
HERMETIC CONNECTORS

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Custom designed solutions

INTRODUCTION TO HERMETIC CONNECTORS

Hermetic connectors are used in applications where an enclosure needs to be isolated from the outside environment. Panel feed through is the main application for this type of connector.

In the vast majority of applications, the use of a hermetic encapsulant offers sufficient levels of hermeticity at a reasonable price. Only extreme environments require glass-to-metal sealing.

Furthermore, AXON' fully tests its hermetic Micro-D solutions to provide reliability and satisfaction to its customers. Helium leak rate is the most common and most reliable method to quantify a small leak.

Based on its expertise, AXON' can also design tailor-made connectors to fit your application needs.

CONNECTOR LEAK FLOW (mbar.l.s ⁻¹ or atm.cm ³ .s ⁻¹)	STANDARD MICRO-D MIL-DTL-83513	WATERPROOF ENCAPSULANT	AXON' HERMETIC ENCAPSULANT	AXON' GLASS-TO-METAL SEAL	LEVEL OF HERMETICITY
	1.E ⁺⁰⁰	↕	↕	↕	↕
1.E ⁻⁰¹					
1.E ⁻⁰²					
1.E ⁻⁰³					SOME MOISTURE INGRESS
1.E ⁻⁰⁴					
1.E ⁻⁰⁵					
1.E ⁻⁰⁶					GAS INGRESS
1.E ⁻⁰⁷					
1.E ⁻⁰⁸					
1.E ⁻⁰⁹					LIGHT WEIGHT GAS INGRESS
1.E ⁻¹⁰					

► ELECTRICAL & MECHANICAL PERFORMANCES

TECHNOLOGY CODE	HERMETIC ENCAPSULANT WITH SILICONE GASKET MDH1	HERMETIC ENCAPSULANT WITH FKM GASKET MDH2	GLASS-TO-METAL SEAL <i>on request</i>
MAXIMUM LEAK RATE*	1.10 ⁻⁶ mbar.l.s ⁻¹	1.10 ⁻⁸ mbar.l.s ⁻¹	< 1.10 ⁻¹¹ mbar.l.s ⁻¹
SERVICE TEMPERATURE RANGE	-55°C / +125°C	-30°C / +125°C	-55°C / +200°C**
CURRENT RATING	3 A MAX	3 A MAX	3 A MAX

*: Leak rates are measured by helium leak detection
 **: temperature range can be increased depending on application
 Other type of seals can also be offered

By mounting the flange to the panel, all AXON' hermetic Micro-D connectors can be used to maintain low or high pressure vacuum seals.

They are fully compatible with standard Micro-D connectors. A wide range of products is already available however custom interconnect solutions can be designed for specific panel cut-outs and thicknesses. Please contact us for any specific hermetic applications.

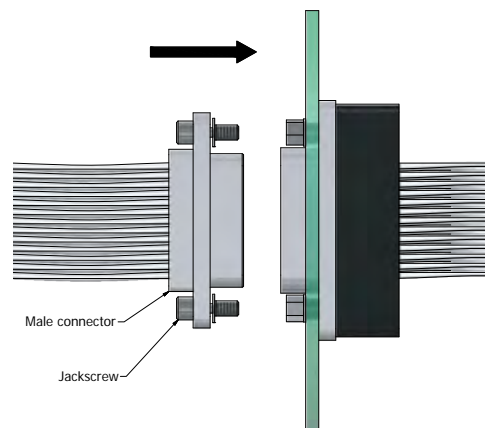
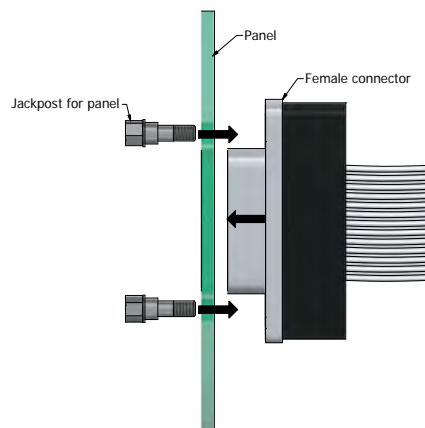
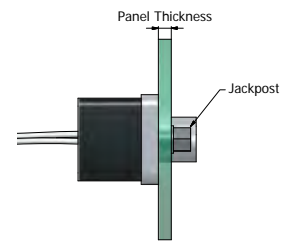
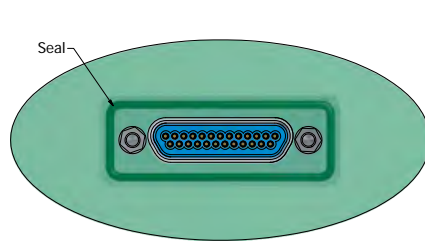


