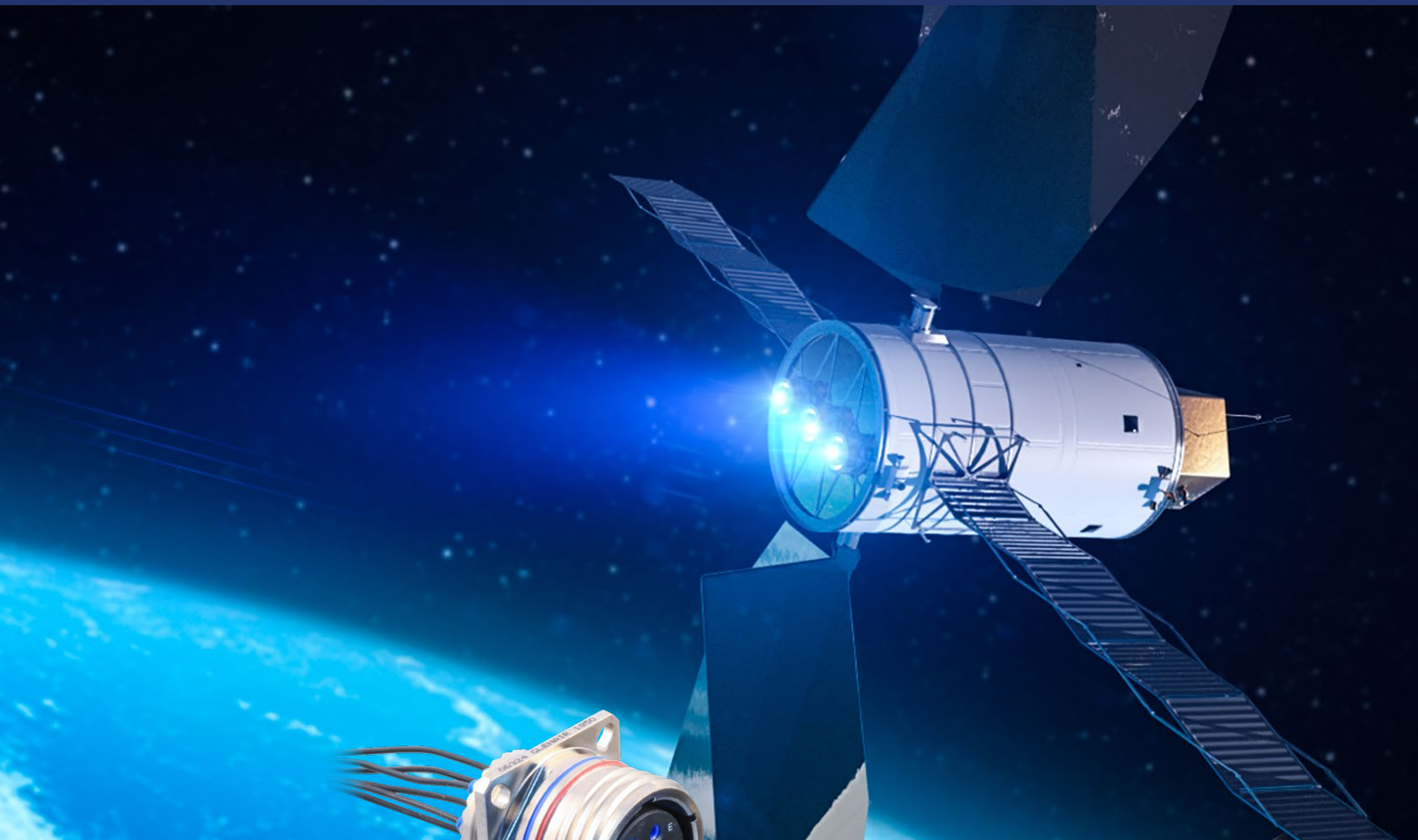


MISSION-CRITICAL
INTERCONNECT
SOLUTIONS



kV Seal™

High-Voltage Contact Assemblies For DC Utility Applications

NOVEMBER 2022

HIGH-VOLTAGE
kV SEAL™
CONTACTS FOR
DC UTILITY
APPLICATIONS



13.5 kVDC–22 kVDC high-voltage, low amperage insertable / removable contact assemblies for high-voltage DC circuit applications



