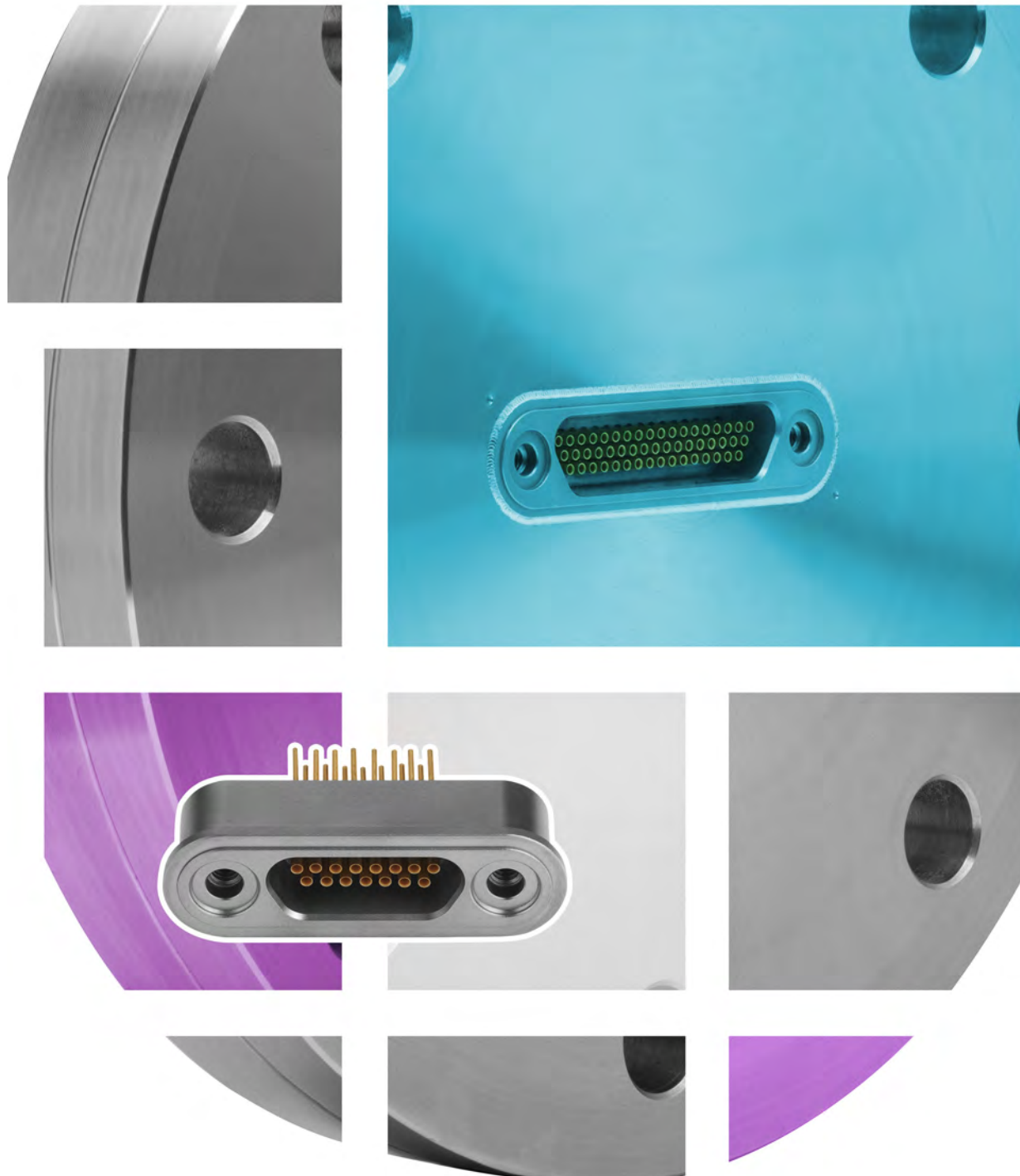


HERMAX®

HERMETIC MICRO-D CONNECTORS



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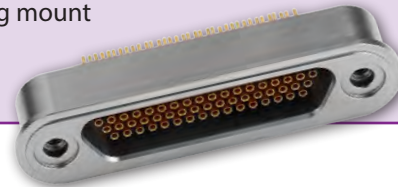
HERMAX[®]

