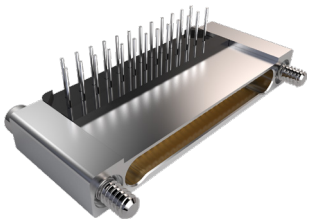
TwistPin Contact System assures premium performance in demanding environments. The gold alloy contacts will stand up to years of exposure without corrosion.

Typical Applications include UAVs, satellites, missile systems and geophysical instruments.

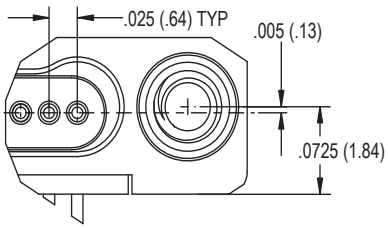
HOW TO ORDER

Sample Part Number	M32139/07	-A	01	S	N	S

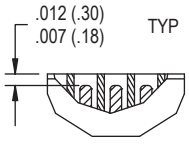
Series	**M32139/07** = Plug, Pin Contacts, Single Row, Nanominiature **M32139/08** = Receptacle, Socket Contacts, Single Row, Nanominiature
Insert Arrangements	**A** = 9 Contacts **B** =15 Contacts **C** = 21 Contacts **D** = 25 Contacts **E** = 31 Contacts **F** = 37 Contacts **G** = 51 Contacts
PC Tail Finish	**01** = Tin/Lead (Sn63Pb37 or Sn60Pb40) **02** = Gold
Hardware	**S** = Jackscrew **T** = Threaded Hole
Shell Material and Finish	**C** - Aluminum, Cadmium Finish (Not for Space) **N** - Aluminum, Electroless Nickel Finish **F** - Aluminum, Nickel PTFE Finish **T** - Titanium (Unplated) **S** - Stainless Steel, Passivated Finish **Z** - Aluminum, Zinc Nickel (Black) Finish
Space Class	**(Omit)** = Non-space applications **S** = Space Grade

PLUG HARDWARE		RECEPTACLE HARDWARE	
			
S - Jackscrew Option	T - Female Thread Option	S - Jackscrew Option	T - Female Thread Option

DETAIL A



DETAIL B



NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP/N/A
   - Contacts: gold alloy/unplated
   - PC tails: 30 AWG copper wire with gold over nickel plating
   - Hardware: passivated stainless steel
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dimensions per MIL-DTL-32139/7 & MIL-DTL-32139/8

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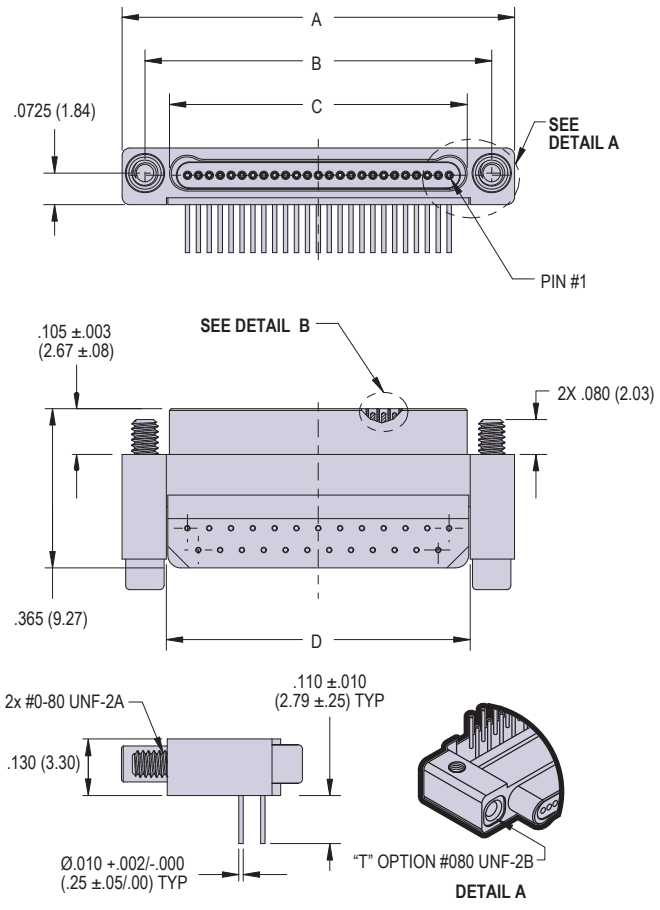
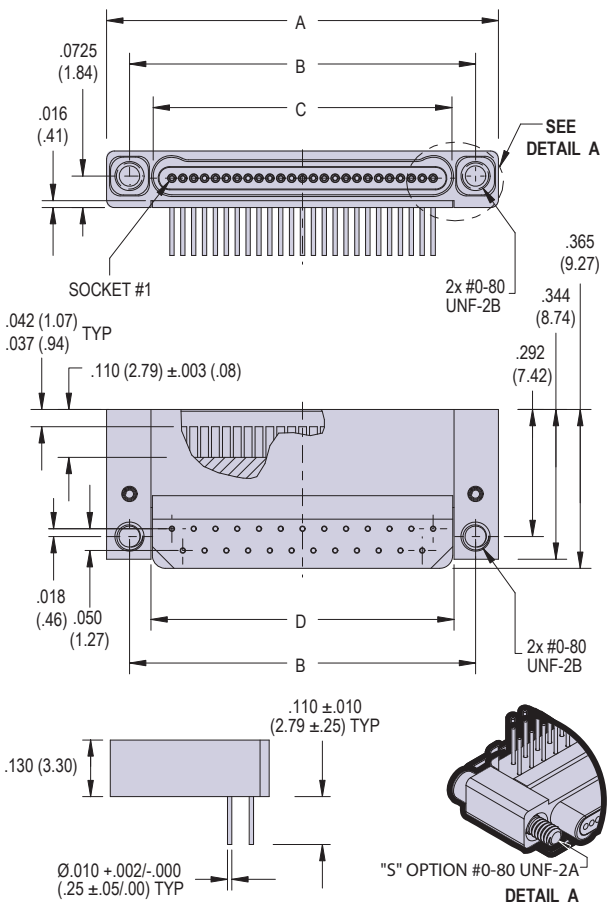
M32139/07 and /08 Plug and Receptacle, Single Row, Right-Angle Thru-Hole PCB Connectors

DIMENSIONS

32139/07 Plug (Pin) Connectors



32139/08 Receptacle (Socket) Connectors



Layout	A	B BSC.	C BSC.	D Max
9P	.500 (12.70)	.395 (10.03)	.284 (7.21)	.295 (7.49)
9S	.500 (12.70)	.395 (10.03)	.285 (7.24)	.295 (7.49)
15P	.650 (16.51)	.545 (13.84)	.434 (11.02)	.445 (11.30)
15S	.650 (16.51)	.545 (13.84)	.435 (11.05)	.445 (11.30)
21P	.800 (20.32)	.695 (17.65)	.584 (14.83)	.595 (15.11)
21S	.800 (20.32)	.695 (17.65)	.585 (14.86)	.595 (15.11)
25P	.900 (22.86)	.795 (20.19)	.684 (17.37)	.695 (17.65)
25S	.900 (22.86)	.795 (20.19)	.685 (17.40)	.695 (17.65)
31P	1.050 (26.67)	.945 (24.00)	.834 (21.18)	.845 (21.46)
31S	1.050 (26.67)	.945 (24.00)	.835 (21.21)	.845 (21.46)
37P	1.200 (30.48)	1.095 (27.81)	.984 (24.99)	.995 (25.27)
37S	1.200 (30.48)	1.095 (27.81)	.985 (25.02)	.995 (25.27)
51P	1.550 (39.37)	1.445 (36.70)	1.334 (33.88)	1.345 (34.16)
51S	1.550 (39.37)	1.445 (36.70)	1.335 (33.91)	1.345 (34.16)

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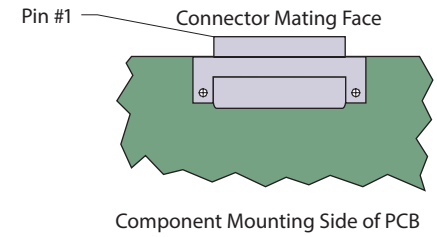
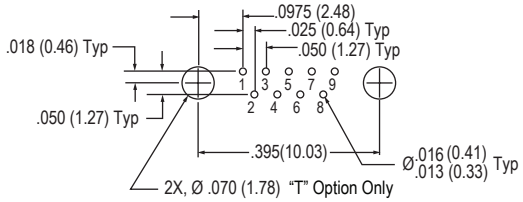
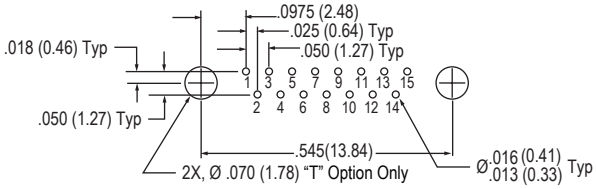
M32139/07 Plug Single Row, Right-Angle Mount Thru-Hole PCB Connectors



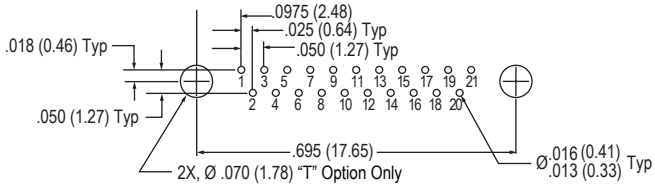
9 Contacts



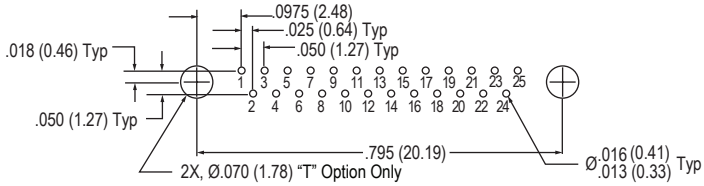
15 Contacts



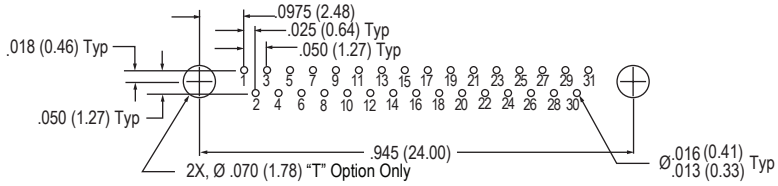
21 Contacts



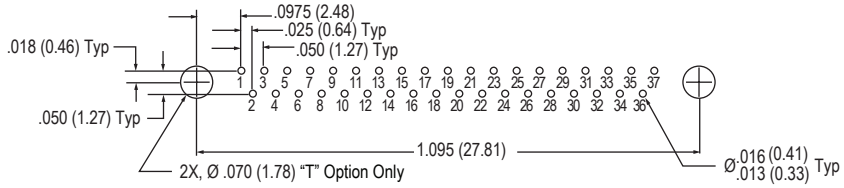
25 Contacts



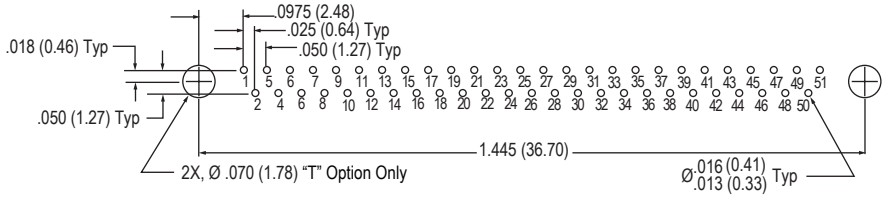
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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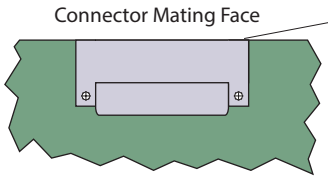
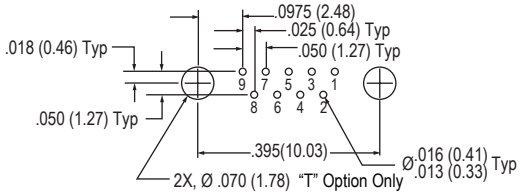
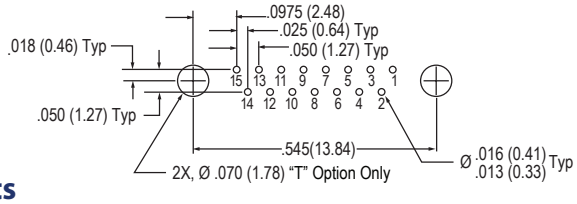
M32139/08 Receptacle, Single Row, Right-Angle Mount Thru-Hole PCB Connectors



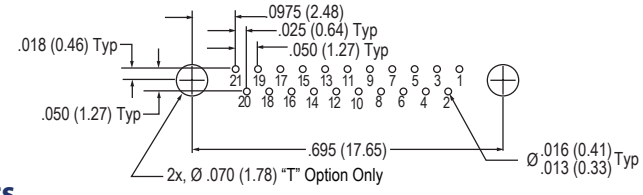
9 Contacts



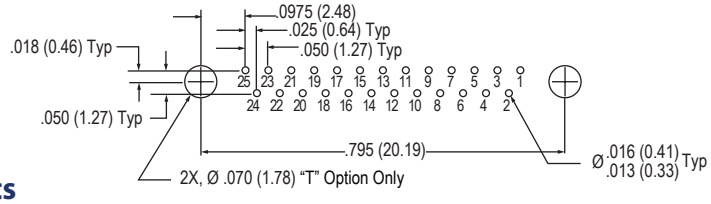
15 Contacts



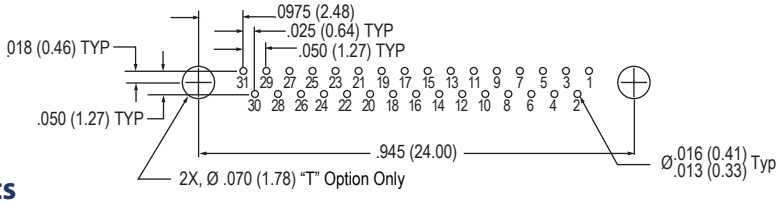
21 Contacts



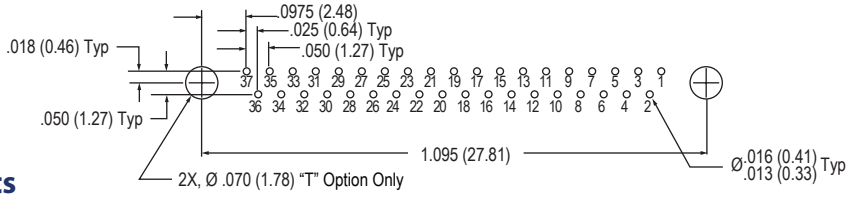
25 Contacts



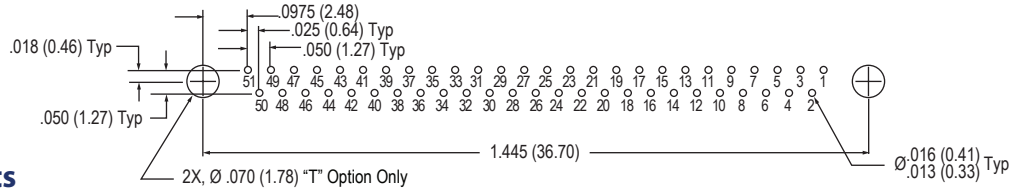
31 Contacts



37 Contacts



51 Contacts



Layouts shown are for connector mounting side of PC Board.

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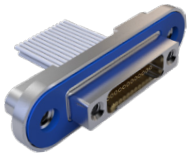
Single and Dual Row Rectangular Connectors

M32139/09 and /10 Plug and Receptacle, Dual Row Connectors with Insulated Wire



M32139/09 and /10 Insulated Wire Connectors feature gold alloy TwistPin contacts. Contacts are precision-crimped to insulated, stranded wire. These nanominiature connectors offer premium performance and reliability for demanding applications. Contact spacing is .025 inches. 1 amp current rating, DWV rating 250 volts AC.

PLUG HARDWARE	RECEPT. HARDWARE
	
T - Female Thread Option	T - Female Thread Option

HOW TO ORDER

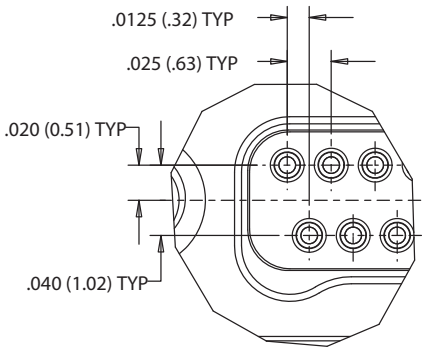
Sample Part Number	M32139/09	-D	01	T	S	S	01	M

Series	**M32139/09** = Plug, Pin Contacts, Dual Row, Nanominiature **M32139/10** = Receptacle, Socket Contacts, Dual Row, Nanominiature
Insert Arrangements	**A** = 9 contacts **B** =15 contacts **C** = 21 contacts **D** = 25 contacts **E** = 31 contacts **F** = 37 contacts **G** = 51 contacts **H** = 65 contacts **J** = 69 contacts **K** = 85 contacts
Wire Type	All wire types specify 30 AWG stranded wire. See M32139 Wire Type Table
Hardware	**T** = Threaded Hole
Shell Material and Finish	**S** = Stainless Steel, Passivated Finish **T** = Titanium (Unplated)
Space Class	**(Omit)** = Non-space applications **S** = Space Grade
Gasket Material	Omit for no gasket **01** = Fluorosilicone IAW MIL-DTL25988 Type II, Class I, Grade 70 **02** = Passivated, silver plated aluminum filled fluorosilicone IAW MIL-DTL-83528, Type "D" (CHO-SEAL 1298 or equivalent) **03** = Nickel plated, aluminum filled fluorosilicone, (CHO-SEAL 6503 or equivalent)
Mounting Thread Option	**(Omit)** = #2-56 UNC-2B **M** = M2x0.4 6H

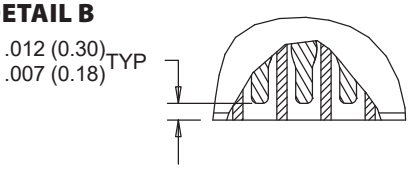
NOTES

1. Material and finish:
   - Shell: see part number breakdown
   - Insulator: LCP/N/A
   - Contacts: gold alloy/unplated
   - Wire: see M32139 wire type table
2. Inspect and Test IAW MIL-DTL-32139
3. Interface dims. per MIL-DTL-32139/9 & /10
4. Panel cutout allows connector mounting with lobes in either up or down orientation
5. Recommended panel thickness .100 (2.5) max
6. For replacement gasket see 899-015.

DETAIL A



DETAIL B



M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
01	NEMA HP3-ETXBBB	White	6 (152.40)
02	NEMA HP3-ETXBBB	White	18 (457.20)
03	NEMA HP3-ETXBBB	White	36 (914.40)
04	NEMA HP3-ETXBBB	10 Color[2]	6 (152.40)
05	NEMA HP3-ETXBBB	10 Color[2]	18 (457.20)
06	NEMA HP3-ETXBBB	10 Color[2]	36 (914.40)
07	M22759/33-30	White	6 (152.40)
08	M22759/33-30	White	18 (457.20)
09	M22759/33-30	White	36 (914.40)
10	M22759/33-30	10 Color[2]	6 (152.40)
11	M22759/33-30	10 Color[2]	18 (457.20)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
12	M22759/33-30	10 Color[2]	36 (914.40)
13	04047-30A[1]	White	6 (152.40)
14	04047-30A[1]	White	18 (457.20)
15	04047-30A[1]	White	36 (914.40)
16	04047-30A[1]	10 Color[2]	6 (152.40)
17	04047-30A[1]	10 Color[2]	18 (457.20)
18	04047-30A[1]	10 Color[2]	36 (914.40)
25	M22759/51-30-9	White	6 (152.40)
26	M22759/51-30-9	White	18 (457.20)
27	M22759/51-30-9	White	36 (914.40)
28	M22759/51-30-( )	10 Color[2]	6 (152.40)

M32139 WIRE TYPE

Wire Type	Specification	Color	Length In (mm)
29	M22759/51-30-( )	10 Color[2]	18 (457.20)
30	M22759/51-30-( )	10 Color[2]	36 (914.40)
31	M22759/52-30-9	White	6 (152.40)
32	M22759/52-30-9	White	18 (457.20)
33	M22759/52-30-9	White	36 (914.40)
34	M22759/52-30-( )	10 Color[2]	6 (152.40)
35	M22759/52-30-( )	10 Color[2]	18 (457.20)
36	M22759/52-30-( )	10 Color[2]	36 (914.40)

1. DSCC 04047 is a special composite wire subject to additional cost and longer delivery.
2. Color coding per MIL-STF-681, System 1, except using ten solid colors in repeating sequence.