Glenair kV Seal™ contact assemblies are used in applications such as traveling-wave tube RF amplifier devices, directional radar, missile seekers, fire control systems, and other electronic devices that utilize extremely high-voltage circuits in their operation. High-voltage DC is used for the excitation and activation of certain electronic elements within these systems.

kV Seal pre-wired single- or double-ended assemblies are designed for drop-in use in Glenair signature SuperNine connectors (D38999 Series I, II, III, and IV type), Mighty Mouse, and Series 79 Micro Crimp rectangular connectors. Size #12 kV Seal contacts may be paired with #22 or #24 AWG wire for applications requiring 13.5 kVDC operating voltage. kV Seal *Plus* designs provide 15 kVDC voltage performance. Size #8 kV Seal high-voltage contacts utilize #16 AWG wire for 22 kVDC operating voltage. These insertable / removable assemblies are compatible with mil-standard 1560 contact arrangements incorporating non-keyed size #12 and size #8 contacts.

kV SEAL™ PERFORMANCE ADVANTAGES

- Seals interface air gap
- Air-excluding interface and overmolded wire strain relief increase breakdown strength at higher altitudes
- Obstructs interface creep path, increasing breakdown strength against surface tracking
- Modular design integrates into multiple connector packages
- Scales for various operating voltages



HIGH-VOLTAGE kV Seal Contact Assemblies



For high-voltage DC utility applications Selection Guide

INTRODUCTION

GHV-001

kV Seal Size #12 contacts



GHV-001 kV Seal Size #12 13.5 kV contacts for Glenair SuperNine and D38999 Series I, III, and IV connectors
page 4

GHV-002

kV Seal *Plus* Size #12 contacts



GHV-002 kV Seal *Plus* Size #12 15 kV contacts for Glenair SuperNine and D38999 Series I, III, and IV connectors
page 5

GHV-003

kV Seal Size #12 contacts



GHV-003 kV Seal Size #12 13.5 kV contacts for Glenair Mighty Mouse and Series 79, and D38999 Series II connectors
page 6

GHV-004

kV Seal Size #8 contacts



GHV-004 kV Seal Size #8 22 kV contacts for Size #8 cavities in SuperNine, Mighty Mouse Series 801, 802, 805, and Series 79 rectangular connectors
page 7

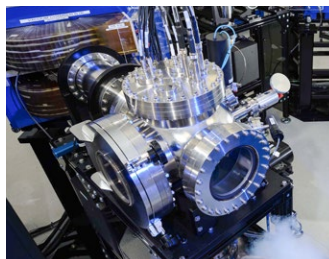
CONNECTOR COMPATIBILITY AND APPLICATION SHOWCASE



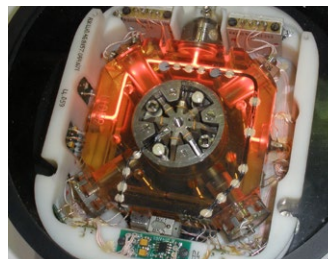
kV Seal high-voltage contacts in-use in Glenair SuperNine D38999 Series III type connectors (left) and Series 79 rectangulars (right)



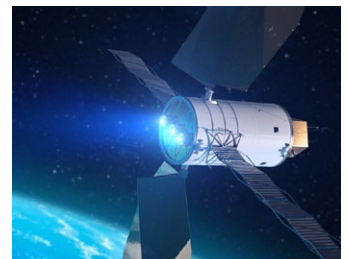
Directional Radar



Mass Spectrometers



Ring Laser Gyroscopes



Electric Propulsion

GHV-001 kV Seal Size #12 13.5 kV contacts for Glenair SuperNine and D38999 Series I, III, and IV

kV SEAL™ CONTACT ASSEMBLIES



kV SEAL CONTACT FEATURES

- 13.5 kVDC operating voltage
- Drop-in performance in Glenair Signature SuperNine and MIL-DTL-38999 Series I, III, and IV connectors
- Intermateable with Teledyne Reynolds Hi-Mate and Connectronics Corp. HyKons