For other operating performances please refer to MIL-DTL-83513

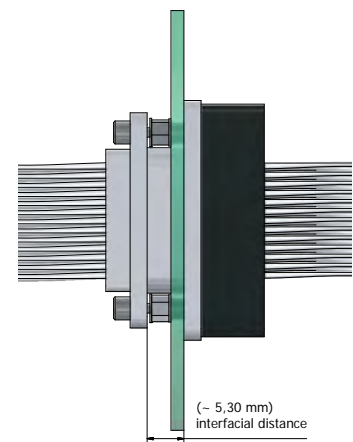
REAR PANEL MOUNTING GUIDE

HERMETIC FEED THROUGH CONNECTORS

Micro-D hermetic feed through is only available as rear panel mount connectors. Specific jackposts are used to secure the feed through on the panel.



- Recommended Ra for panel surface: $<0.8 \mu\text{m}$
- Recommended torque (jackposts): 0.35 N.m
- Connector parts and panel must be cleaned off before mounting for better performances
- Design is made to be used without vacuum grease





RECTANGULAR CONNECTORS

HERMETIC CONNECTOR

METAL SHELL

- High performance hermetic metal connector and PTFE wire.
- Male Twist Pin or female connector.
- 9 to 100 contacts.
- According to MIL-DTL-83513.

IDENTIFICATION CODE

MDH	1	51	S	4	L	050	B
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SERIES

MDH: Micro-D Hermetic series.

HERMETIC TECHNOLOGY

- 1:** Hermetic potting fluorinated silicone gasket.
2: Hermetic potting FKM gasket.
Glass-To-Metal seal on request.

NUMBER OF CONTACTS 09, 15, 21, 25, 31, 37, 51, 100.
 See pages 26 & 27 for contact arrangements.

CONNECTOR GENDER

- P:** Male (pin contacts).
S: Female (socket contacts).

TERMINATION TYPE

- Solid uninsulated wires**
G: AWG 25 gold plated.
FS: Solder cup.

See page 29 for wire types.

COLOUR CODE

- BLANK:** If wire type is G or FS.
W: 10 colour repeat.
 See page 30 for colour code.

WIRE LENGTH (in cm)

Attention ! Wire length in centimetres - (1cm = 10mm = 0.394").
BLANK: If wire type is FS.

HARDWARE

- B:** No hardware.
Px (x= 1 to 5): Panel mount jackposts.
 See pages 190 to 200 for hardware description.

For colour codes F, L, W

- 1:** E 2607, AWG 26, 7 strands, 600V.
4: E 2619, AWG 26, 19 strands, 600V.
6: E 2807, AWG 28, 7 strands, 600V.
8: E 3007, AWG 30, 7 strands, 600V.
A: E 2407, AWG 24, 7 strands, 600V.
C: E 2419, AWG 24, 19 strands, 600V.
E: M22759/33, AWG 26, 19 strands, 600V.