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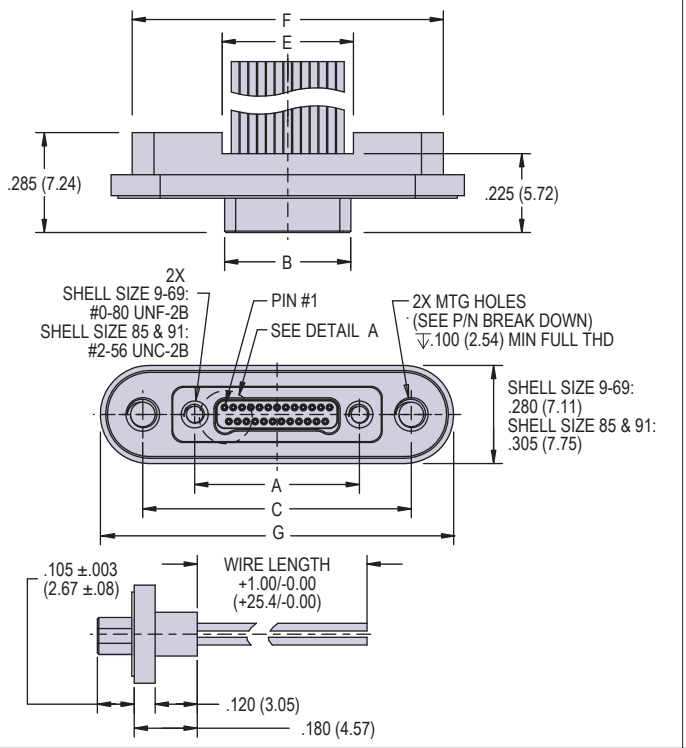
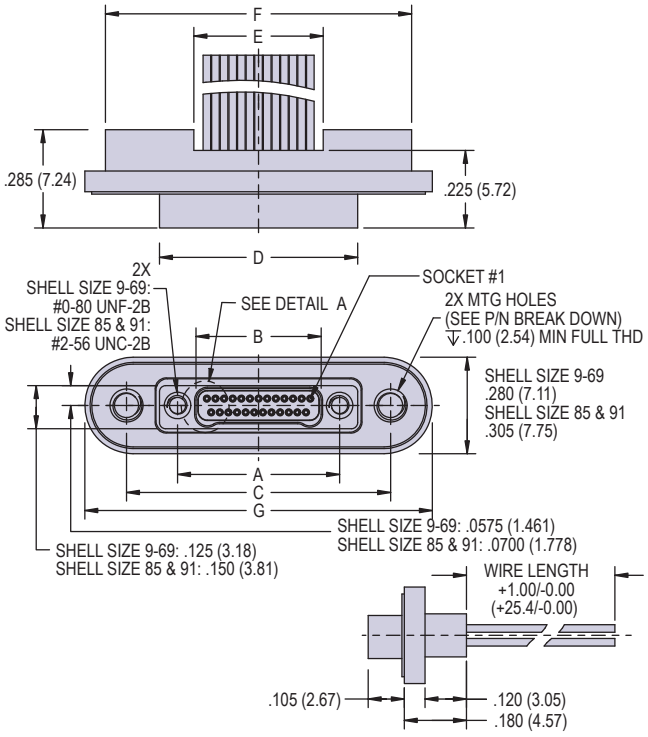
M32139/09 and /10 Plug and Receptacle, Dual Row Connectors with Insulated Wire

DIMENSIONS

M32139/09 Plug (Pin) Connectors



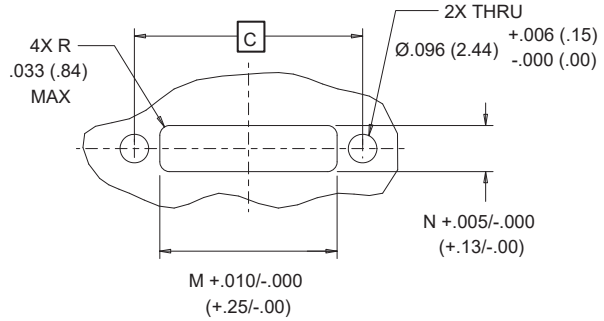
M32139/10 Receptacle (Socket) Connectors



Layout	A BSC.	B BSC.	C BSC.	D	E	F	G
9P	.270 (6.86)	.160 (4.06)	.566 (14.38)	--	.175 (4.45)	.688 (17.48)	.808 (20.52)
9S	.270 (6.86)	.163 (4.14)	.566 (14.38)	.375 (9.53)	.175 (4.45)	.688 (17.48)	.808 (20.52)
15P	.345 (8.76)	.235 (5.97)	.641 (16.28)	--	.250 (6.35)	.763 (19.38)	.883 (22.43)
15S	.345 (8.76)	.238 (6.05)	.641 (16.28)	.450 (11.43)	.250 (6.35)	.763 (19.38)	.883 (22.43)
21P	.420 (10.67)	.310 (7.87)	.716 (18.19)	--	.325 (8.26)	.838 (21.29)	.958 (24.33)
21S	.420 (10.67)	.313 (7.95)	.716 (18.19)	.525 (13.34)	.325 (8.26)	.838 (21.29)	.958 (24.33)
25P	.470 (11.94)	.360 (9.14)	.766 (19.46)	--	.375 (9.53)	.888 (22.56)	1.008 (25.60)
25S	.470 (11.94)	.363 (9.22)	.766 (19.46)	.575 (14.61)	.375 (9.53)	.888 (22.56)	1.008 (25.60)
31P	.545 (13.84)	.435 (11.05)	.841 (21.36)	--	.450 (11.43)	.963 (24.46)	1.083 (27.51)
31S	.545 (13.84)	.438 (11.13)	.841 (21.36)	.650 (16.51)	.450 (11.43)	.963 (24.46)	1.083 (27.51)
37P	.620 (15.75)	.510 (12.95)	.916 (23.27)	--	.525 (13.34)	1.038 (26.37)	1.158 (29.41)
37S	.620 (15.75)	.513 (13.03)	.916 (23.27)	.725 (18.42)	.525 (13.34)	1.038 (26.37)	1.158 (29.41)
51P	.795 (20.19)	.685 (17.40)	1.091 (27.71)	--	.700 (17.78)	1.213 (30.81)	1.333 (33.86)
51S	.795 (20.19)	.688 (17.48)	1.091 (27.71)	.900 (22.86)	.700 (17.78)	1.213 (30.81)	1.333 (33.86)
65P	.970 (24.64)	.860 (21.84)	1.266 (32.16)	--	.875 (22.23)	1.388 (35.26)	1.508 (38.30)
65S	.970 (24.64)	.863 (21.92)	1.266 (32.16)	1.075 (27.31)	.875 (22.23)	1.388 (35.26)	1.508 (38.30)
69P	1.020 (25.91)	.910 (23.11)	1.316 (33.43)	--	.925 (23.50)	1.438 (36.53)	1.558 (39.57)
69S	1.020 (25.91)	.913 (23.19)	1.316 (33.43)	1.125 (28.58)	.925 (23.50)	1.438 (36.53)	1.558 (39.57)
85P	1.246 (31.65)	1.110 (28.19)	1.568 (39.83)	--	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)
85S	1.246 (31.65)	1.113 (28.27)	1.568 (39.83)	1.377 (34.98)	1.125 (28.58)	1.690 (42.93)	1.810 (45.97)

PANEL CUTOUT DIMENSIONS

Shell Size	C	M	N
SIZE-9	.566 (14.38)	.395 (10.03)	.155 (3.94)
SIZE-15	.641 (16.28)	.470 (11.94)	.155 (3.94)
SIZE-21	.716 (18.19)	.545 (13.84)	.155 (3.94)
SIZE-25	.766 (19.46)	.595 (15.11)	.155 (3.94)
SIZE-31	.841 (21.36)	.670 (17.02)	.155 (3.94)
SIZE-37	.916 (23.27)	.745 (18.92)	.155 (3.94)
SIZE-51	1.091 (27.71)	.920 (23.37)	.155 (3.94)
SIZE-65	1.266 (32.16)	1.095 (27.81)	.155 (3.94)
SIZE-69	1.316 (33.43)	1.145 (29.08)	.155 (3.94)
SIZE-85	1.568 (39.83)	1.397 (35.48)	.180 (4.57)



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SERIES 89

nano miniature™

Nanominiature Circular Connectors

Glenair signature MIL-DTL-32139 type TwistPin Nanominiature circular connectors



Glenair Nano Circular—the smallest and lightest harsh-environment connector in the business. From left to right: D38999 Series III, Mighty Mouse Series 805, Series 88 SuperFly, and Nanominiature Series 89 Nano Circular—all with similar pin count



The M32139 Nano circular is the smallest and lightest harsh-environment connector in the business. 1 Amp contacts are set on .025 inch centers and terminated to 30 AWG wire or PCB tails. Glenair supplies both breakaway and threaded mating configurations with optimal size and weight reduction (SWaP). Circular connectors are offered as pre-wired and PCB thru-hole mount versions, and are available with aluminum or stainless steel shells. 1 Amp max DWV current rating, #30 – #32 AWG wire accommodation, operating temperature -55° C to +125°C. Glenair signature Nanominiature circular connectors are the smallest and lightest harsh-environment circular connector in the business.

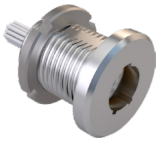
- Push-pull and threaded mating
- Aluminum or stainless steel shells
- High vibration and shock gold alloy TwistPin contact system
- Prewired pigtails and PCB thru-hole
- Straight and right-angle thru-hole PCB versions

Threaded and Breakaway Nano Circulars

Product Selection Guide


892-007 Breakaway Plug F-2


892-004 Inline Breakaway Receptacle F-4


892-000 Front Panel Mount Breakaway Receptacle F-6


892-002 Rear Panel Mount Breakaway Receptacle F-8


893-008 Rear Panel Mount, Breakaway Receptacle with PC Tails F-10


893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails F-12

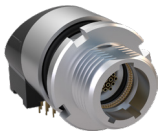

892-006 Threaded Plug F-16


892-005 Inline Threaded Receptacle F-18


892-001 Front Panel Mount Threaded Receptacle F-20


892-003 Rear Panel Mount Threaded Receptacle F-22


893-009 Rear Panel Mount, Threaded Receptacle with PC Tails F-24


893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails F-26


899-013, 899-014, 899-016 and 899-017 Threaded and Breakaway Circular EMI Covers F-30


899-020 Replacement Panel O-Rings F-38


899-021 Replacement Internal O-rings F-39


899-022 Replacement EMI Spring F-40


899-019 Replacement Hex or Spanner Nut F-41


600-189 Spanner Nut Socket drive for rear panel mount circular connectors F-42


600-190 Spanner Nut Socket drive for front panel mount circular connectors F-43

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Threaded and Breakaway Nano Circulars

892-007 Breakaway Plug Connector with Insulated Wire



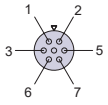
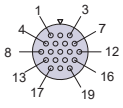
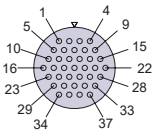
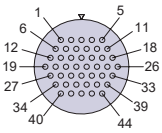
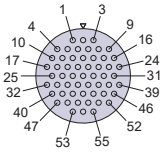
Glenair Breakaway Plug Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. Connectors are intermateable with 892-000, 892-002, 892-004, 893-008, and 893-010 breakaway receptacle connectors.

HOW TO ORDER

Sample Part Numbert	892	-007	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**007** = Breakaway Plug
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **3-37** = Shell Size 3 with 37 contacts **1-7** = Shell Size 1 with 7 contacts **4-44** = Shell Size 4 with 44 contacts **2-19** = Shell Size 2 with 19 contacts **4-55** = Shell Size 4 with 55 contacts See Plug Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5** = Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

PLUG MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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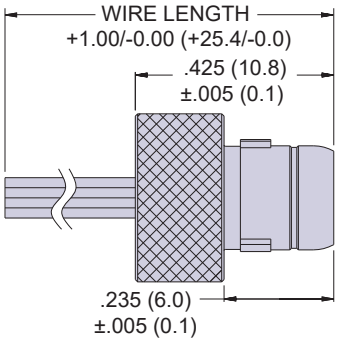
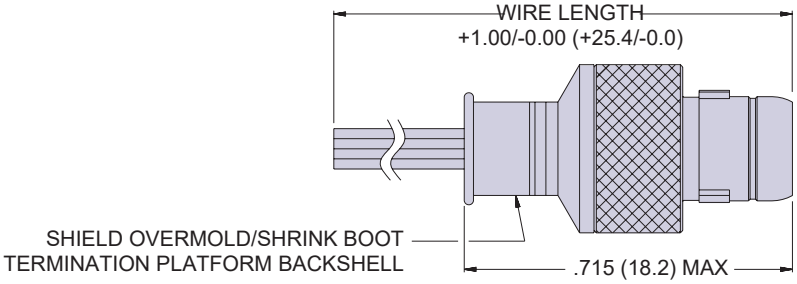
Threaded and Breakaway Nano Circulars

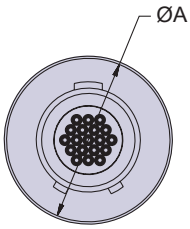
892-007 Breakaway Plug Connector with Insulated Wire

DIMENSIONS

892-007-01 Without Termination Platform	892-007-02 With Termination Platform





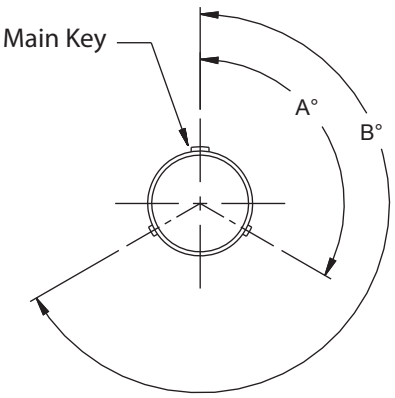


MATING FACE

Size	Ø A ±-.005 (±.13)
1-4	.310 (7.87)
1-7	.310 (7.87)
2-19	.360 (9.14)
3-37	.411 (10.44)
4-44	.443 (11.25)
4-55	.443 (11.25)

KEY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell and backshell:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
2. Inspect and test IAW MIL-DTL-32139

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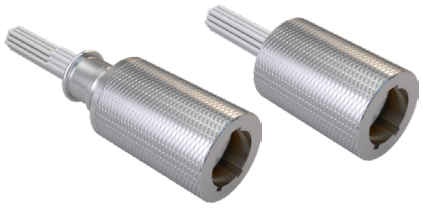
Threaded and Breakaway Nano Circulars

892-004 Inline, Breakaway Receptacle with Insulated Wire



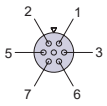
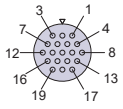
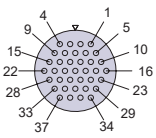
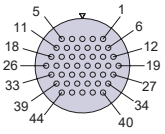
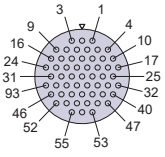
Glenair Inline Breakaway Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-007.

HOW TO ORDER

Sample Part Number	892	-004	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**004** = In-Line Breakaway Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **3-37** = Shell Size 3 with 37 contacts **1-7** = Shell Size 1 with 7 contacts **4-44** = Shell Size 4 with 44 contacts **2-19** = Shell Size 2 with 19 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5** = Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers
Wire Accommodation: #30-#32 AWG
Current Rating: 1 AMP maximum tested per EIA-364-70
DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20
Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21
Operating Temperature: -55° C. to +125° C.
Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type
Vibration: 20 g's, IAW EIA-364-28, Condition IV
Shock: 100 g's, IAW EIA-364-27, Condition G
Durability: 200 mating cycles per test procedure EIA-364-09
Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B
Humidity: 240 hours, IAW EIA-364-31, Test Condition B
Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum
Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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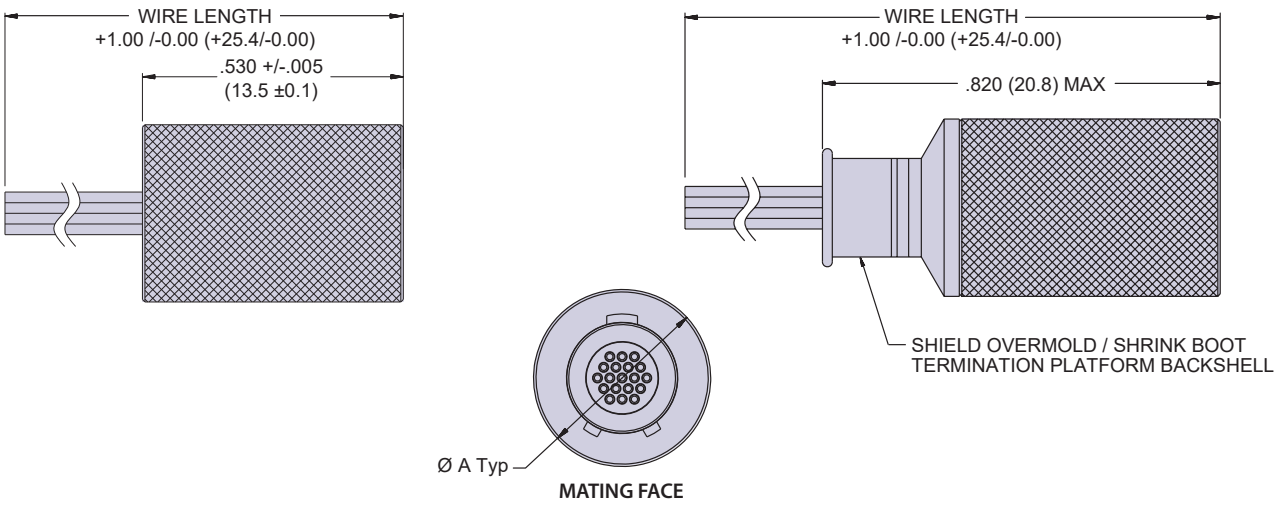
Threaded and Breakaway Nano Circulars

892-004 Inline, Breakaway Receptacle with Insulated Wire

DIMENSIONS

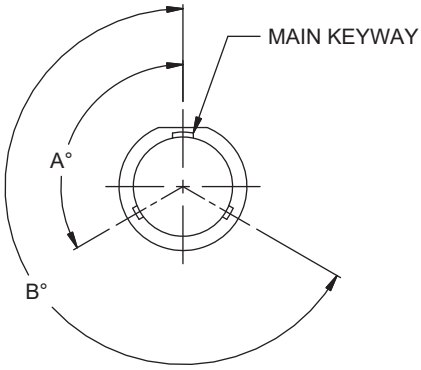
892-004-01 Without Termination Platform	892-004-02 With Termination Platform



Size	Ø A ±.005 (±0.13)
1-4	.310 (7.87)
1-7	.310 (7.87)
2-19	.360 (9.14)
3-37	.411 (10.44)
4-44	.443 (11.25)
4-55	.443 (11.25)

KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell, backshell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate
2. Inspect and test per MIL-DTL-32139
3. Replacement parts:
   - Internal O-ring: 899-021
   - EMI spring: 899-022

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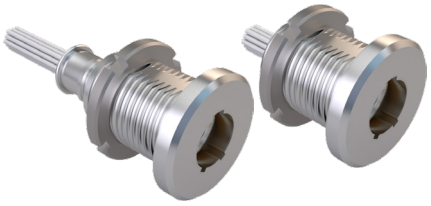
Threaded and Breakaway Nano Circulars

892-000 Front Panel Mount, Breakaway Receptacle with Insulated Wire



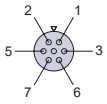
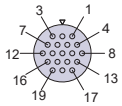
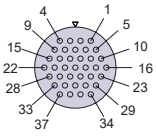
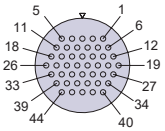
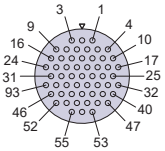
Glenair Front Panel Mount Breakaway Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-007.