PERFORMANCE SPECIFICATIONS

- IR: 5000 Megohms at 500 VDC
- DWV: 18 kVDC, 10uA max leakage current at sea level / ambient conditions
- Temperature: -55° to +125°
- Add Mod Code **1223**** to part number to include high-altitude DWV testing in final inspection

MATERIAL / FINISH

- Inner Contact, Pin/Socket - copper alloy / gold over nickel
- Contact Insulator Body - high-grade rigid dielectric
- kV Seal - fluorosilicone blend
- Wire Overmold - silicone blend
- Wire - fluoropolymer primary insulation (standard). Silicone-coated fluoropolymer available.
- Assemblies using option **T** etched wire packaged in UV-resistant bags

HOW TO ORDER

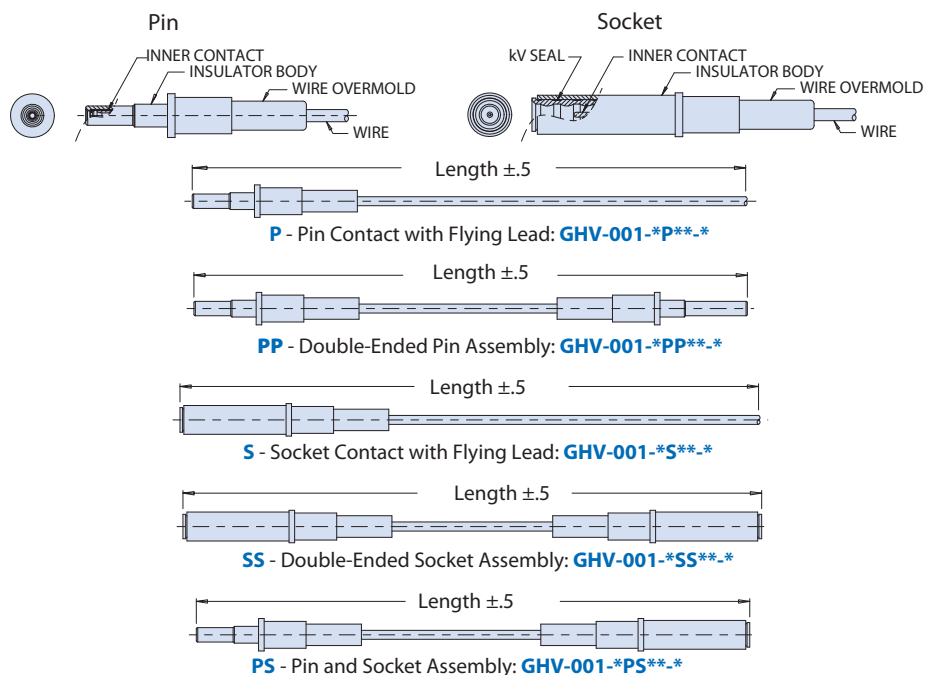
Sample Part Number		GHV-001	-A	PP	T	0	-36
Series	GHV-001 = kV Seal 13.5 kVDC High-Voltage Contact Assembly, Size #12						
Contact Envelope / Wire Gauge	A = #24 AWG wire B = #22 AWG wire (See Table II)						
Contact Gender and Assembly Type	P = Pin (AS39029/58 type), with flying lead S = Socket (AS39029/56 type), with flying lead PP = Double-ended Pin assembly SS = Double-Ended Socket assembly PS = Double-ended Pin and Socket assembly						
Wire Finish	S = Silicone-Coated Fluoropolymer T = Continuously-Etched Fluoropolymer						
Wire Color Code	0 = Black (per MIL-STD-681)						
Total Length	in inches (e.g. -36 = 36 inches) 12" minimum needed for testing						

TABLE II - CONTACT ENVELOPE / WIRE GAUGE PERFORMANCE

Sym	Contact Envelope		Wire Gauge	Current Rating	OP Voltage Through 70K ft.
	Pin	Socket			
A	AS39029/58-365	AS39029/56-353	24	3	13.5 kVDC
B			22	5	