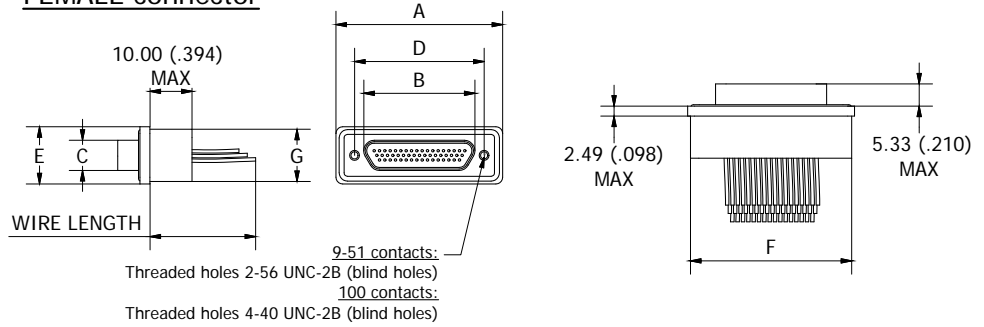
- F:** All yellow.
L: All white.

For other design or glass to metal sealed version, please consult us.

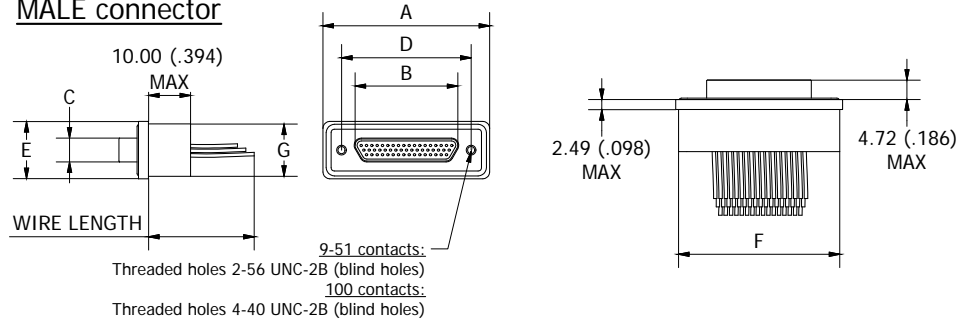
DIMENSIONS

Dimensions are in millimetres (inches).

FEMALE connector



MALE connector



	A ± 0.25 (±.010)	B max.		C max.		D ± 0.13 (±.005)	E ± 0.25 (±.010)	F max.	G max.
		Male	Female	Male	Female				
9 P / 9 S	23.20 .913	8.48 .334	10.16 .400	4.69 .185	6.35 .250	14.35 .565	12.50 .492	22.50 .886	12.00 .472
15 P / 15 S	27.00 1.063	12.29 .484	14.00 .551	4.69 .185	6.35 .250	18.16 .715	12.50 .492	26.30 1.035	12.00 .472
21 P / 21 S	30.81 1.213	16.10 .634	17.81 .701	4.69 .185	6.35 .250	21.97 .865	12.50 .492	30.10 1.185	12.00 .472
25 P / 25 S	33.40 1.315	18.64 .734	20.35 .801	4.69 .185	6.35 .250	24.51 .965	12.50 .492	32.70 1.287	12.00 .472
31 P / 31 S	37.16 1.463	22.45 .884	24.16 .951	4.69 .185	6.35 .250	28.32 1.115	12.50 .492	36.50 1.437	12.00 .472
37 P / 37 S	41.00 1.614	26.26 1.034	27.96 1.101	4.69 .185	6.35 .250	32.13 1.265	12.50 .492	40.30 1.586	12.00 .472
51 P / 51 S	39.70 1.563	24.99 .984	26.70 1.051	5.79 .228	7.44 .293	30.86 1.215	13.60 .535	39.00 1.536	13.00 .512
100 P / 100 S	59.70 2.350	35.15 1.384	36.86 1.451	6.88 .271	8.46 .333	45.72 1.800	15.70 1.618	59.00 2.323	14.50 .571