HOW TO ORDER

Sample Part Number	892	-000	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**000** = Front Panel Mount Breakaway Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/ Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **1-7** = Shell Size 1 with 7 contacts **2-19** = Shell Size 2 with 19 contacts **3-37** = Shell Size 3 with 37 contacts **4-44** = Shell Size 4 with 44 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5** = Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

CIRCULAR RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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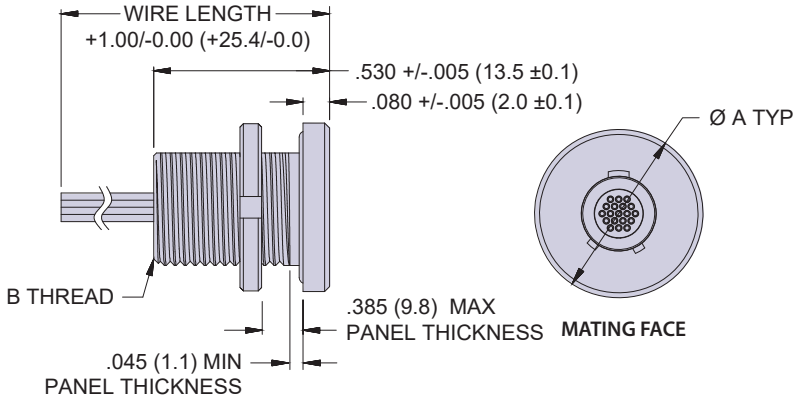
Threaded and Breakaway Nano Circulars

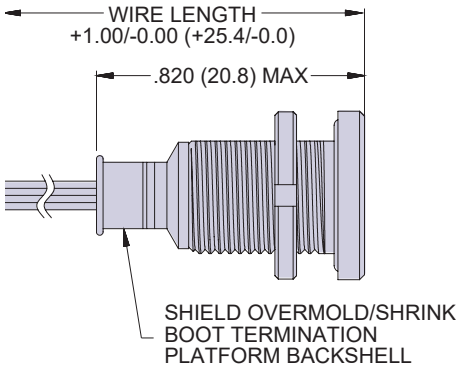
892-000 Front Panel Mount, Breakaway Receptacle with Insulated Wire

DIMENSIONS

892-000-01 Without Termination Platform



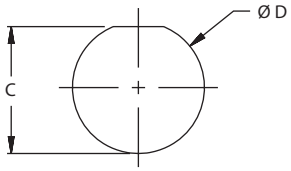
892-000-02 With Termination Platform



SIZE	Ø A ±.005 (±0.13)	B THREAD	MOUNTING NUT TORQUE
1-4	.489 (12.42)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
1-7	.489 (12.42)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
2-19	.528 (13.41)	M9.5 X 0.75-6g	35 in-lb max (3954 N-mm)
3-37	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)
4-44	.627 (15.93)	M12.0 X 0.75-6g	45 in-lb max (5084 N-mm)
4-55	.627 (15.93)	M12.0 X 0.75-6g	45 in-lb max (5084 N-mm)

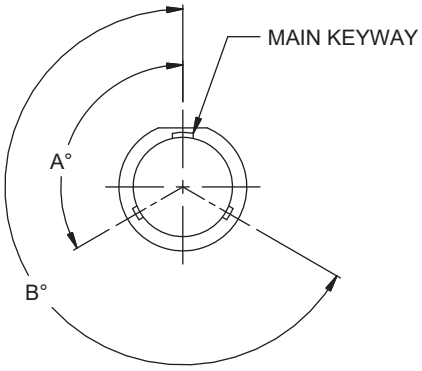
FRONT PANEL MOUNT CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.320 (8.13)	.340 (8.64)
1-7	.320 (8.13)	.340 (8.64)
2-19	.359 (9.12)	.380 (9.65)
3-37	.399 (10.13)	.420 (10.67)
4-44	.457 (11.61)	.479 (12.17)
4-55	.457 (11.61)	.479 (12.17)



KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell and backshell:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - O-rings: fluorosilicone
   - EMI spring: SST / gold plated
2. Inspect and test per MIL-DTL-32139
3. Replacement Parts and tools:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Front panel mount, spanner nut wrench: 600-190

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Threaded and Breakaway Nano Circulars

892-002 Rear Panel Mount, Breakaway Receptacle with Insulated Wire



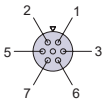
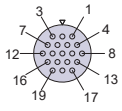
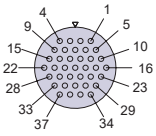
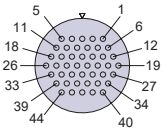
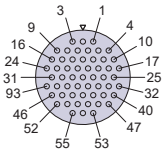
Glenair Rear Panel Mount Breakaway Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-007.

HOW TO ORDER

Sample Part Number	892	-002	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**002** = Rear Panel Mount Breakaway Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** - Shell Size 1 with 4 contacts **1-7** - Shell Size 1 with 7 contacts **2-19** - Shell Size 2 with 19 contacts **3-37** - Shell Size 3 with 37 contacts **4-44** - Shell Size 4 with 44 contacts **4-55** - Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5** = Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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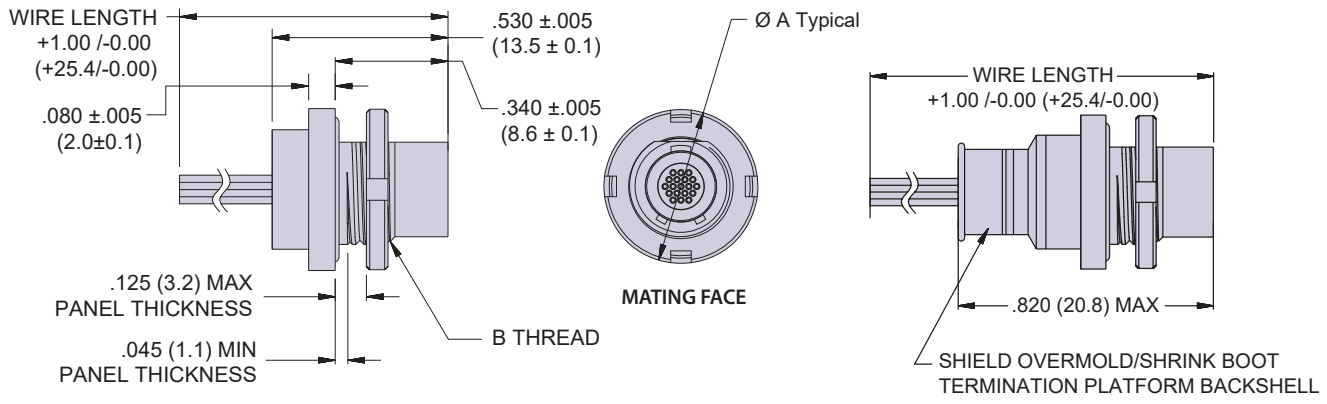
Dimensions in Inches (millimeters) are subject to change without notice.

Threaded and Breakaway Nano Circulars

892-002 Rear Panel Mount, Breakaway Receptacle with Insulated Wire

DIMENSIONS

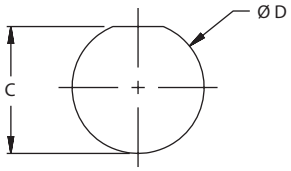
892-002-01 Without Termination Platform | **892-002-02 With Termination Platform**



Size	Ø A ±.005 (±0.13)	B Thread	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 X 0.75-6g	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 X 0.75-6g	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 X 0.75-6g	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)

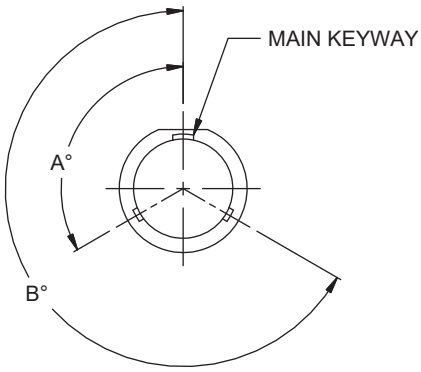
REAR PANEL MOUNT PANEL CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)



KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell, backshell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate
2. Inspec and test per MIL-DTL-32139
3. Replacement Parts:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
4. Rear panel mount, spanner nut wrench: 600-189

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

Threaded and Breakaway Nano Circulars

893-008 Rear Panel Mount, Breakaway Receptacle with PC Tails



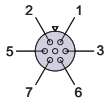
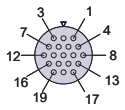
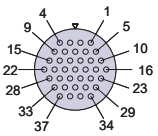
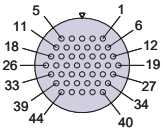
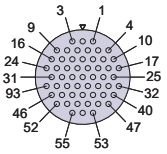
Glenair Rear Panel Mount Breakaway Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. Connector intermateable with Nano Miniature 892-007 plug connector. Pre-Tinned PC Tails coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	893	-008	-1-7	N	A2	-0	D3	-S1

Series	**893** = Nano Circular with PC Tails
Shell Style	**008** = PCB Termination, Rear Panel Mount Breakaway Receptacle
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **1-7** = Shell Size 1 with 7 contacts **2-19** = Shell Size 2 with 19 contacts **3-37** = Shell Size 3 with 37 contacts **4-44** = Shell Size 4 with 44 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5**= Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG
Wire Type	**D3** = Single Strand Copper Alloy Wire Uninsulated, Pre-tinned
PC Tail Length (inches)	**S1** = .080" Straight Lead **S2** = .110" Straight Lead **S3** = .140" Straight Lead **S4** = .170" Straight Lead

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

NOTES

1. Material and finish shell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator and lead organizer: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Pre-tinned PC tails: copper alloy wire coated with Sn63Pb37 or Sn60Pb40 tin-lead
   - Contacts: gold alloy/ unplated
   - EMI Spring: stainless steel/ gold plate
2. Inspect and test per MIL-DTL-32139
3. Replacement parts and tools:
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Rear panel mount spanner nut wrenches: 600-189

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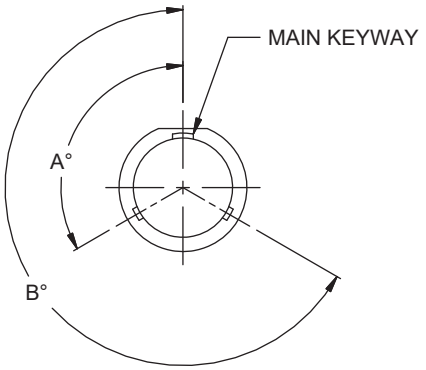
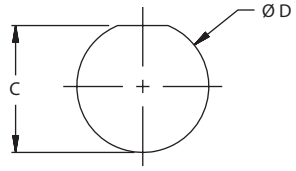
Threaded and Breakaway Nano Circulars

893-008 Rear Panel Mount, Breakaway Receptacle with PC Tails



KEYWAY POSITIONS

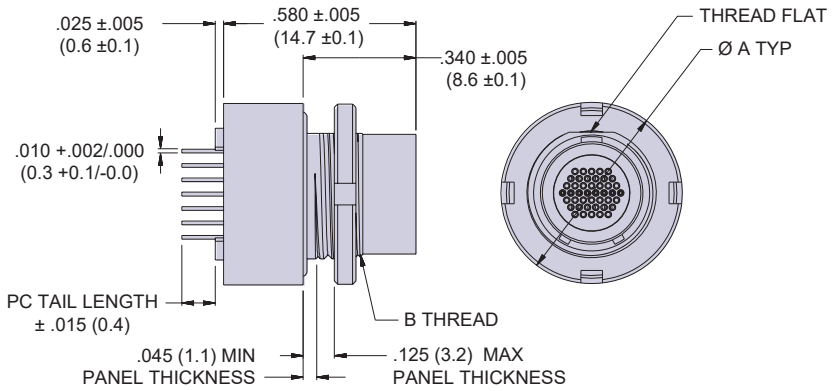
Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



REAR PANEL MOUNT PANEL CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)

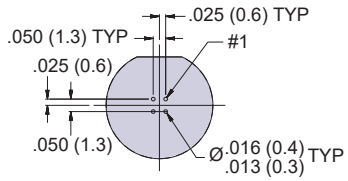
DIMENSIONS



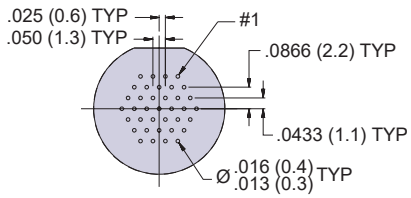
Size	Ø A ±.005 (+/-0.13)	B Thread	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	45 in-lb max (5084 N-mm)

PCB FOOTPRINTS

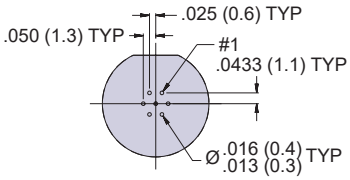
Size 1-4



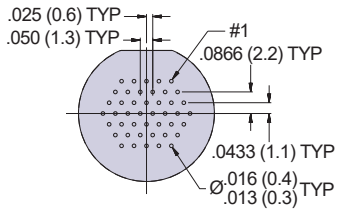
Size 3-37



Size 1-7



Size 4-44



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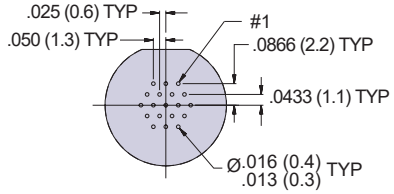
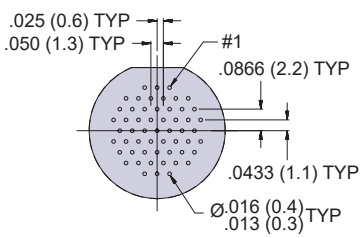


Size 4-55



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

Threaded and Breakaway Nano Circulars

893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails



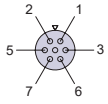
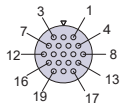
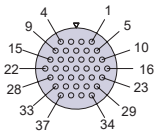
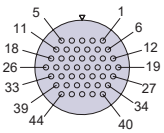
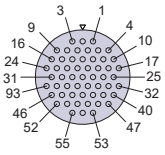
Glenair Rear Panel Mount Breakaway Right-Angle PCB Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. Connector intermates with 892-007 plug connector. PC Tails are pre-Tinned are with Sn63Pb37 or Sn60Pb40 tin-lead.

HOW TO ORDER

Sample Part Number	893	-010	-1-7	N	A2	-0	D3	-T1

Series	**893** = Nano Circular with PC Tails
Shell Style	**010** = Rear Panel Mount Breakaway Receptacle
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **1-7** = Shell Size 1 with 7 contacts **2-19** = Shell Size 2 with 19 contacts **3-37** = Shell Size 3 with 37 contacts **4-44** = Shell Size 4 with 44 contacts **4-55** = Shell Size 4 with 55 contacts **See** Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5** = Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG
Wire Type	**D3** = Single Strand Copper Alloy Wire Uninsulated, Pre-tinned
PC Tail Length (inches)	**T1** = .080" Lead Top **T3** = .140" Lead Top **B1** = .080" Lead Bottom **B3** = .140" Lead Bottom **T2** = .110' Lead Top **T4** = .170" Lead Top **B2** = .110" Lead Bottom **B4** = .170" Lead Bottom

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Operating Temperature: -55° C. to +125° C.

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

Inspect and Test: IAW MIL-DTL-32139

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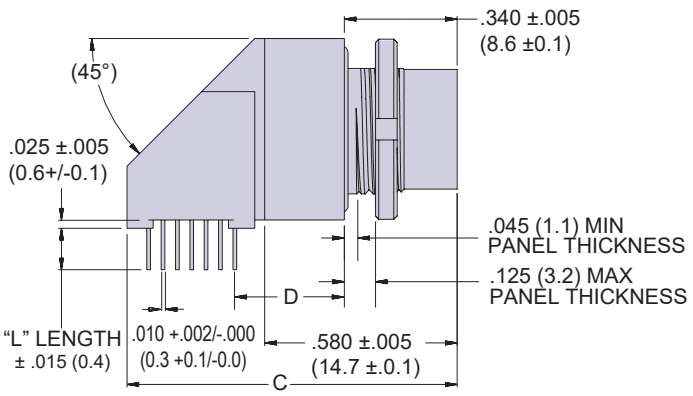
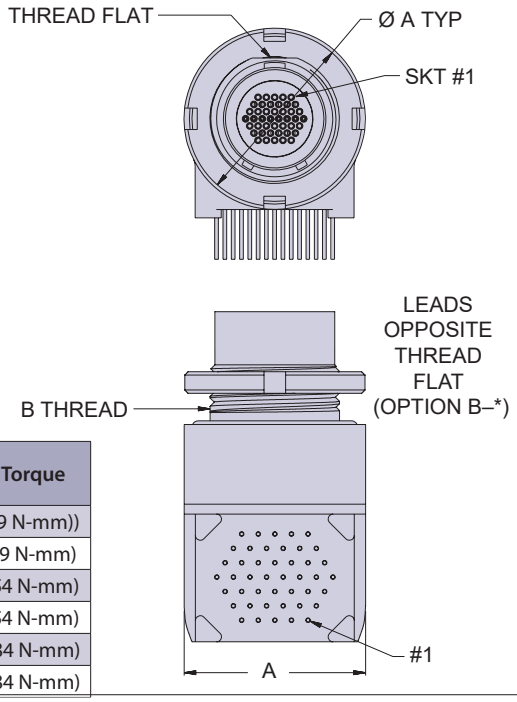
893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails

RIGHT-ANGLE BOTTOM LEAD DIMENSIONS

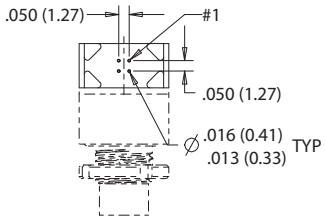




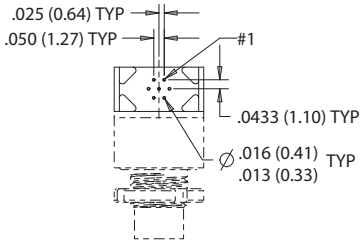
Size	Ø A ±.005 (±0.13)	B Thread	C ± .020 (±0.51)	D ± .005 (±0.13)	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.350 (8.89)	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.335 (8.51)	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	.918 (23.32)	.335 (8.51)	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	1.005 (25.53)	.335 (8.51)	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	1.005 (25.53)	.330 (8.38)	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	1.092 (27.74)	.335 (8.51)	45 in-lb max (5084 N-mm)