OUTGASSING PROPERTIES - GLENAIR SIZE 12 KV SEAL HV CONTACT

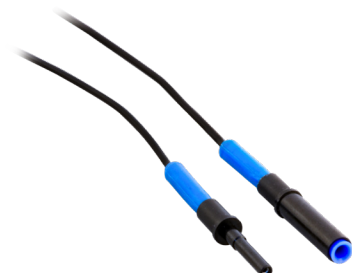
Material	Manufacturer	TML%	CVCM%	VWR	Data Ref.
3145 Clear Silicone RTV	Dow Corning	0.15	<0.01	0.09	w/o 59566-6
CF2-135 Primer	Nusil	4.22	<0.01	2.36	wo 79884
FEP Wire insulation	Glenair	0.01	0	0	GSF31882
Duralectric Wire Coating 961-066-S-26-X	NuSil	0.16	0.06	0.03	GT-14-109
Duralectric K 50 duro silicone GPS146-M2-5	Glenair	0.25	0.07	0.08	wo TR73288



HIGH-VOLTAGE kV Seal™ Contact Assemblies



GHV-002 kV Seal Plus Size #12 15 kV contacts for Glenair SuperNine and D38999 Series I, III, and IV



kV SEAL CONTACT FEATURES

- kV Seal Plus with molded-in socket and longer-nose pin for 15 kVDC operation
- Drop-in performance in Glenair Signature SuperNine and MIL-DTL-38999 Series I, III, and IV connectors

PERFORMANCE SPECIFICATIONS

- IR: 5000 Megohms at 500 VDC
- DWV: 22 kVDC, 10uA max leakage current at sea level / ambient conditions
- Temperature: -55° to +125°
- Add Mod Code **1223**** to part number to include high-altitude DWV testing in final inspection

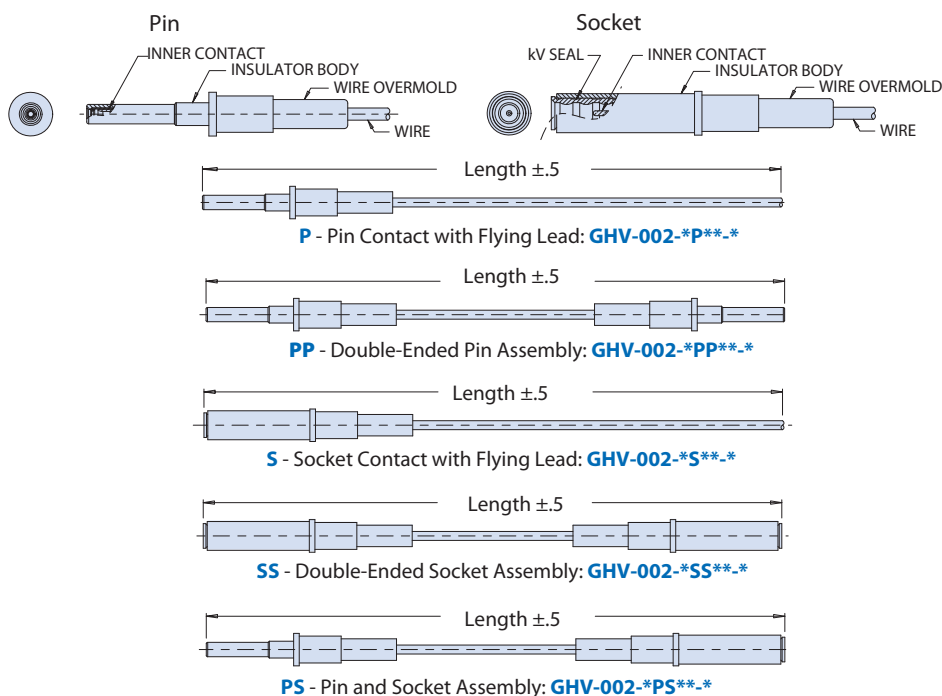
MATERIAL / FINISH

- Inner Contact, Pin/Socket - copper alloy / gold over nickel
- Contact Insulator Body - high-grade rigid dielectric
- kV Seal - fluorosilicone blend
- Wire Overmold - silicone blend
- Wire - fluoropolymer primary insulation (standard). Silicone-coated fluoropolymer available.
- Assemblies using option **T** etched wire packaged in UV-resistant bags