BOTTOM LEAD RECOMMENDED PCB LAYOUT COMPONENT SIDE VIEW

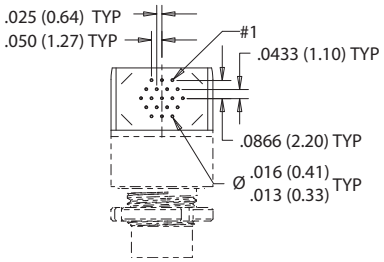
Size 1-4



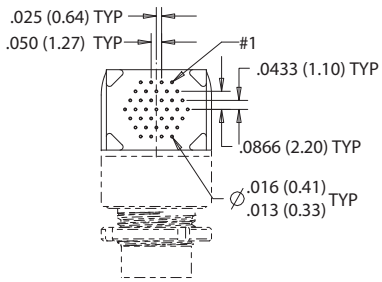
Size 1-7



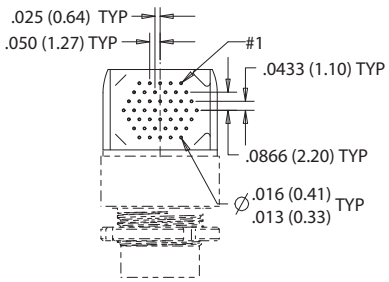
Size 2-19



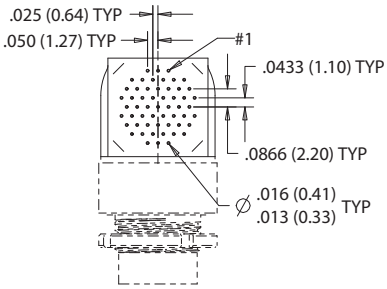
Size 3-37



Size 4-44



Size 4-55



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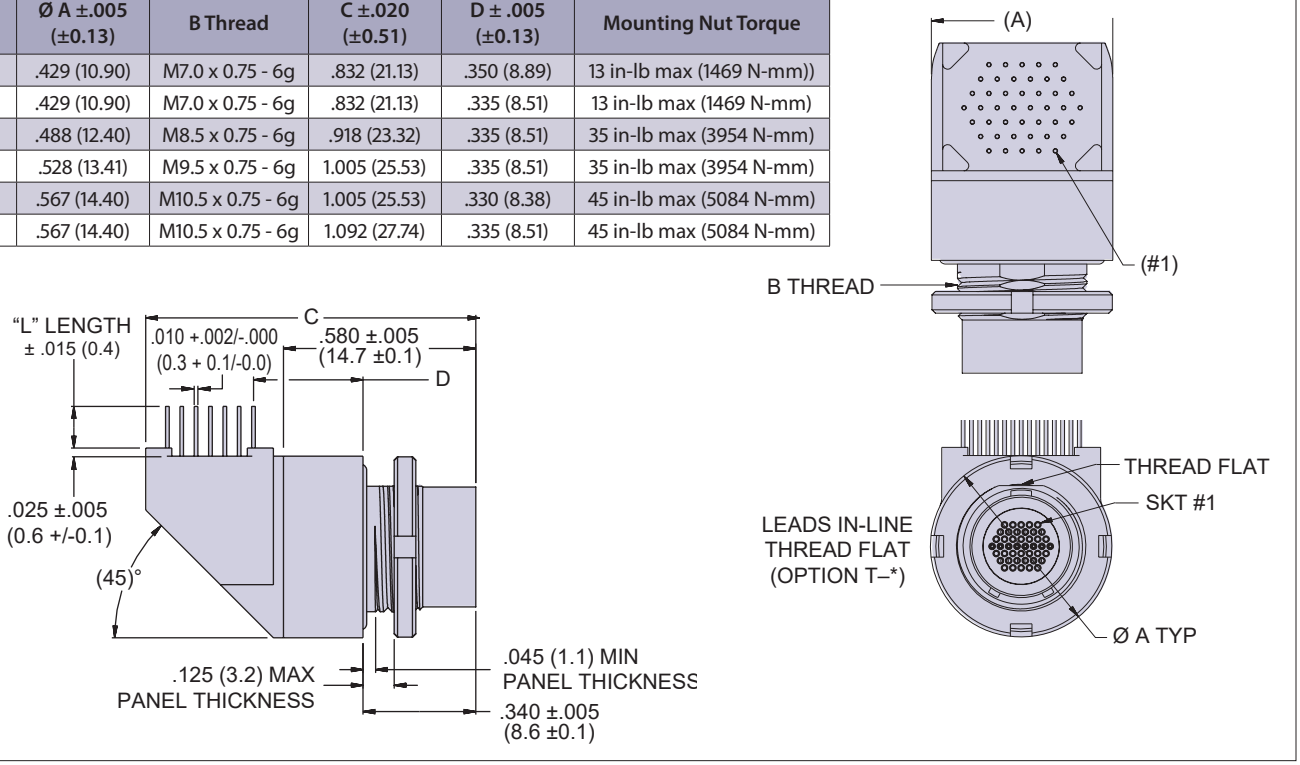
Threaded and Breakaway Nano Circulars

893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails

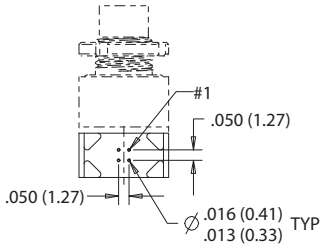
RIGHT-ANGLE TOP LEAD DIMENSIONS

Size	Ø A ±.005 (±0.13)	B Thread	C ±.020 (±0.51)	D ± .005 (±0.13)	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.350 (8.89)	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.335 (8.51)	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	.918 (23.32)	.335 (8.51)	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	1.005 (25.53)	.335 (8.51)	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	1.005 (25.53)	.330 (8.38)	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	1.092 (27.74)	.335 (8.51)	45 in-lb max (5084 N-mm)

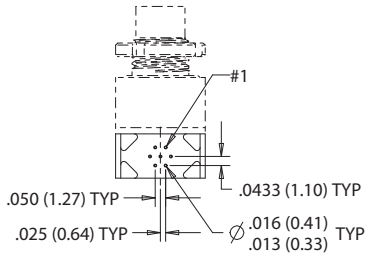


TOP LEAD PCB LAYOUTS COMPONENT SIDE VIEW

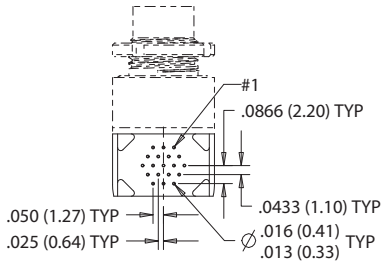
Size 1-4



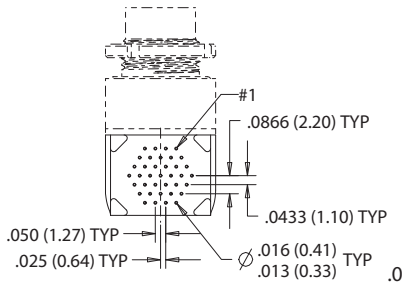
Size 1-7



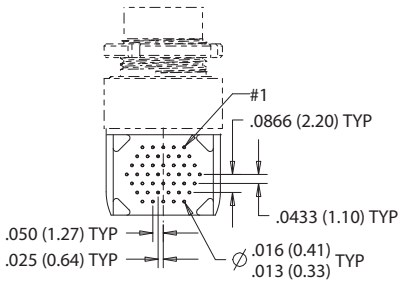
Size 2-19



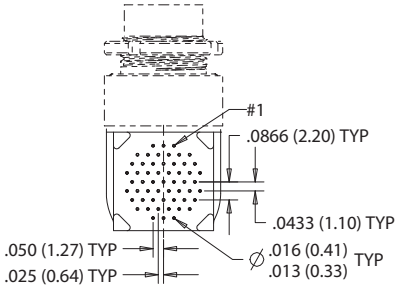
Size 3-37



Size 4-44



Size 4-55



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Threaded and Breakaway Nano Circulars

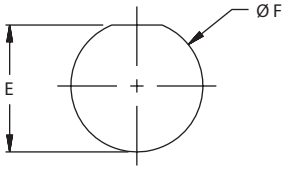
893-010 Rear Panel Mount, Breakaway Receptacle with Right-Angle PC Tails

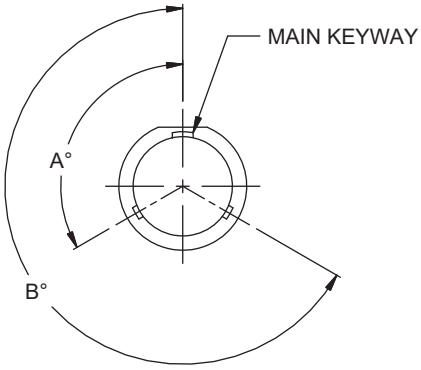
NOTES

1. Material and finish shell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate
2. Inspect and test per MIL-DTL-32139
3. Replacement parts and tools:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Rear panel mount, spanner nut wrench: 600-189

REAR PANEL MOUNT PANEL CUT-OUT		
Size	E +.002 / -.001 (+0.05/-0.00)	ØF +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)

KEYWAY POSITIONS			
Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275





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Threaded and Breakaway Nano Circulars

892-006 Threaded Plug Connector with Insulated Wire



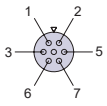
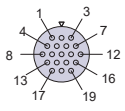
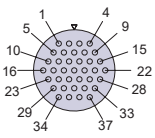
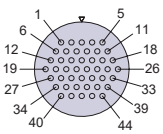
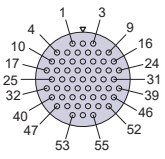
Glenair Threaded Coupling Plug Connectors feature gold alloy TwistPin contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose aluminum or stainless steel shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with 892-001, 892-003, 892-005, 893-009, and 893-011 threaded coupling receptacle connectors.

HOW TO ORDER

Sample Part Number	892	-006	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**006** = Threaded Coupling Plug
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **3-37** = Shell Size 3 with 37 contacts **1-7** = Shell Size 1 with 7 contacts **4-44** = Shell Size 4 with 44 contacts **2-19** = Shell Size 2 with 19 contacts **4-55** = Shell Size 4 with 55 contacts See Plug Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5** = Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

PLUG MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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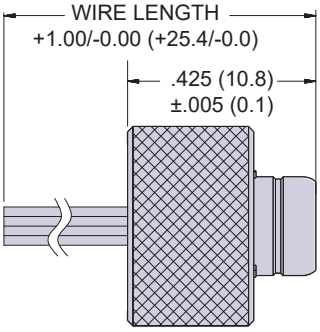
Threaded and Breakaway Nano Circulars

892-006 Threaded Plug Connector with Insulated Wire

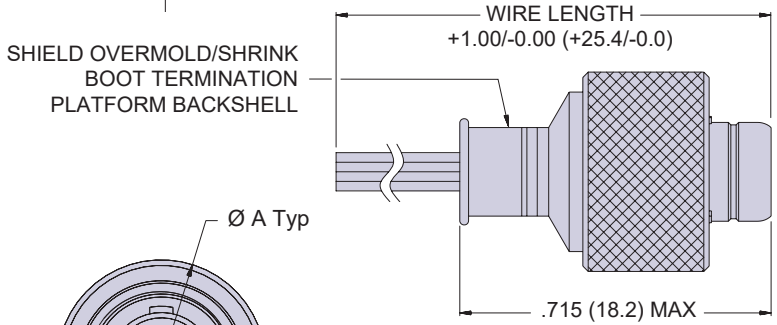
DIMENSIONS

892-006-01 without Termination Platform



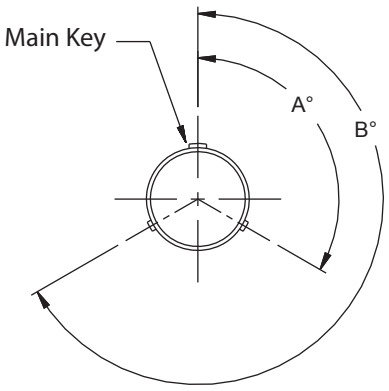
Size	Ø A ±.005 (±.13)
1-4	.425 (10.80)
1-7	.425 (10.80)
2-19	.475 (12.07)
3-37	.526 (13.36)
4-44	.558 (14.17)
4-55	.558 (14.17)

892-006-02 with Termination Platform



KEY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell and backshell and coupling nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - Retaining ring: SST passivated
2. Inspect and test IAW MIL-DTL-32139
3. Replacement Parts:
   - Internal O-ring: 899-021
   - EMI spring: 899-022

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Threaded and Breakaway Nano Circulars

892-005 Inline Threaded Receptacle with Insulated Wire



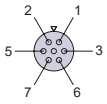
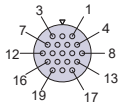
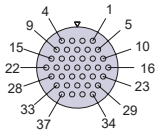
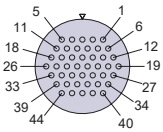
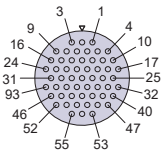
Glenair Inline Threaded Coupling Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-006.

HOW TO ORDER

Sample Part Number	892	-005	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**005** = In-Line Threaded Coupling Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **3-37** = Shell Size 3 with 37 contacts **1-7** = Shell Size 1 with 7 contacts **4-44** = Shell Size 4 with 44 contacts **2-19** = Shell Size 2 with 19 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5**= Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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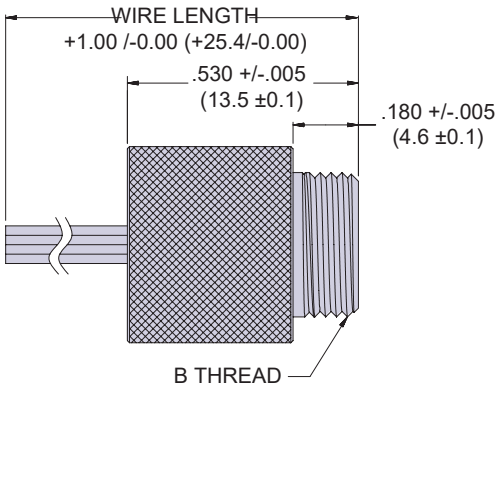
Dimensions in Inches (millimeters) are subject to change without notice.

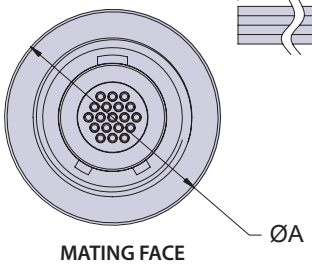
Threaded and Breakaway Nano Circulars

892-005 Inline Threaded Receptacle with Insulated Wire

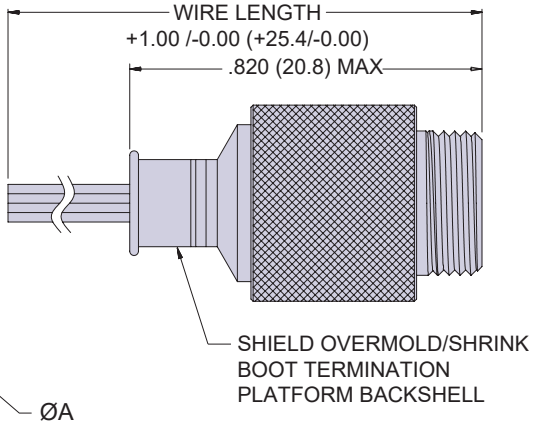
DIMENSIONS

892-005-01 Without Termination Platform





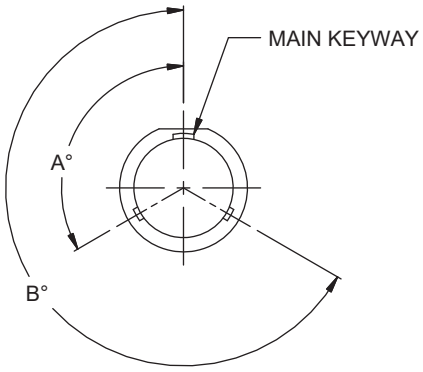
892-005-02 With Termination Platform



Size	Ø A ±.005 (±0.13)	B Thread
1-4	.425 (10.80)	M7.0 x 0.75 - 6g
1-7	.425 (10.80)	M7.0 x 0.75 - 6g
2-19	.475 (12.07)	M8.5 x 0.75 - 6g
3-37	.526 (13.36)	M9.5 x 0.75 - 6g
4-44	.558 (14.17)	M10.5 x 0.75 - 6g
4-55	.558 (14.17)	M10.5 x 0.75 - 6g

KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell, backshell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate
2. Inspect and test IAW MIL-DTL-32139
3. Replacement Parts:
   - Internal O-ring: 899-021
   - EMI spring: 899-022

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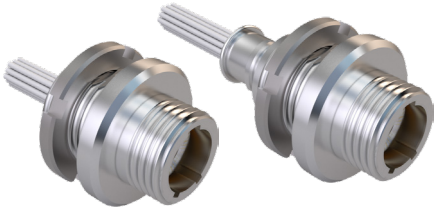
Threaded and Breakaway Nano Circulars

892-001 Front Panel Mount, Threaded Receptacle with Insulated Wire



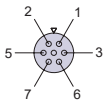
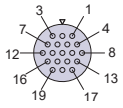
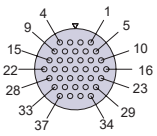
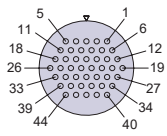
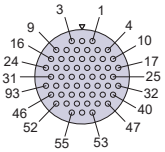
Glenair Front Panel Mount Threaded Coupling Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-006.

HOW TO ORDER

Sample Part Number	892	-001	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**001** = Front Panel Mount Threaded Coupling Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** - Shell Size 1 with 4 contacts **3-37** - Shell Size 3 with 37 contacts **1-7** - Shell Size 1 with 7 contacts **4-44** - Shell Size 4 with 44 contacts **2-19** - Shell Size 2 with 19 contacts **4-55** - Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5** = Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 +1.00 Inches; as required in one inch increments.

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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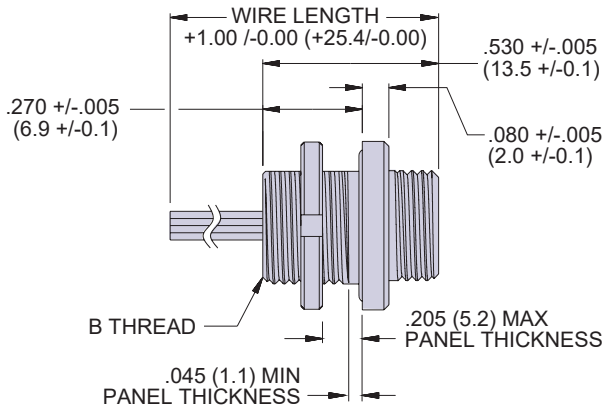
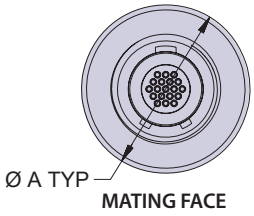
Threaded and Breakaway Nano Circulars

892-001 Front Panel Mount, Threaded Receptacle with Insulated Wire

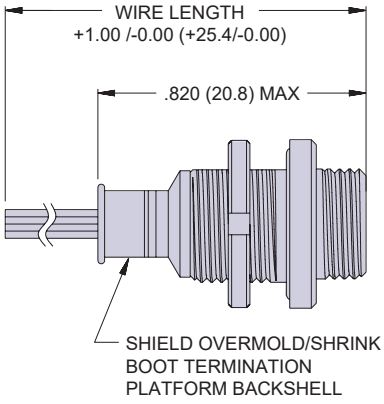
DIMENSIONS

892-001-01 Without Termination Platform





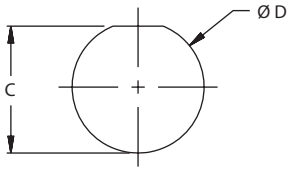
892-001-02 With Termination Platform



Size	Ø A ±.005 (±0.13)	B Thread	Mounting Nut Torque
1-4	.489 (12.42)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
1-7	.489 (12.42)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
2-19	.528 (13.41)	M9.5 X 0.75-6g	35 in-lb max (3954 N-mm)
3-37	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)
4-44	.627 (15.93)	M12.0 X 0.75-6g	45 in-lb max (5084 N-mm)
4-55	.627 (15.93)	M12.0 X 0.75-6g	45 in-lb max (5084 N-mm)

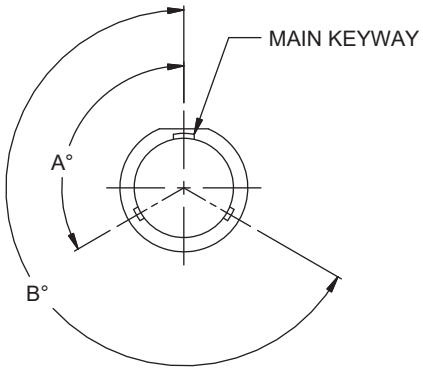
FRONT PANEL MOUNT PANEL CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.320 (8.13)	.340 (8.64)
1-7	.320 (8.13)	.340 (8.64)
2-19	.359 (9.12)	.380 (9.65)
3-37	.399 (10.13)	.420 (10.67)
4-44	.457 (11.61)	.479 (12.17)
4-55	.457 (11.61)	.479 (12.17)



KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell, backshell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
2. Inspect and test IAW MIL-DTL-32139
3. Replacement parts and tools:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Front panel mount, spanner nut wrench: 600-190

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Threaded and Breakaway Nano Circulars

892-003 Rear Panel Mount, Threaded Receptacle with Insulated Wire



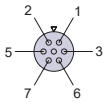
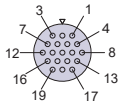
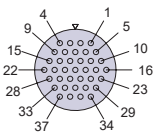
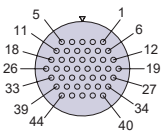
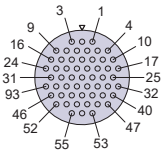
Glenair Rear Panel Mount Threaded Coupling Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Available with or without backshell. Backshell option available with shrink boot or overmolding. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature plug connectors 892-006.