HOW TO ORDER						
Sample Part Number	GHV-002	-A	PP	T	0	-36
Series	GHV-002 = kV Seal Plus 15 kVDC High-Voltage Contact Assembly, Size #12					
Contact Envelope / Wire Gauge	A = #24 AWG wire (See Table II)					
Contact Gender and Assembly Type	P = Pin (AS39029/58 type), with flying lead S = Socket (AS39029/56 type), with flying lead PP = Double-ended Pin assembly SS = Double-Ended Socket assembly PS = Double-ended Pin and Socket assembly					
Wire Finish	S = Silicone-Coated Fluoropolymer T = Continuously-Etched Fluoropolymer					
Wire Color Code	0 = Black (per MIL-STD-681)					
Total Length	in inches (e.g. -36 = 36 inches) 12" minimum needed for testing					

TABLE II - CONTACT ENVELOPE / WIRE GAUGE PERFORMANCE					
Sym	Contact Envelope		Wire Gauge	Current Rating	OP Voltage Through 70K ft.
	Pin	Socket			
A	AS39029/58-365	AS39029/56-353	24	3	15 kVDC

OUTGASSING PROPERTIES – GLENAIR SIZE 12 KV SEAL HV CONTACT					
Material	Manufacturer	TML%	CVCM%	VWR	Data Ref.
3145 Clear Silicone RTV	Dow Corning	0.15	<0.01	0.09	w/o 59566-6
CF2-135 Primer	Nusil	4.22	<0.01	2.36	wo 79884
FEP Wire insulation	Glenair	0.01	0	0	GSF31882
Duralectric Wire Coating 961-066-S-26-X	NuSil	0.16	0.06	0.03	GT-14-109
Duralectric K 50 duro silicone GPS146-M2-5	Glenair	0.25	0.07	0.08	wo TR73288



GHV-003 kV Seal Size #12 13.5 kV contacts for Glenair Mighty Mouse, Series 79, and D38999 Series II connectors

kV SEAL™ CONTACT ASSEMBLIES



kV SEAL CONTACT FEATURES

- 13.5 kVDC operating voltage
- .518" socket for drop-in use with Glenair Signature Mighty Mouse, Series 79, and MIL-DTL-38999 Series II connectors

PERFORMANCE SPECIFICATIONS

- IR: 5000 Megohms at 500 VDC
- DWV: 18 kVDC, 10uA max leakage current at sea level / ambient conditions
- Temperature: -55° to +125°
- Add Mod Code **1223**** to part number to include high-altitude DWV testing in final inspection

MATERIAL / FINISH

- Inner Contact, Pin/Socket - copper alloy / gold over nickel
- Contact Insulator Body - high-grade rigid dielectric
- kV Seal - fluorosilicone blend
- Wire Overmold - silicone blend
- Wire - fluoropolymer primary insulation (standard). Silicone-coated fluoropolymer available.
- Assemblies using option **T** etched wire packaged in UV-resistant bags