HOW TO ORDER

Sample Part Number	892	-003	-02	1-7	N	A2	-0	A	7	-12

Series	**892** = Nano Circular with Insulated Wire
Shell Style	**003** = Rear Panel Mount Threaded Coupling Receptacle
Accessory	**01** = No Backshell **02** = With Backshell **03** = Overmolded **04** = Shrink Boot
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **3-37** = Shell Size 3 with 37 contacts **1-7** = Shell Size 1 with 7 contacts **4-44** = Shell Size 4 with 44 contacts **2-19** = Shell Size 2 with 19 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **A5** = Aluminum/Gold Over Nickel **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG (Wire Types A, B, C, E, and F) **2** = 32 AWG (Wire Type B Only)
Wire Type	**A** = Ultra lightweight XLETFE insulation, silver coated ultra high strength copper **B** = Extruded PTFE insulation, silver coated copper NEMA HP-ETX (MIL-W-16878/6) **C** = Crosslinked modified ETFE insulation, silver coated high strength copper, SAE AS22759/33 **E** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated high strength copper alloy, SAE AS22759/51 **F** = Crosslinked modified ETFE insulation, low fluoride, lightweight, silver-coated copper, SAE AS22759/52
Wire Color	**1** = White **2** = Yellow **7** = 10 Color Repeating (Wire Type A is striped, Types B, C, E, and F are solid colors)
Wire Length (Inches)	**12** = 12.00 + 1.00 Inches; as required in one inch increments.

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Wire Accommodation: #30-#32 AWG

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

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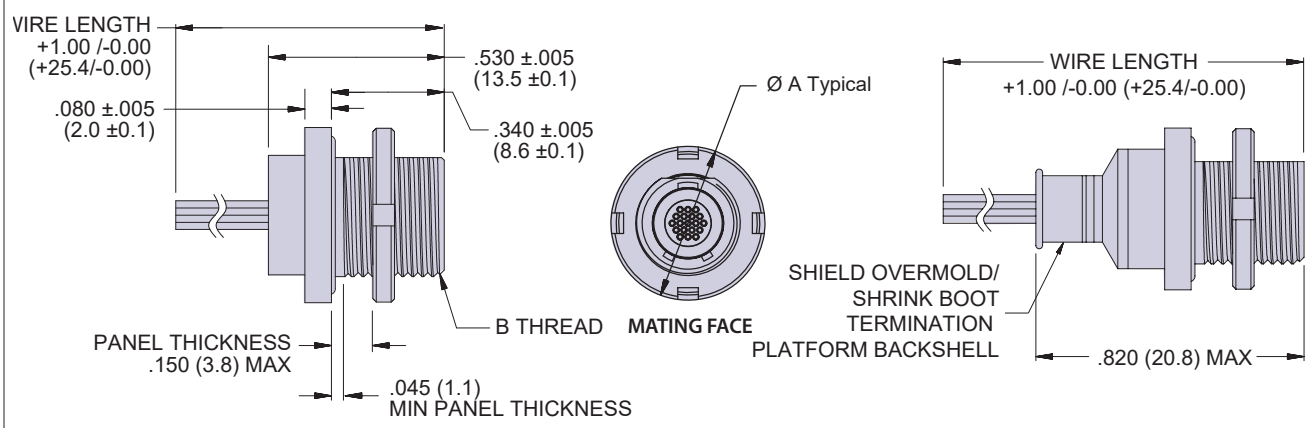
Dimensions in Inches (millimeters) are subject to change without notice.

Threaded and Breakaway Nano Circulars

892-003 Rear Panel Mount, Threaded Receptacle with Insulated Wire

DIMENSIONS

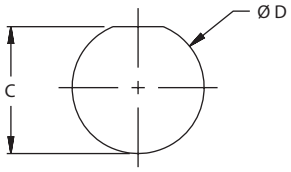
892-003-01 Without Termination Platform | **892-003-02 With Termination Platform**



Size	Ø A ±.005 (±0.13)	B Thread	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 X 0.75-6g	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 X 0.75-6g	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 X 0.75-6g	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 X 0.75-6g	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 X 0.75-6g	45 in-lb max (5084 N-mm)

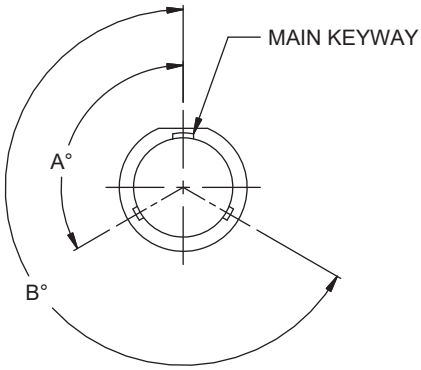
REAR PANEL MOUNT PANEL CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)



KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275



NOTES

1. Material and finish shell, backshell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate
2. Inspect and test per MIL-DTL-32139
3. Replacement parts and tools:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - RPM, spanner nut wrench: 600-189

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

Threaded and Breakaway Nano Circulars

893-009 Rear Panel Mount, Threaded Receptacle with PC Tails



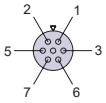
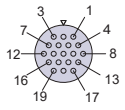
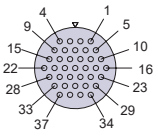
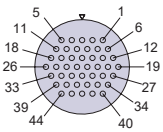
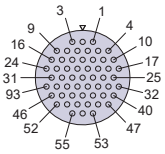
Glenair Rear Panel Mount Threaded Coupling Receptacle Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature 892-006 plug connectors. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	893	-009	-1-7	N	A2	-0	D3	-S1

Series	**893** = Nano Circular with PC Tails
Shell Style	**009** = Rear Panel Mount Threaded Coupling Receptacle
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **1-7** = Shell Size 1 with 7 contacts **2-19** = Shell Size 2 with 19 contacts **3-37** = Shell Size 3 with 37 contacts **4-44** = Shell Size 4 with 44 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** = Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5** = Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG
Wire Type	**D3** = Single Strand Copper Alloy Wire Uninsulated, Pre-tinned
PC Tail Length (inches)	**S1** = .080" Straight Lead **S2** = .110" Straight Lead **S3** = .140" Straight Lead **S4** = .170" Straight Lead

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION IDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

Current Rating: 1 AMP maximum tested per EIA-364-70

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Operating Temperature: -55° C. to +125° C.

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

Inspect and Test: IAW MIL-DTL-32139

NOTES

1. Material and finish shell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - O-rings: fluorosilicone/NA
   - EMI Spring: stainless steel/gold plate
2. Inspect and test per MIL-DTL-32139
3. Replacement parts and tools:
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Mounting nut: 899-019
   - Panel o-ring: 899-020
   - Rear panel mount spanner nut wrenches: 600-189

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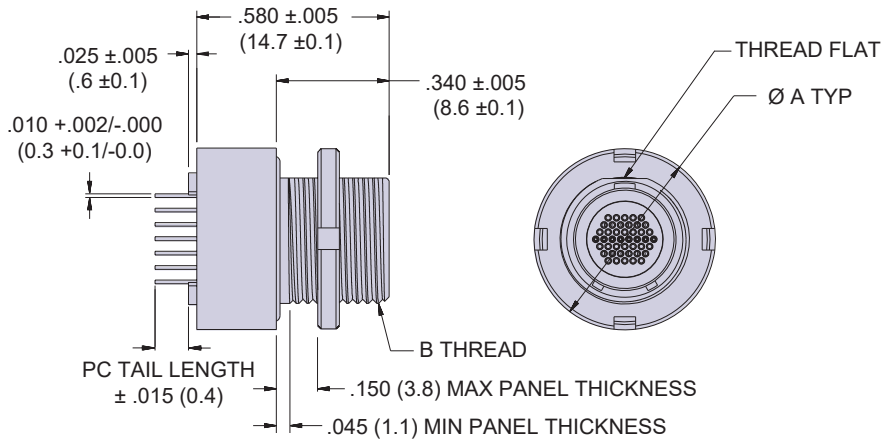
Threaded and Breakaway Nano Circulars

893-009 Rear Panel Mount, Threaded Receptacle with PC Tails

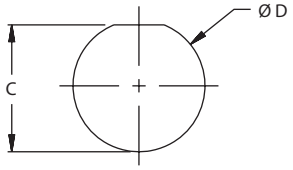
DIMENSIONS



Size	Ø A ±.005 (±0.13)	B Thread	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	45 in-lb max (5084 N-mm)

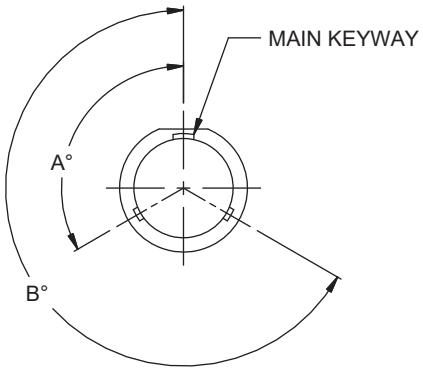
REAR PANEL MOUNT PANEL CUT-OUT

Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)



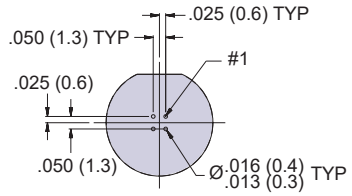
KEYWAY POSITIONS

Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275

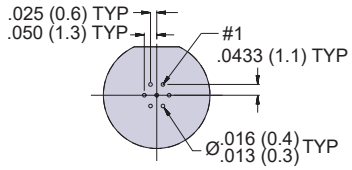


PCB FOOTPRINT COMPONENT SIDE VIEW

Size 1-4



Size 1-7



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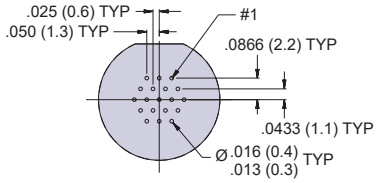
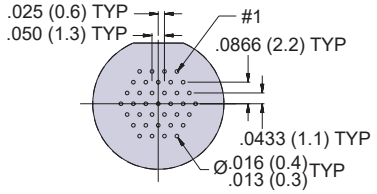
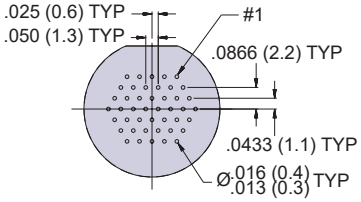


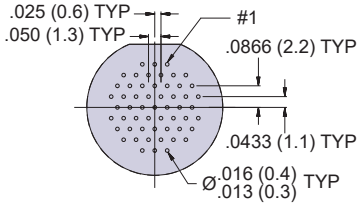
Size 3-37



Size 4-44



Size 4-55



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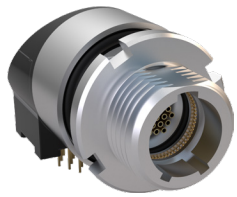
Threaded and Breakaway Nano Circulars

893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails



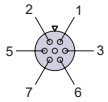
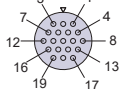
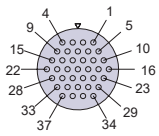
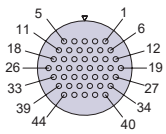
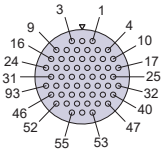
Glenair Rear Panel Mount Threaded Right-Angle PCB Connectors feature gold alloy contacts, offering premium performance and reliability for demanding applications. Choose Aluminum or Stainless Steel Shells in 6 layouts from 4 to 55 contacts. These connectors are intermateable with Nano Miniature 892-006 plug connectors. Pre-Tinned PC Tails are coated with Sn63Pb37 or Sn60Pb40 tin-lead for excellent solderability.

HOW TO ORDER

Sample Part Number	893	-011	-1-7	N	A2	-0	D3	-T1

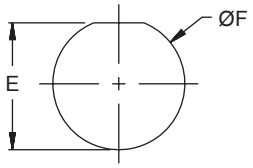
Series	**893** = Nano Circular with PC Tails
Shell Style	**011** = Rear Panel Mount Threaded Coupling Receptacle
Shell Size/Contact Arrangement	**1-4** = Shell Size 1 with 4 contacts **1-7** = Shell Size 1 with 7 contacts **2-19** = Shell Size 2 with 19 contacts **3-37** = Shell Size 3 with 37 contacts **4-44** = Shell Size 4 with 44 contacts **4-55** = Shell Size 4 with 55 contacts See Receptacle Mating Face View and Contact Layout Table
Polarization	**N** = Normal **A** - Alternate
Shell Material/Finish	**A2** = Aluminum/Electroless Nickel **A5** = Aluminum/Gold Over Nickel **S1** = Stainless Steel/Zinc Cobalt (Black) **S2** = Stainless Steel/Passivated
Wire Gauge	**0** = 30 AWG
Wire Type	**D3** = Single Strand Copper Alloy Wire Uninsulated, Pre-tinned
PC Tail Length (inches)	**T1** = .080" Lead Top **T3** = .140" Lead Top **B1** = .080" Lead Bottom **B3** = .140" Lead Bottom **T2** = .110' Lead Top **T4** = .170" Lead Top **B2** = .110" Lead Bottom **B4** = .170" Lead Bottom

RECEPTACLE MATING FACE VIEW AND CONTACT LAYOUT (POSITION INDENTIFICATIONS NOT MARKED ON PART)

Size 1-4 4 Contacts	Size 1-7 7 Contacts	Size 2-19 19 Contacts	Size 3-37 37 Contacts	Size 4-44 44 Contacts	Size 4-55 55 Contacts
					

REAR PANEL MOUNT PANEL CUT-OUT

Size	E +.002 / -.001 (+0.05/-0.00)	Ø F + .002/ -.001 (+0.05/-0.00)	Size	E +.002 / -.001 (+0.05/-0.00)	Ø F + .002/ -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)	3-37	.361 (9.17)	.378 (9.60)
1-7	.260 (6.60)	.280 (7.11)	4-44	.401 (10.19)	.420 (10.67)
2-19	.318 (8.08)	.340 (8.64)	4-55	.401 (10.19)	.420 (10.67)



PERFORMANCE SPECIFICATIONS

Contact Spacing: .025" (0.64) contact centers

DWV: 250 VAC RMS sea level, 100 VAC RMS 70,000 feet per EIA-364 Procedure 20

Insulation Resistance: 5000 Megohms minimum test voltage 100 VDC, per EIA-364 Procedure 21

Contact Resistance: 71 millivolt drop maximum, 1 AMP current, any catalog supported wire type

Operating Temperature: -55° C. to +125° C.

Vibration: 20 g's, IAW EIA-364-28, Condition IV

Shock: 100 g's, IAW EIA-364-27, Condition G

Durability: 200 mating cycles per test procedure EIA-364-09

Corrosion Resistance: 48 hours salt spray IAW EIA-364-26, Condition B

Humidity: 240 hours, IAW EIA-364-31, Test Condition B

Contact Engaging/Separation Force: 5 ounce maximum, 0.4 ounce minimum

Thermal Vacuum Outgassing: Total mass loss (TML) 1.0% max., volatile condensable material (VCM) 0.1% max. IAW ASTM E595

Inspect and Test: IAW MIL-DTL-32139

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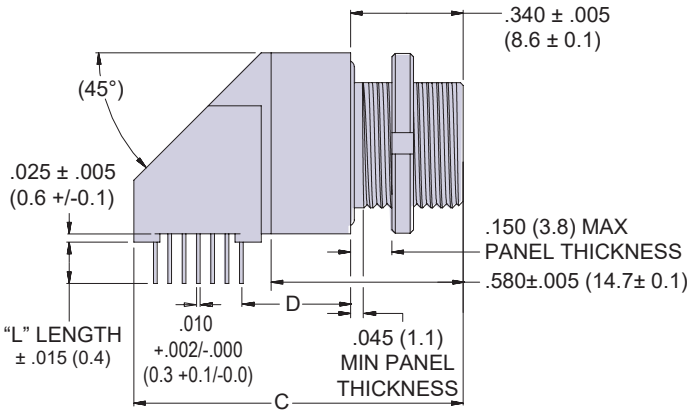
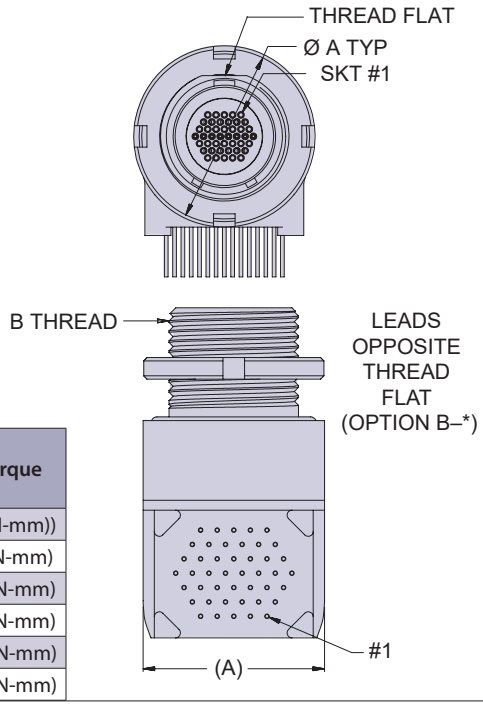
Threaded and Breakaway Nano Circulars

893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails

DIMENSIONS FOR BOTTOM LEAD ORIENTATION

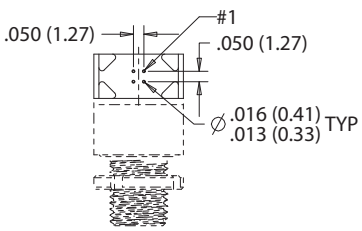




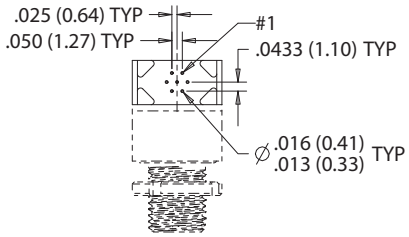
Size	ØA ±.005 (+/-0.13)	B Thread	C ± .020 (+/-0.51)	D ± .005 (+/-0.13)	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.350 (8.89)	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.335 (8.51)	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	.918 (23.32)	.335 (8.51)	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	1.005 (25.53)	.335 (8.51)	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	1.005 (25.53)	.330 (8.38)	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	1.092 (27.74)	.335 (8.51)	45 in-lb max (5084 N-mm)

BOTTOM LEAD RECOMMENDED PCB LAYOUT COMPONENT SIDE VIEW

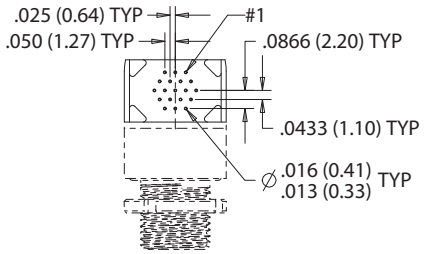
Size 1-4



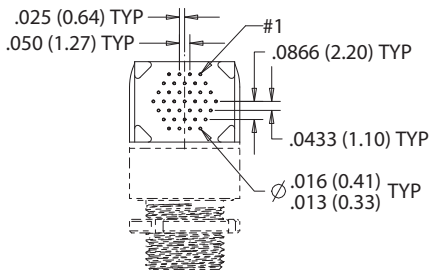
Size 1-7



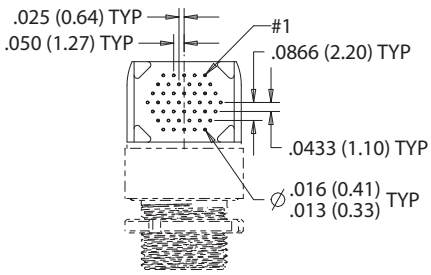
Size 2-19



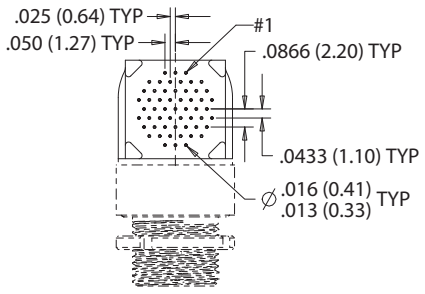
Size 3-37



Size 4-44



Size 4-55



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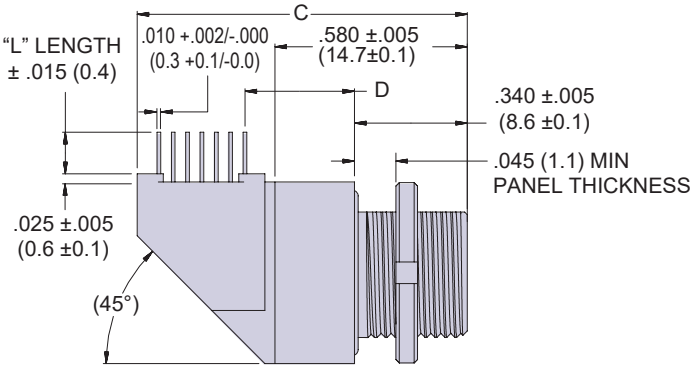
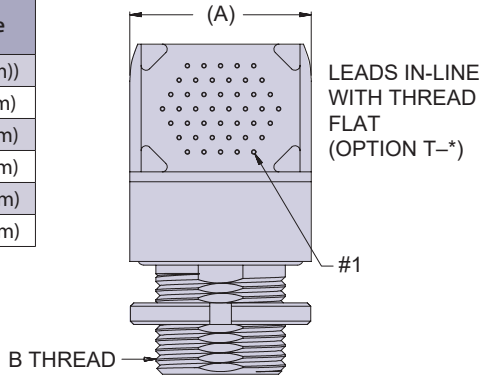
Threaded and Breakaway Nano Circulars

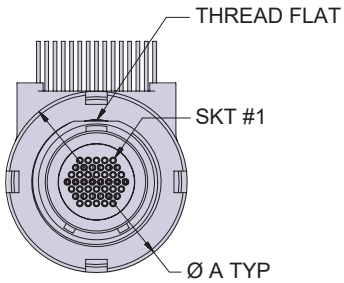
893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails

DIMENSIONS FOR TOP LEAD ORIENTATION

Size	Ø A ±.005 (±.0.13)	B Thread	C ± .020 (±0.51)	D ±.005 (±0.13)	Mounting Nut Torque
1-4	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.350 (8.89)	13 in-lb max (1469 N-mm))
1-7	.429 (10.90)	M7.0 x 0.75 - 6g	.832 (21.13)	.335 (8.51)	13 in-lb max (1469 N-mm)
2-19	.488 (12.40)	M8.5 x 0.75 - 6g	.918 (23.32)	.335 (8.51)	35 in-lb max (3954 N-mm)
3-37	.528 (13.41)	M9.5 x 0.75 - 6g	1.005 (25.53)	.335 (8.51)	35 in-lb max (3954 N-mm)
4-44	.567 (14.40)	M10.5 x 0.75 - 6g	1.005 (25.53)	.330 (8.38)	45 in-lb max (5084 N-mm)
4-55	.567 (14.40)	M10.5 x 0.75 - 6g	1.092 (27.74)	.335 (8.51)	45 in-lb max (5084 N-mm)

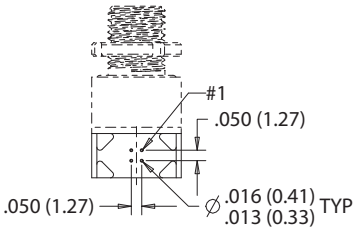




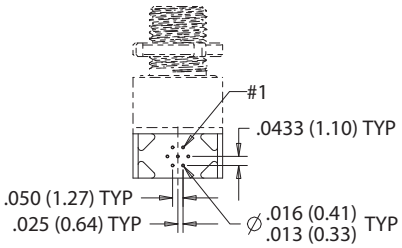


BOTTOM LEAD RECOMMENDED PCB LAYOUT COMPONENT SIDE VIEW

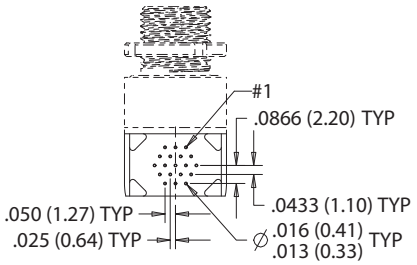
Size 1-4



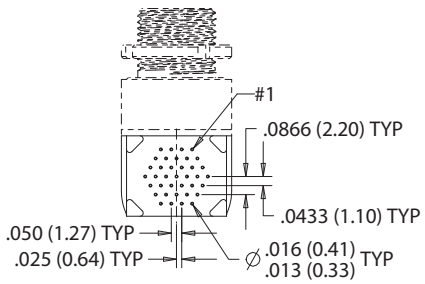
Size 1-7



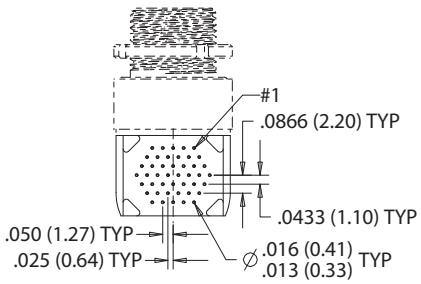
Size 2-19



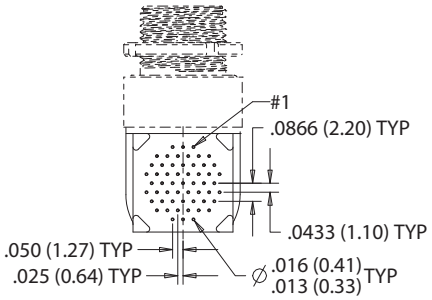
Size 3-37



Size 4-44



Size 4-55



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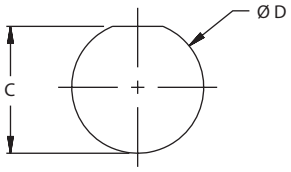
893-011 Rear Panel Mount, Threaded Receptacle with Right-Angle PC Tails

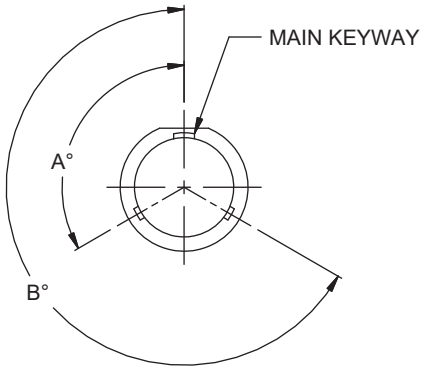
NOTES

1. Material and finish shell and spanner nut:
   - A2: aluminum alloy, electroless nickel plated per SAE-AMS-2404, Class 3 or 4, Grade B
   - A5: aluminum alloy, gold plate per ASTM B488, Type I, Code C, over electroless nickel per ASTM B733 SC 2, Type IV, Class 4
   - S1: 300 Series stainless steel per ASTM A276, zinc cobalt (black) plating per ASTM B840 Gr 6, Type D, over nickel strike (not recommended for bonding resistance requirements)
   - S2: 300 Series stainless steel per ASTM A276, passivated IAW SAE AMS 2700
   - Insulator: liquid crystal polymer (LCP), per MIL-M-24519 GLCP-30F, 30% glass-filled
   - Contacts: gold alloy/unplated
   - Wire: see part number development
   - EMI Spring: stainless steel/gold plate'
2. Inspect and test per MIL-DTL-32139
3. Replacement parts and tools:
   - Mounting nut: 899-019
   - Panel O-ring: 899-020
   - Internal O-ring: 899-021
   - EMI spring: 899-022
   - Rear panel mount, spanner nut wrench: 600-189

REAR PANEL MOUNT PANEL CUT-OUT		
Size	C +.002 / -.001 (+0.05/-0.00)	ØD +.002 / -.001 (+0.05/-0.00)
1-4	.260 (6.60)	.280 (7.11)
1-7	.260 (6.60)	.280 (7.11)
2-19	.318 (8.08)	.340 (8.64)
3-37	.361 (9.17)	.378 (9.60)
4-44	.401 (10.19)	.420 (10.67)
4-55	.401 (10.19)	.420 (10.67)

KEYWAY POSITIONS			
Size	Polarization	A°	B°
1-4	N	150	210
	A	75	210
1-7	N	95	230
	A	140	275
2-19	N	150	210
	A	75	210
3-37	N	150	210
	A	75	210
4-44	N	150	210
	A	75	210
4-55	N	95	230
	A	140	275





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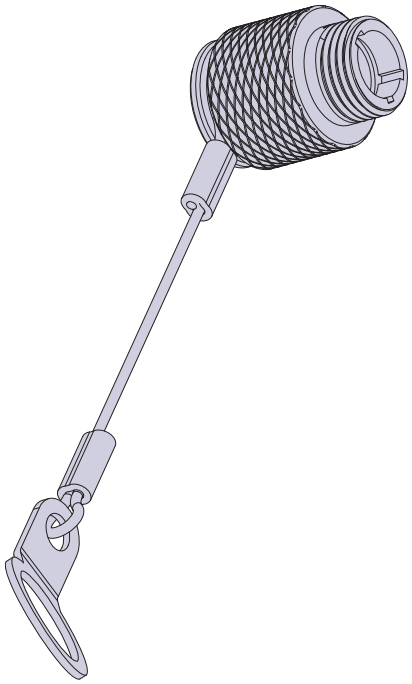
Threaded and Breakaway Nano Circulars

899-016 EMI Cover for Threaded Plug





Threaded EMI Plug Covers offer the same EMI protection as mated connectors, from electro-magnetic interference, as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. Threaded plug covers are available in aluminum or stainless steel and provide protection of hardware and equipment when Series 89 circular threaded plugs are demated for service or inspection.

HOW TO ORDER

Sample Part Number	899-016	-2-19	N	A2	F	2	-21
Series	**899-016** = Nano Miniature Circular EMI Cover for Threaded Plugs						
Shell Size/ Contact Arrangement	**1-4, 1-7, 2-19, 3-37, 4-44, 4-55** See Table I						
Polarization	**N** = Normal **A** = Alternate: See Table I						
Cover Material And Finish	**A2** = Aluminum Cover, Electroless nickel plating **A5** = Aluminum Cover, Gold Over Nickel Plating **S1** = Stainless Steel, Zinc/Cobalt (Black) **S2** = Stainless Steel, Passivated						
Attachment Cord	**N** = No Lanyard **F** = Stainless Steel Wire Rope, Ø.034, Nylon Jacket, Black **G** = Flexible Nylon Cord, Ø1/16", Black						
Attachment Length	Attachment length in inches ±.25 (Omit for no lanyard)						
Termination Type	See Attachment Termination Table for code (Omit for no lanyard)						

TABLE I: SHELL SIZE

SIZE	ØA	B Thread	Polarization	M°	N°
1-4	.425 (10.80)	M7.0 X 0.75-6g	N	150	210
			A	75	210
1-7	.425 (10.80)	M7.0 X 0.75-6g	N	95	230
			A	140	275
2-19	.475 (12.07)	M8.5 X 0.75-6g	N	150	210
			A	75	210
3-37	.526 (13.36)	M9.5 X 0.75-6g	N	150	210
			A	75	210
4-44	.558 (14.17)	M10.5 X 0.75-6g	N	150	210
			A	75	210
4-55	.558 (14.17)	M10.5 X 0.75-6g	N	95	230
			A	140	275

TABLE II: LUG TERMINATION

DASH	ID	OD
-1	.098 (2.49)	.300 (7.62)
-2	.126 (3.20)	.300 (7.62)
-3	.140 (3.56)	.300 (7.62)
-4	.156 (3.96)	.300 (7.62)
-5	.167 (4.24)	.300 (7.62)
-6	.188 (4.78)	.300 (7.62)
-7	.197 (5.00)	.300 (7.62)
-8	.223 (5.66)/.218 (5.54)	.300 (7.62)

TABLE III: SOLID RING TERMINATION

DASH	ID	OD	FPM SIZE	RPM SIZE
-20	.284 (7.21)	.392 (9.96)	N/A	1-4, 1-7
-21	.343 (8.71)	.451 (11.46)	1-4,1-7	2-19
-22	.382 (9.70)	.490 (12.45)	2-19	3-37
-23	.422 (10.72)	.530 (13.46)	3-37	4-44, 4-55
-24	.480 (12.19)	.588 (14.94)	4-44,4-55	N/A

FPM = front panel mount, RPM = rear panel mount. The sizes shown are the shell size and arrangements of the connector(s) that fit the solid ring terminal. Use the solid ring option for attaching the EMI cover lanyard to the connector under the panel mount flange or spanner nut

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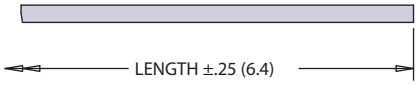
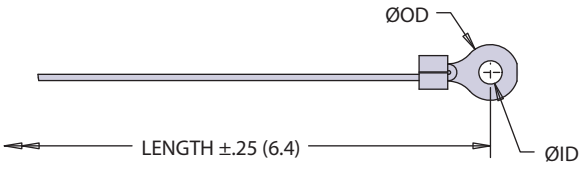
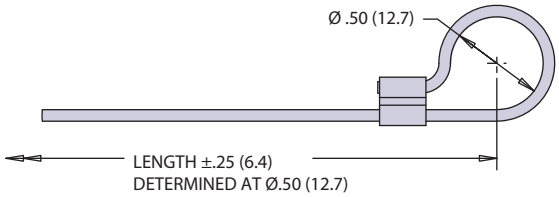
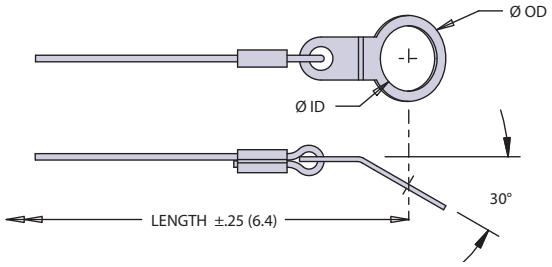
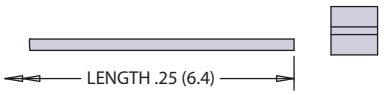
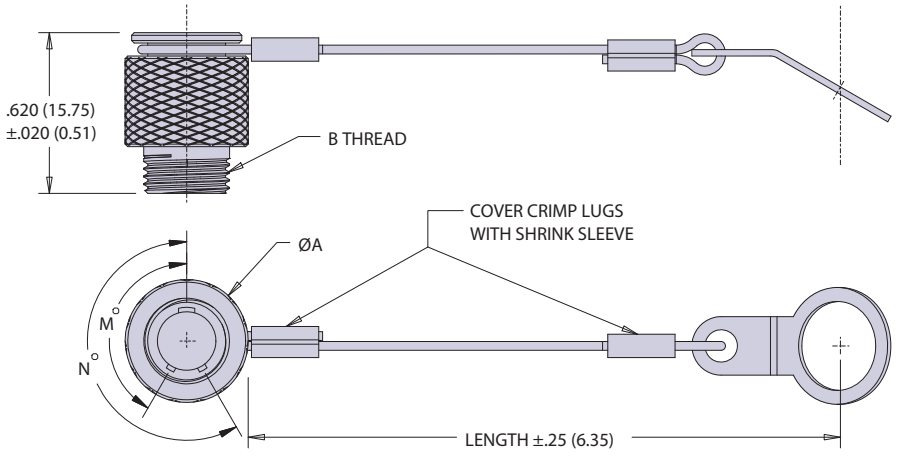
899-016 EMI Cover for Threaded Plug

ATTACHMENT TERMINATION TABLE

Termination Code	Description	Style
-00	No termination	
-01 Thru **-08** See Table II	Lug termination stainless steel, passivated	
-SCS Type "G" Nylon Cord Only	Slip crimp sleeve Provides "slip knot" adjustment. May be crimped for permanent attachment	
-20 Thru **-24** See Table III	Solid ring stainless steel, black chromate over zinc cobalt Match closest ID to connector panel cutout dia	
-CF	Crimp ferrule supplied loose for customer termination	



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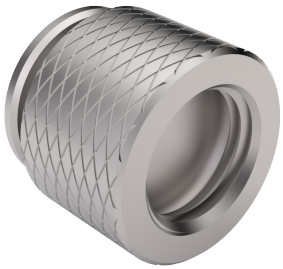
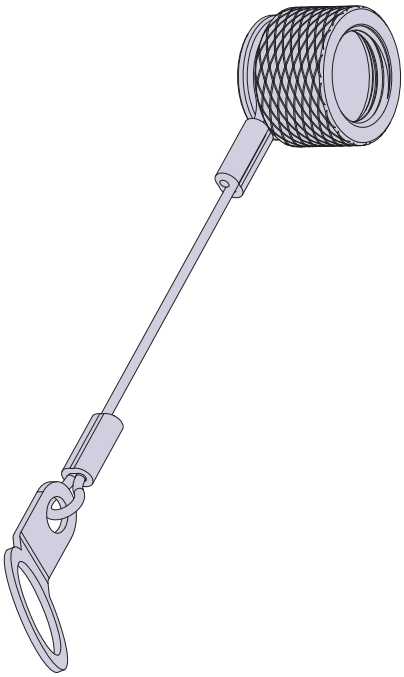
899-013 EMI Cover for Threaded Receptacles





Threaded EMI Covers offer the same EMI protection as mated connectors, from electro-magnetic interference, as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. Threaded receptacle covers are available in aluminum or stainless steel and provide EMI protection of hardware and equipment while Series 89 circular threaded connectors are demated.

HOW TO ORDER

Sample Part Number	899-013	-2-19	A2	F	2	-21
Series	**899-013** = Nano Miniature Circular EMI Cover for Threaded Receptacles					
Shell Size/ Contact Arrangement	**1-4, 1-7, 2-19, 3-37, 4-44, 4-55** See Table I					
Cover Material And Finish	**A2** = Aluminum Cover, Electroless nickel plating **A5** = Aluminum Cover, Gold Over Nickel Plating **S1** = Stainless Steel, Zinc/Cobalt (Black) **S2** = Stainless Steel, Passivated					
Attachment Cord	**N** = No Lanyard **F** = Stainless Steel Wire Rope, Ø.034, Nylon Jacket, Black **G** = Flexible Nylon Cord, Ø1/16", Black					
Attachment Length	Attachment length in inches ±.25 (Omit for no lanyard)					
Termination Type	See Attachment Termination Table for code (Omit for no lanyard)					

TABLE I: SHELL SIZE

SIZE	A	B THREAD
1-4	.425 (10.80)	M7.0 X 0.75-6H
1-7	.425 (10.80)	M7.0 X 0.75-6H
2-19	.475 (12.07)	M8.5 X 0.75-6H
3-37	.526 (13.36)	M9.5 X 0.75-6H
4-44	.558 (14.17)	M10.5 X 0.75-6H
4-55	.558 (14.17)	M10.5 X 0.75-6H

TABLE II: LUG TERMINATION

DASH	ID	OD
-1	.098 (2.49)	.300 (7.62)
-2	.126 (3.20)	.300 (7.62)
-3	.140 (3.56)	.300 (7.62)
-4	.156 (3.96)	.300 (7.62)
-5	.167 (4.24)	.300 (7.62)
-6	.188 (4.78)	.300 (7.62)
-7	.197 (5.00)	.300 (7.62)
-8	.223 (5.66) .218 (5.54)	.300 (7.62)

TABLE III: SOLID RING TERMINATION

DASH	ID	OD	FPM SIZE	RPM SIZE
-20	.284 (7.21)	.392 (9.96)	N/A	1-4, 1-7
-21	.343 (8.71)	.451 (11.46)	1-4,1-7	2-19
-22	.382 (9.70)	.490 (12.45)	2-19	3-37
-23	.422 (10.72)	.530 (13.46)	3-37	4-44, 4-55
-24	.480 (12.19)	.588 (14.94)	4-44,4-55	N/A

Note: FPM = front panel mount, RPM = rear panel mount. The sizes shown are the shell size and arrangement for the connector(s) that fit the solid ring terminal. Use the solid ring option for attaching the EMI cover lanyard to the connector under the panel mount flange or spanner nut.