HOW TO ORDER

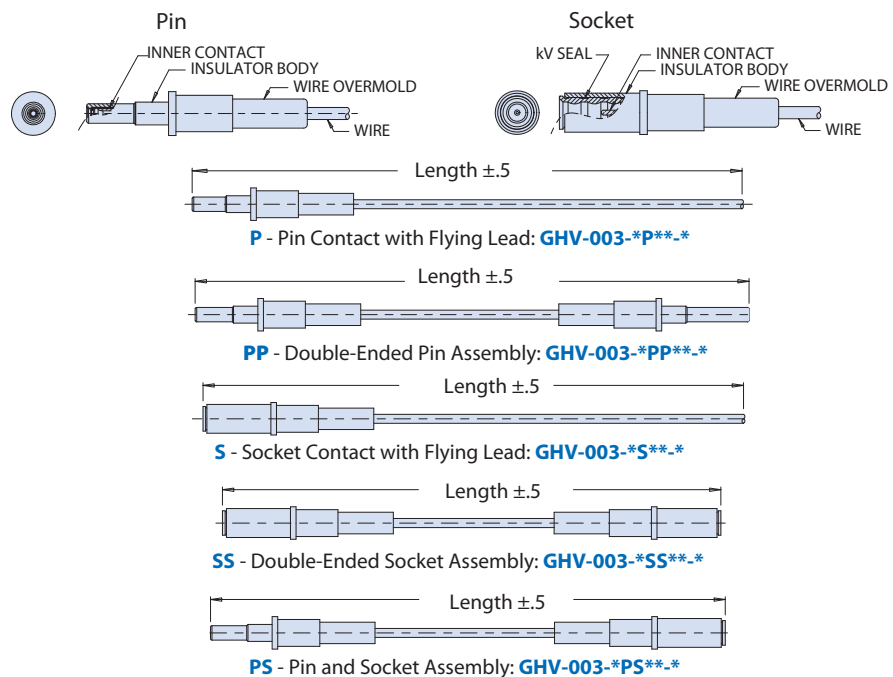
Sample Part Number		GHV-003	-A	PP	T	0	-36
Series	GHV-003 = kV Seal 13.5 kVDC High-Voltage Contact Assembly, Size #12						
Contact Envelope / Wire Gauge	A = #24 AWG wire B = #22 AWG wire (See Table II)						
Contact Gender and Assembly Type	P = Pin (AS39029/58 type), with flying lead S = Socket (AS39029/56 type), with flying lead PP = Double-ended Pin assembly SS = Double-Ended Socket assembly PS = Double-ended Pin and Socket assembly						
Wire Finish	S = Silicone-Coated Fluoropolymer T = Continuously-Etched Fluoropolymer						
Wire Color Code	0 = Black (per MIL-STD-681)						
Total Length	in inches (e.g. -36 = 36 inches) 12" minimum needed for testing						

TABLE II - CONTACT ENVELOPE / WIRE GAUGE PERFORMANCE

Sym	Contact Envelope		Wire Gauge	Current Rating	OP Voltage Through 70K ft.
	Pin	Socket			
A	AS39029/58-365	AS39029/57-359	24	3	13.5 kVDC
B			22	5	

OUTGASSING PROPERTIES - GLENAIR SIZE 12 kV SEAL HV CONTACT

Material	Manufacturer	TML%	CVCM%	VWR	Data Ref.
3145 Clear Silicone RTV	Dow Corning	0.15	<0.01	0.09	w/o 59566-6
CF2-135 Primer	Nusil	4.22	<0.01	2.36	wo 79884
FEP Wire insulation	Glenair	0.01	0	0	GSF31882
Duralectric Wire Coating 961-066-S-26-X	NuSil	0.16	0.06	0.03	GT-14-109
Duralectric K 50 duro silicone GPS146-M2-5	Glenair	0.25	0.07	0.08	wo TR73288



HIGH-VOLTAGE kV Seal™ Contact Assemblies



GHV-004 kV Seal Size #8 22 kV contacts for Size #8 cavities in SuperNine, Mighty Mouse 801, 802, 805, and Series 79 connectors



kV SEAL CONTACT FEATURES

- 22 kVDC operating voltage
- Special-design size #16 copper contacts molded into size #8 dielectric bodies
- For drop-in use in size #8 cavities in SuperNine, Mighty Mouse Series 801, 802, and 805, and Series 79 rectangular connectors

PERFORMANCE SPECIFICATIONS

- IR: 5000 Megohms at 500 VDC
- DWV: 33 kVDC, 10uA max leakage current at sea level / ambient conditions
- Temperature: -55° to +125°
- Add Mod Code **1223**** to part number to include high-altitude DWV testing in final inspection