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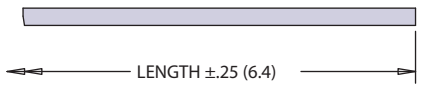
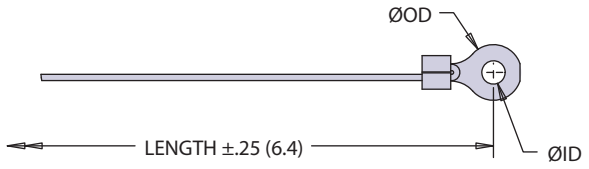
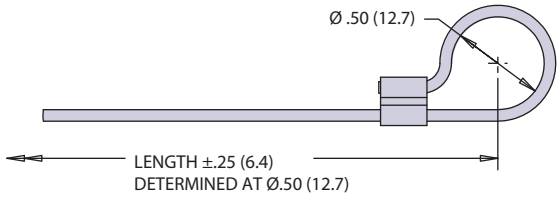
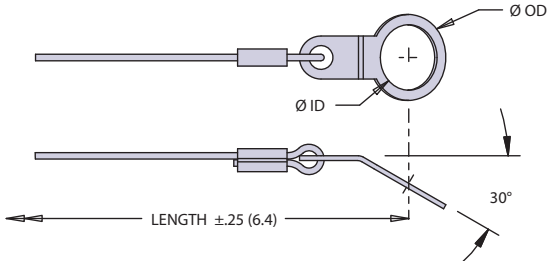
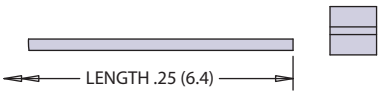
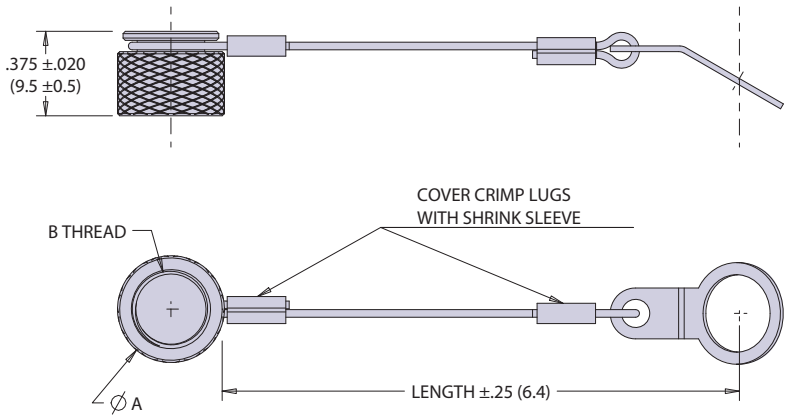
899-013 EMI Cover for Threaded Receptacles

ATTACHMENT TERMINATION TABLE

Termination Code	Description	Style
-00	No termination	
-01 Thru **-08** See Table II	Lug termination stainless steel, passivated	
-SCS Type "G" Nylon Cord Only	Slip crimp sleeve Provides "slip knot" adjustment. May be crimped for permanent attachment	
-20 Thru **-24** See Table III	Solid ring stainless steel, black chromate over zinc cobalt Match closest ID to connector panel cutout dia	
-CF	Crimp ferrule supplied loose for customer termination	



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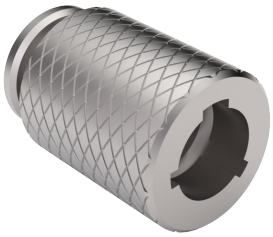
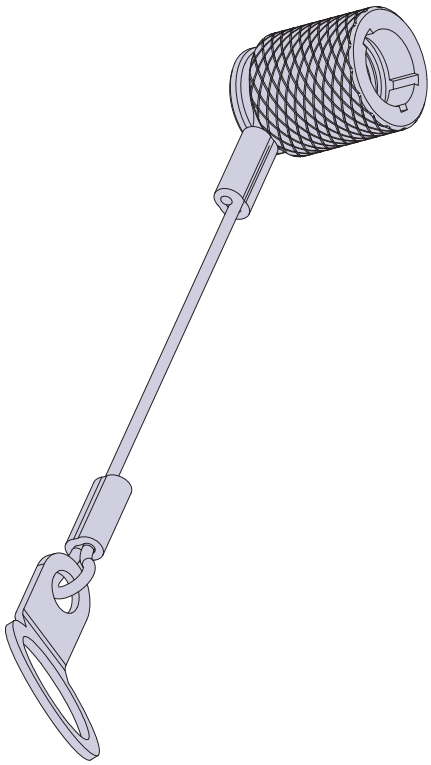
Threaded and Breakaway Nano Circulars

899-017 EMI Cover for Breakaway Plug





Breakaway Plug Covers offer the same EMI protection as mated connectors, from electro-magnetic interference, as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. Available in aluminum or stainless steel and provide EMI protection of hardware and equipment while Series 89 Circular Breakaway connectors are demated.

HOW TO ORDER

Sample Part Number	899-017	-2-19	N	A2	F	2	-21
Series	**899-017** = Nano Miniature Circular EMI Cover for Breakaway Plug						
Shell Size/ Contact Arrangement	**1-4, 1-7, 2-19, 3-37, 4-44, 4-55** See Table I						
Polarization	**N** = Normal (See Table I) **A** = Alternate						
Cover Material and Finish	**A2** = Aluminum Cover, Electroless nickel plating **A5** = Aluminum Cover, Gold Over Nickel Plating **S1** = Stainless Steel, Zinc/Cobalt (Black) **S2** = Stainless Steel, Passivated						
Attachment Cord	**N** = No Lanyard **F** = Stainless Steel Wire Rope, Ø.034, Nylon Jacket, Black **G** = Flexible Nylon Cord, Ø1/16", Black						
Attachment Length	Attachment length in inches ±.25 (Omit for no lanyard)						
Termination Type	See Attachment Termination Table for code (Omit for no lanyard)						

TABLE I: SHELL SIZE

SIZE	ØA	Polarization	M°	N°
1-4	0.425	N	150	210
		A	75	210
1-7	0.425	N	95	230
		A	140	275
2-19	0.475	N	150	210
		A	75	210
3-37	0.526	N	150	210
		A	75	210
4-44	0.558	N	150	210
		A	75	210
4-55	0.558	N	95	230
		A	140	275

TABLE II: LUG TERMINATION

DASH	ID	OD
-1	.098 (2.49)	.300 (7.62)
-2	.126 (3.20)	.300 (7.62)
-3	.140 (3.56)	.300 (7.62)
-4	.156 (3.96)	.300 (7.62)
-5	.167 (4.24)	.300 (7.62)
-6	.188 (4.78)	.300 (7.62)
-7	.197 (5.00)	.300 (7.62)
-8	.223 (5.66) .218 (5.54)	.300 (7.62)

TABLE III: SOLID RING TERMINATION

DASH	ID	OD	FPM SIZE	RPM SIZE
-20	.284 (7.21)	.392 (9.96)	N/A	1-4, 1-7
-21	.343 (8.71)	.451 (11.46)	1-4,1-7	2-19
-22	.382 (9.70)	.490 (12.45)	2-19	3-37
-23	.422 (10.72)	.530 (13.46)	3-37	4-44, 4-55
-24	.480 (12.19)	.588 (14.94)	4-44,4-55	N/A

Note: FPM = front panel mount, RPM = rear panel mount. The sizes shown are the shell size and arrangement for the connector(s) that fit the solid ring terminal. Use the solid ring option for attaching the EMI cover lanyard to the connector under the panel mount flange or spanner nut.

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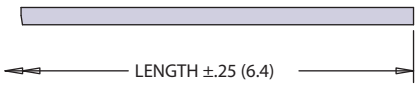
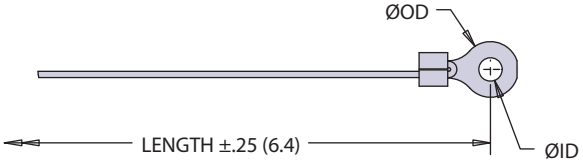
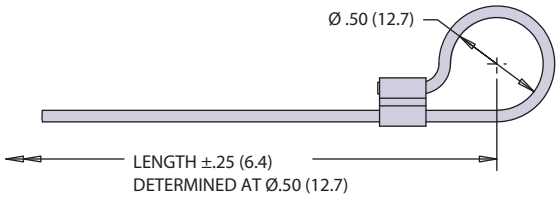
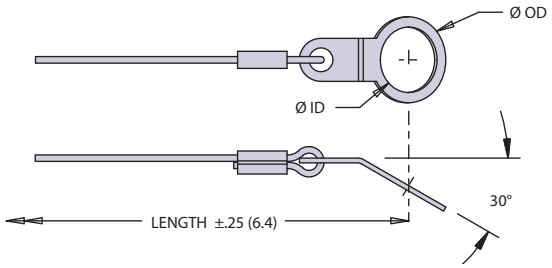
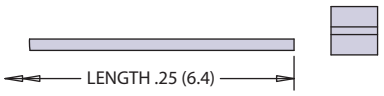
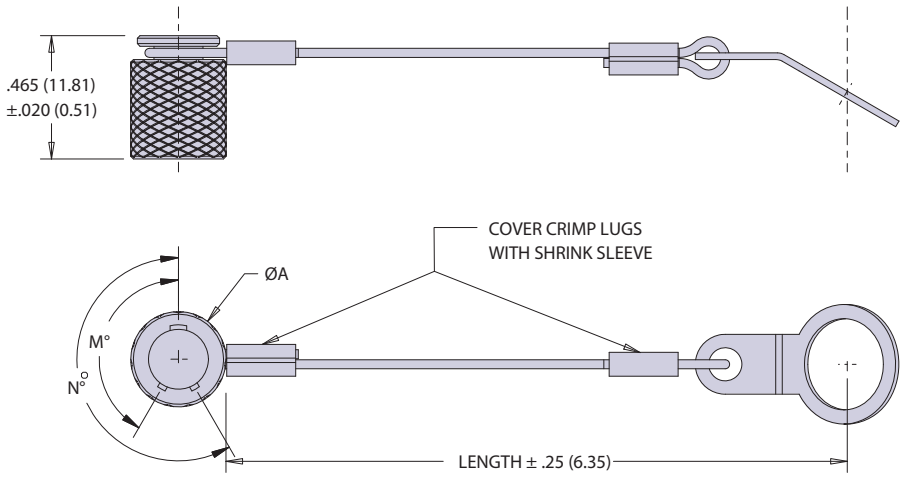
899-017 EMI Cover for Breakaway Plug

ATTACHMENT TERMINATION TABLE

Termination Code	Description	Style
-00	No termination	
-01 Thru **-08** See Table II	Lug termination stainless steel, passivated	
-SCS Type "G" Nylon Cord Only	Slip crimp sleeve Provides "slip knot" adjustment. May be crimped for permanent attachment	
-20 Thru **-24** See Table III	Solid ring stainless steel, black chromate over zinc cobalt Match closest ID to connector panel cutout dia	
-CF	Crimp ferrule supplied loose for customer termination	



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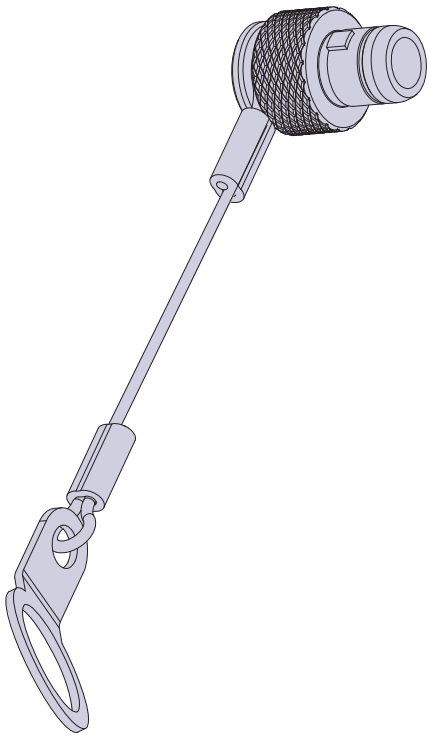
899-014 EMI Cover for Breakaway Receptacle





Breakaway Receptacle Covers offer the same EMI protection as mated connectors, from electro-magnetic interference, as a result of electromagnetic induction emitted from intended external sources such as radio transmissions or electromagnetic radiation from unintentional sources such as electric power transmission lines. Breakaway receptacles are available in aluminum or stainless steel and provide protection of hardware and equipment while Series 89 Circular Breakaway connectors are demated.

HOW TO ORDER

Sample Part Number	899-014	-1-4	A2	F	2	-21
Series	**899-014** = Nano Miniature Circular EMI Cover for Breakaway Receptacles					
Shell Size/ Contact Arrangement	**1-4, 1-7, 2-19, 3-37, 4-44, 4-55** See Table I					
Cover Material and Finish	**A2** = Aluminum Cover, Electroless nickel plating **A5** = Aluminum Cover, Gold Over Nickel Plating **S1** = Stainless Steel, Zinc/Cobalt (Black) **S2** = Stainless Steel, Passivated					
Attachment Cord	**N** = No Lanyard **F** = Stainless Steel Wire Rope, Ø.034, Nylon Jacket, Black **G** = Flexible Nylon Cord, Ø1/16", Black					
Attachment Length	Attachment length in inches ±.25 (Omit for no lanyard)					
Termination Type	See Attachment Termination Table for code (Omit for no lanyard)					

TABLE I: SHELL SIZE

SIZE	Ø A
1-4	.310 (7.87)
1-7	.310 (7.87)
2-19	.360 (9.14)
3-37	.411 (10.44)
4-44	.443 (11.25)
4-55	.443 (11.25)

TABLE II: LUG TERMINATION

DASH	ID	OD
-1	.098 (2.49)	.300 (7.62)
-2	.126 (3.20)	.300 (7.62)
-3	.140 (3.56)	.300 (7.62)
-4	.156 (3.96)	.300 (7.62)
-5	.167 (4.24)	.300 (7.62)
-6	.188 (4.78)	.300 (7.62)
-7	.197 (5.00)	.300 (7.62)
-8	.223 (5.66) .218 (5.54)	.300 (7.62)

TABLE III: SOLID RING TERMINATION

DASH	ID	OD	FPM SIZE	RPM SIZE
-20	.284 (7.21)	.392 (9.96)	N/A	1-4, 1-7
-21	.343 (8.71)	.451 (11.46)	1-4,1-7	2-19
-22	.382 (9.70)	.490 (12.45)	2-19	3-37
-23	.422 (10.72)	.530 (13.46)	3-37	4-44, 4-55
-24	.480 (12.19)	.588 (14.94)	4-44,4-55	N/A

Note: FPM = front panel mount, RPM = rear panel mount. The sizes shown are the shell size and arrangement for the connector(s) that fit the solid ring terminal. Use the solid ring option for attaching the EMI cover lanyard to the connector under the panel mount flange or spanner nut.

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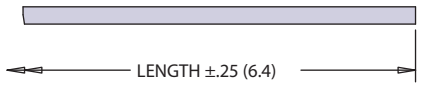
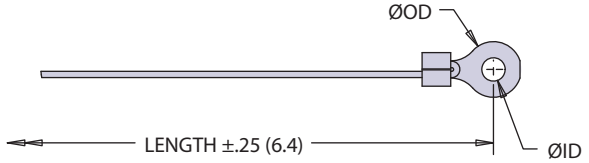
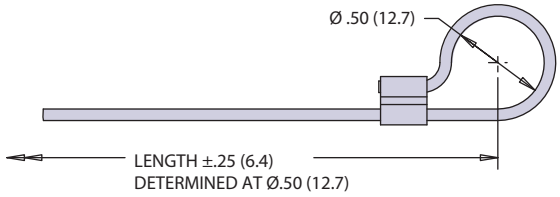
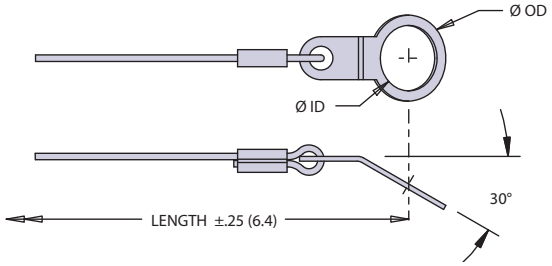
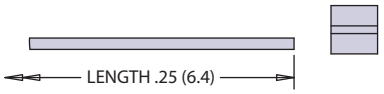
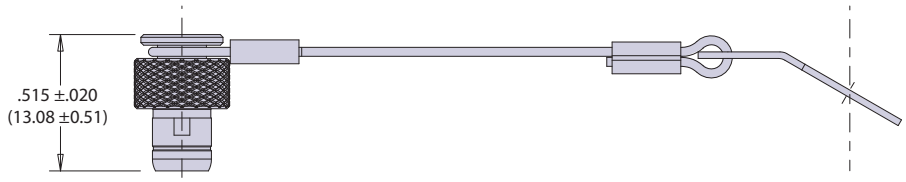
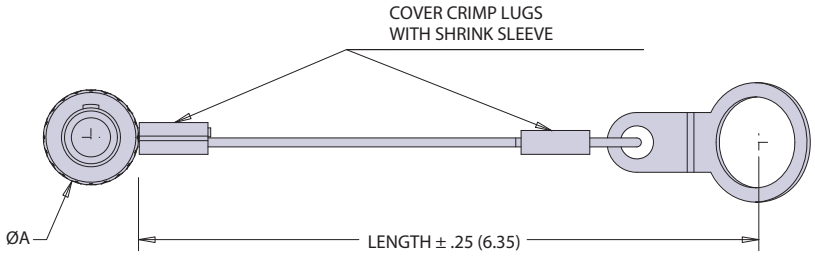
899-014 EMI Cover for Breakaway Receptacle

ATTACHMENT TERMINATION TABLE

Termination Code	Description	Style
-00	No termination	
-01 Thru **-08** See Table II	Lug termination stainless steel, passivated	
-SCS Type "G" Nylon Cord Only	Slip crimp sleeve Provides "slip knot" adjustment. May be crimped for permanent attachment	
-20 Thru **-24** See Table III	Solid ring stainless steel, black chromate over zinc cobalt Match closest ID to connector panel cutout dia	
-CF	Crimp ferrule supplied loose for customer termination	





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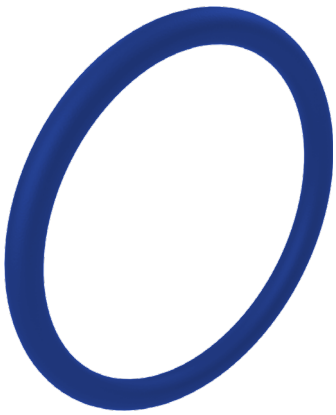
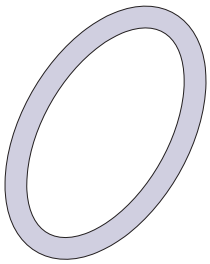
899-020 Nano Circular Replacement Panel O-Ring

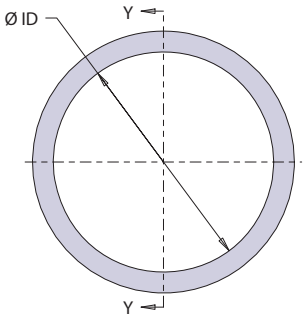


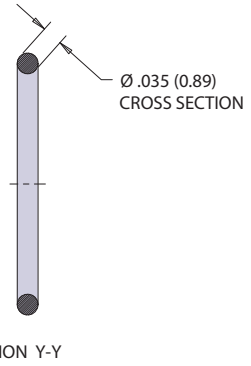
Replacement Panel O-Ring for front or rear panel mount Nano Circular connectors. IAW MIL-DTL-25988 Type II, Class I, Grade 70 fluorosilicone.

HOW TO ORDER					
Sample Part Number		**899-020**	**-1**	**F**	**-01**
Series	**899-020** = Nano Circular Replacement Panel O-ring				
Shell Size	**1, 2, 3, 4**				
Mounting	**F** = Front Panel Mount **R** = Rear Panel Mount				
Material/Finish	**01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 70				

DIMENSIONS		
FPM SHELL SIZE	RPM SHELL SIZE	ID
N/A	1	.3125 (7.94) ±.0045 (0.11)
1	2	.3725 (9.46) ±.0055 (0.14)
2	3	.4130 (10.49) ±.0060 (0.15)
3	4	.4525 (11.49) ±.0065 (0.17)
4	N/A	.5120 (13.00) ±.0070 (0.18)







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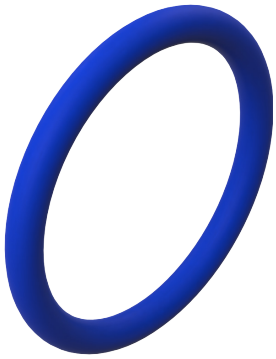
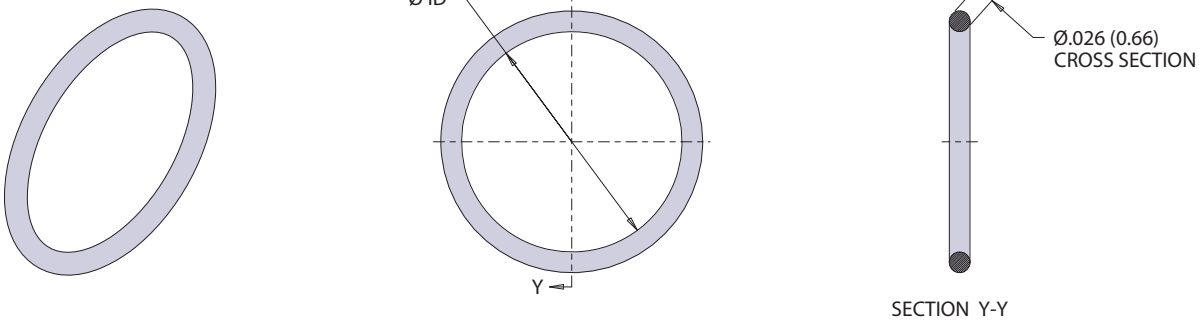
899-021 Nano Circular Replacement Interfacial Connector O-Ring



Replacement Interfacial O-Ring for Nano Circular connectors. IAW MIL-DTL-25988 Type II, Class I, Grade 70 fluorosilicone.

HOW TO ORDER				
Sample Part Number		**899-021**	**-1**	**-01**
Series	**899-021** = Nano Circular Replacement Internal O-ring			
Shell Size	**1, 2, 3, 4**			
Material/Finish	**01** = Fluorosilicone IAW MIL-DTL-25988 Type II, Class I, Grade 70			

DIMENSIONS	
SHELL SIZE	ID
1	.165 (4.19) - .170 (4.32)
2	.213 (5.41) - .219 (5.56)
3	.262 (6.65) - .270 (6.86)
4	.291 (7.39) - .300 (7.62)



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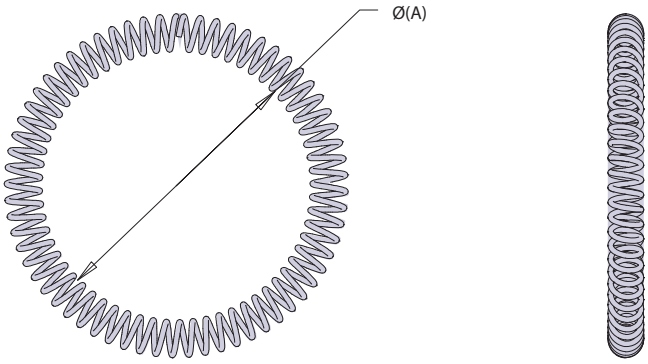
899-022 Nano Miniature Replacement EMI Spring



Replacement EMI Spring for Nano Circular connectors. Constructed of 316 stainless steel per ASTM A313 with gold finish per ASTM B488-01.

HOW TO ORDER			
Sample Part Number		**899-022**	**-1**
Series	**899-022** = Nano Miniature Replacement EMI spring		
Shell Size	**1, 2, 3, 4**		



DIMENSIONS	
SHELL SIZE	Ø A
1	.175 (4.45)
2	.225 (5.72)
3	.277 (7.04)
4	.311 (7.90)

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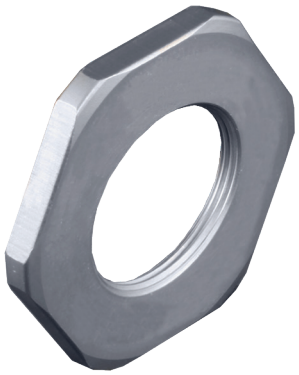
Threaded and Breakaway Nano Circulars

899-019 Nano Circular, Replacement Hex or Spanner Nut





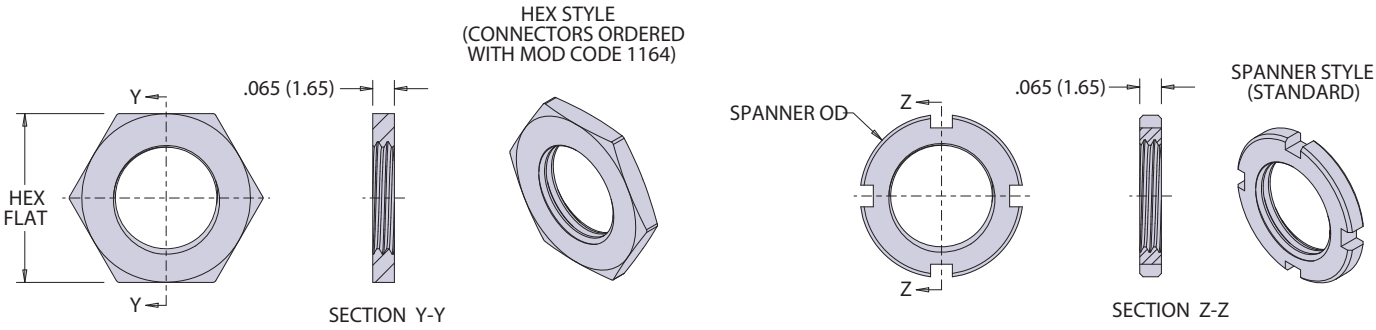
Hex or Spanner Mounting Nuts replace lost or damaged Nano Circular mounting nuts. Available in Hex or Spanner nut styles. Aluminum or stainless steel options for front or rear panel mount connectors.

HOW TO ORDER

Sample Part Number	899-019	-S	-1	F	-A2
Series	**899-019** = Nano Circular Replacement Mounting Nut				
Style	**H** = Hex nut **S** = Spanner nut (standard)				
Shell Size	**1, 2, 3, 4**				
Mounting	**F** = Front panel mount **R** = Rear panel mount				
Material/Finish	**A2** = Aluminum, electroless nickel plating **A5** = Aluminum, Gold over nickel plating **S1** = Stainless steel, zinc cobalt (black) plating **S2** = Stainless steel, passivated				

DIMENSIONS

Thread	Front Panel Mount		Rear Panel Mount		Spanner OD	Hex Flats	Hex Wrench	Torque In-Lb
	Shell Size	Spanner Wrench	Shell Size	Spanner Wrench				
M7.0 X .75-6H	N/A	N/A	1	600-189-01	.429 (10.90)	.427 (10.85)	11 mm	13 MAX (1469 N-mm)
M8.5 X .75-6H	1	600-190-01	2	600-189-02	.489 (12.42)	.506 (12.85)	13 mm	35 MAX (3954 N-mm)
M9.5 X .75-6H	2	600-190-02	3	600-189-03	.528 (13.41)	.545 (13.84)	14 mm	35 MAX (3954 N-mm)
M1.5 X .75-6H	3	600-190-03	4	600-189-04	.567 (14.40)	.585 (14.86)	15 mm	45 MAX (5084 N-mm)
M12.0 X .75-6H	4	600-190-04	N/A	N/A	.627 (15.93)	.624 (15.85)	16 mm	45 MAX (5084 N-mm)



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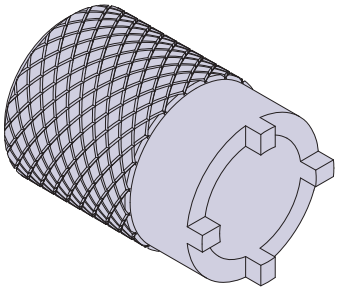
Dimensions in Inches (millimeters) are subject to change without notice.

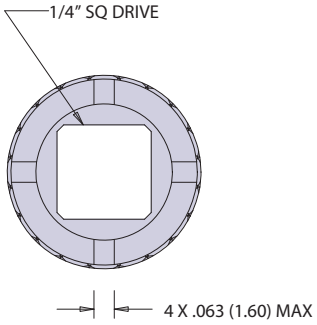
600-189 1/4" Square Drive Spanner Nut Socket Drive for Rear Panel Mount Connectors

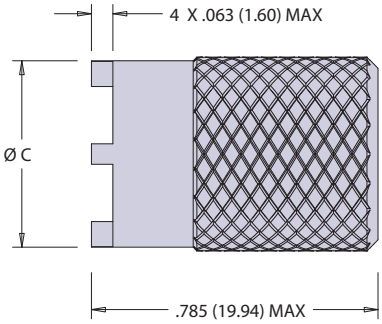


1/4" Socket Drive for use with rear panel mount receptacle mounting nut. Alloy steel construction and nickel plated. Order by insert arrangement individually or in a kit

HOW TO ORDER			
Sample Part Number		**600-189**	**-KIT**
Series	**600-189** = Spanner Nut Wrench, For Rear Panel Mount Nano		
Dash No.	**-01, -02, -03, -04, -KIT** (see Table I)		







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600-190 1/4" Square Drive Spanner Nut Socket Drive for Front Panel Mount Connectors

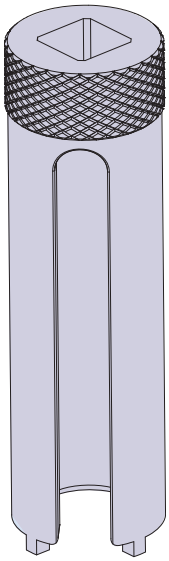


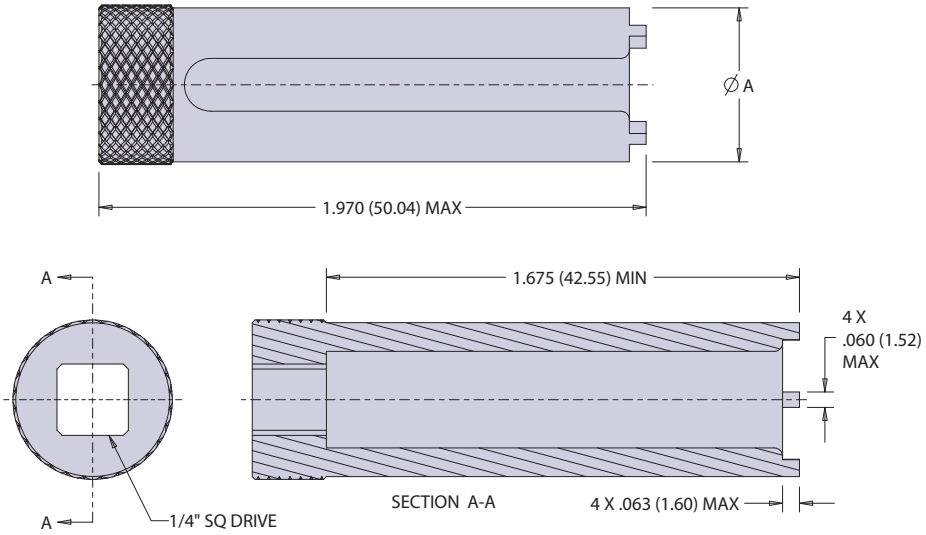
1/4" Socket Drive for use with front panel mount nano circular connectors. Alloy steel construction and nickel plated. Order by insert arrangement individually or in a kit

HOW TO ORDER			
Sample Part Number		**600-190**	**-KIT**
Series	**600-190** = Spanner Nut Wrench, Nano Front Panel Mount		
Shell Size/ Contact Arrangement	See Table I		

TABLE I

DASH	INSERT ARRANGEMENT	ØA MAX	SPANNER NUT THREAD SIZE REF	RECOMMEDED TORQUE IN-LB
-01	4/7	.497 (12.62)	M8.5	35 MAX (3954 N-mm)
-02	19	.537 (13.64)	M9.5	35 MAX (3954 N-mm)
-03	37	.577 (14.66)	M10.5	45 MAX (5084 N-mm)
-04	44/55	.637 (16.18)	M12	45 MAX (5084 N-mm)
-KIT	ALL DASH NUMBER TOOLS SUPPLIED			





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TURNKEY
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WIRE AND CABLE
INTERCONNECT
ASSEMBLIES

Signature Wire & Cable

Military / Aerospace-Grade Wire Harnesses and Complex Multibranch Cable Assemblies Built with Glenair Signature Wire and Multiconductor Cable



MIL-STAR
HIGH-PERFORMANCE HOOKUP WIRE AND CABLE

AEROSPACE-GRADE
SuperFlex™
PCB/FLEX CIRCUIT ASSEMBLIES

SpeedLine™
High-Speed Protocol Cables

BLUMARK RF™
COAX CABLES

FIBER KING
FIBER OPTIC CABLES

turboflex®
THE ULTRA FLEXIBLE RUGGED POWER CABLE

Glenair is laser-focused on supplying our military, aerospace, and defense customers with harsh-environment interconnect assemblies built from Glenair MIL-STAR™, SuperFlex™, BluMark RF™, SpeedLine™, TurboFlex®, and FiberKing™ wire and cable.



Supplied in bulk—any length, with no minimum order quantity—or in fully-integrated and connectorized assemblies, Glenair wire and cable brands are optimized for highest performance in mil-aero / defense applications.

FAST DELIVERY AND QUALITY SINCE 1956

- **3.5 million square feet factory capacity**
- **Mission-critical sea, air, land, and space interconnect product focus**
- **Vertically-integrated, all key processes controlled in-house**
- **Massive inventory of material, component parts, and finished goods**
- **Glenair worldwide QMS: AS9100D SAE / ISO 9001 certified, and customer-audited**

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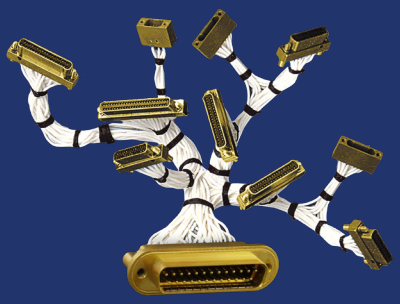
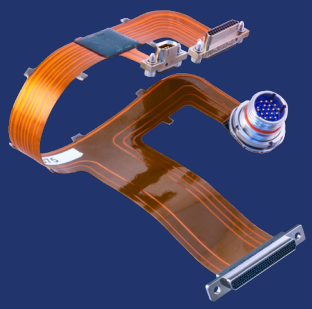
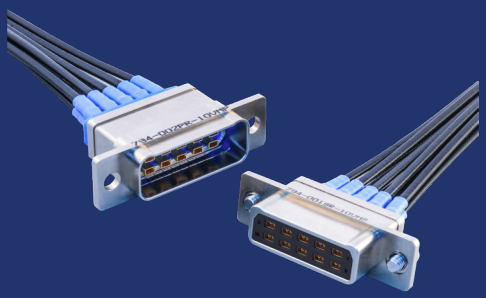
HIGH-SPEED, HIGH-FREQUENCY, HIGH-POWER · ELECTRICAL, OPTICAL, RF, AND FLEX



MIL-STAR™ "Better-than-QPL" wire interconnect assemblies



SuperFlex™ integrated PCB flex and rigid flex assemblies



SpeedLine™ high-speed protocol datalink assemblies



BluMark RF™ high-frequency, low-loss coax assemblies



FiberKing™ harsh-environment and inside-the-box optical assemblies



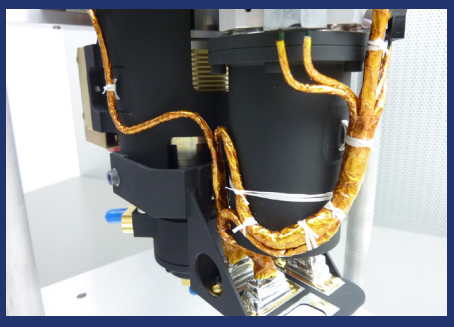
TurboFlex® high power, high flexibility cable assemblies

SPACE-GRADE HARNESS FABRICATION AND CLEAN-ROOM INTEGRATION

In addition to harsh-environment land, sea, and air interconnect assemblies, Glenair is able to supply all of our signature wire and cable brands in complex space-grade harness assemblies integrated with Glenair signature interconnect components. Our space-grade assemblies are optimized for SWaP and incorporate in-house manufactured interconnects including Micro-D, Nano, Series 806 Mil-Aero, Mighty Mouse, and others. All assembly work performed in ISO 8 and ISO 6 clean rooms.



Hand assembly work performed by ESA-certified assembly staff



Harness integration into space payload electromechanical devices



EMI shielded and open-wire bundle assemblies ready for flight

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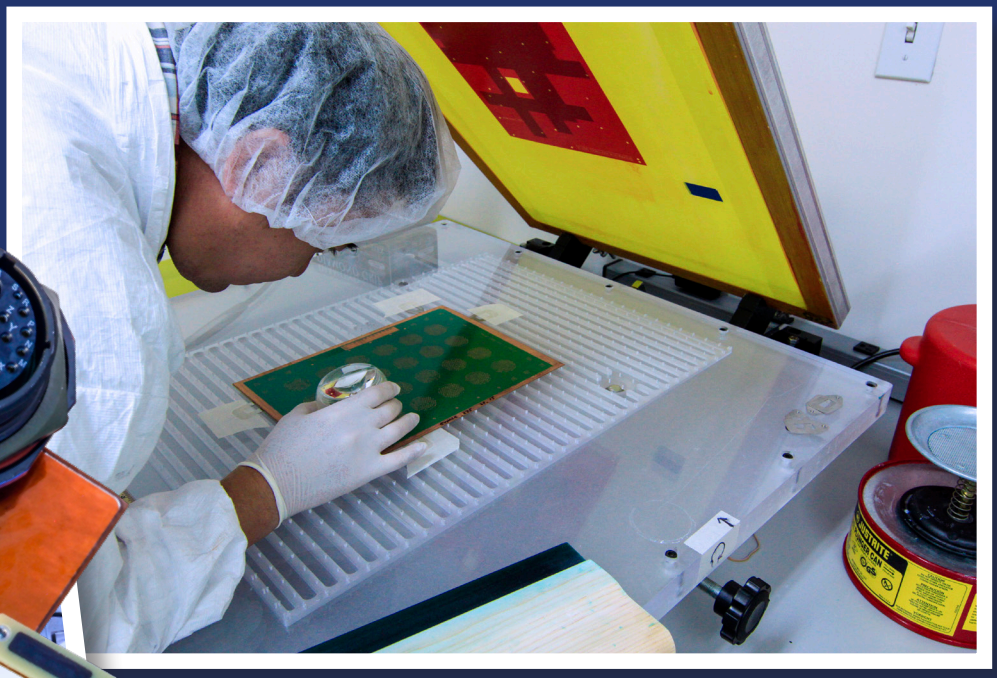
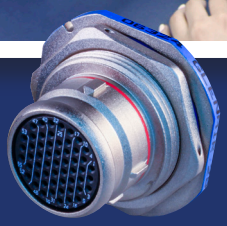


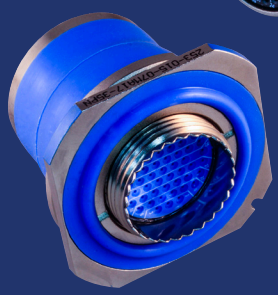


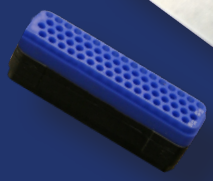
Glenair SoCal's most important asset: highly technical staff, fully empowered with all the right facilities and operation resources.











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