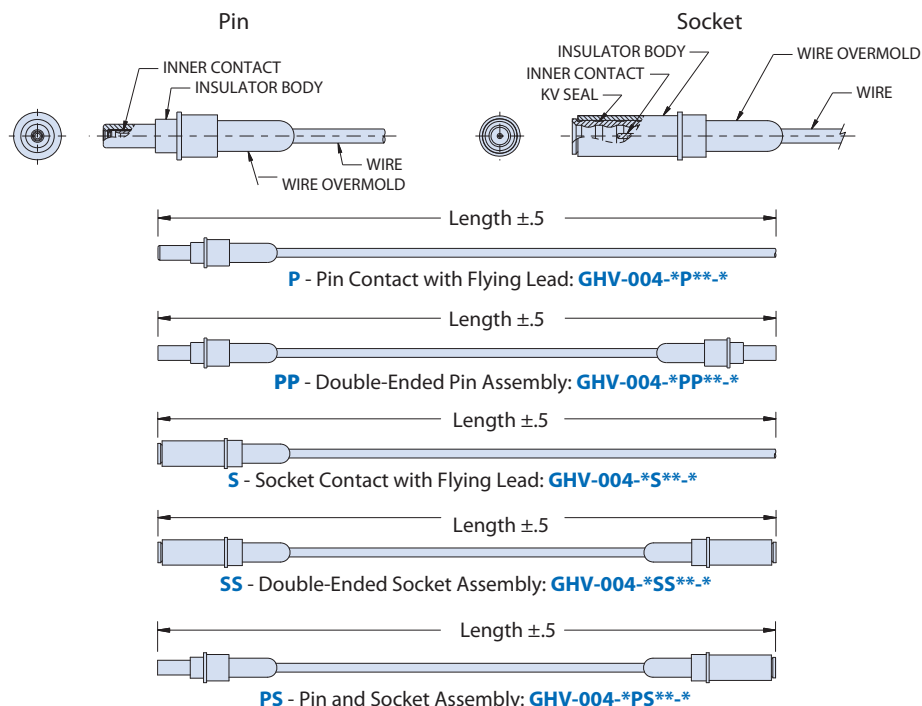
MATERIAL / FINISH

- Inner Contact, Pin/Socket - copper alloy / gold over nickel
- Inner Contact, Socket Hood - Stainless steel / passivate
- Contact Insulator Body - high-grade rigid dielectric
- kV Seal - fluorosilicone blend
- Wire Overmold - silicone blend
- Wire - fluoropolymer primary insulation (standard). Silicone-coated fluoropolymer available.
- Assemblies using option **T** etched wire packaged in UV-resistant bags

HOW TO ORDER						
Sample Part Number	GHV-004	-D	P	T	9	-36
Series	GHV-004 = kV Seal 22 kVDC High-Voltage Contact Assembly, Size #8D					
Contact Envelope / Wire Gauge	D = #16 AWG wire (See Table II)					
Contact Gender and Assembly Type	P = Pin (AS39029/58 type), with flying lead S = Socket (AS39029/56 type), with flying lead PP = Double-ended Pin assembly SS = Double-Ended Socket assembly PS = Double-ended Pin and Socket assembly					
Wire Finish	S = Silicone-Coated Fluoropolymer T = Continuously-Etched Fluoropolymer					
Wire Color Code	9 = White (per MIL-STD-681. Other colors available, consult factory.)					
Total Length	in inches (e.g. -36 = 36 inches) 12" minimum needed for testing					

TABLE II - CONTACT ENVELOPE / WIRE GAUGE PERFORMANCE					
Sym	Contact Envelope		Wire Gauge	Current Rating	OP Voltage Through 70K ft.
	Pin	Socket			
D	#8	#8	16	13	22 kVDC

OUTGASSING PROPERTIES – GLENAIR SIZE 12 KV SEAL HV CONTACT					
Material	Manufacturer	TML%	CVCM%	VWR	Data Ref.
3145 Clear Silicone RTV	Dow Corning	0.15	<0.01	0.09	w/o 59566-6
CF2-135 Primer	Nusil	4.22	<0.01	2.36	wo 79884
FEP Wire insulation	Glenair	0.01	0	0	GSF31882
Duralectric Wire Coating 961-066-S-26-X	NuSil	0.16	0.06	0.03	GT-14-109
Duralectric K 50 duro silicone GPS146-M2-5	Glenair	0.25	0.07	0.08	wo TR73288





MISSION-CRITICAL INTERCONNECT SOLUTIONS

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