HERMETIC MICRO-D CONNECTORS

HermAx[®] is Axon's range of hermetic Micro-D connectors. These are often used as pressure or vacuum feedthrough connectors, but can also be used as barriers against moisture and contaminants even without a pressure difference.

MAIN CHARACTERISTICS

- High hermeticity: glass-ceramic to metal seal
- High conductivity contacts: up to 3A per contact
- Laser weldable or o-ring mount
- ITAR free
- RoHS compliant



HERMETIC CONNECTORS

Hermetic connectors allow electrical connection across both sides of a panel that must otherwise be fully sealed against moisture or even gases. They are typically used where a panel separates two different environments or when an enclosure needs to be isolated from the surrounding area. The hermetic connector therefore acts as a pres-

sure or vacuum seal or as an environmental protection for sensitive equipment. HermAx[®] comes in different configurations to suit a wide range of applications.

	WATERPROOF ENCAPSULANT	HERMETIC ENCAPSULANT	GLASS TO METAL SEAL	HermAx [®]	MIL-DTL-83513
HELIUM LEAK RATE (mbar.l/s) MIL-STD-883 A4	1.10 ⁻⁵	1.10 ⁻⁸	< 1.10 ⁻⁹ (1)	< 1.10 ⁻¹¹ (1)	-
TEMPERATURE RANGE (°C)	-55/+125	-30/+125	-55/+125 (2)	-55/+220 (2)	-55/+125
CONTACT MATERIAL	COPPER ALLOY	COPPER ALLOY	IRON BASED	COPPER ALLOY	COPPER ALLOY
MAXIMUM CURRENT RATING (A)	3	3	1	3	-
SHELL MATERIAL	ALUMINUM STAINLESS STEEL TITANIUM	ALUMINUM	IRON BASED (EX.: ASTM-F15)	STAINLESS STEEL	STAINLESS STEEL
MOUNTING METHOD	O-RING, FLUOROSILICONE	O-RING, FKM	O-RING (3) LASER WELDING (4)	O-RING (3) LASER WELDING (4)	-

(1) Tested at 10⁻⁹, 10⁻¹⁰, or 10⁻¹¹ mbar.l/s, depending on customer request
(2) MIL-DTL-83513 requires only 125°C, see critical testing below

(3) With o-ring : leak rate limited to 1.10⁻⁸mbar.l/s and temperature range limited
(4) With compatible materials

HERMAX[®] GLASS-CERAMIC TECHNOLOGY

HermAx[®] special glass-ceramic connectors have excellent intrinsic electrical and mechanical properties. They also provide excellent metallic interfaces. As a result, Axon's HermAx[®] stainless steel glass-ceramic connectors deliver exceptionally low leak rates for harsh environment applications.

• High conductivity contacts

HermAx[®] contacts are made from high performance copper alloy, capable of 3A per contact, per MIL-DTL-83513.

• Low leak rates

Helium leak testing is the most common method for evaluating hermetic sealing, and Axon follows MIL-STD-883K, method 1014-16, test condition A4 for single connectors. Axon's HermAx[®] connectors are 100% leak tested and are supplied with guaranteed leak rate performance. Levels as low as 10⁻¹¹ mbar.l/s are possible.

• Designed for a challenge!

HermAx[®] connector performances go far beyond military standards, notably in temperature performance, withstanding more than 400 thermal shock cycles, and capable of seeing temperatures as low as -200°C and as high as 220°C without leakage.

This type of connector can safely be used in a number of challenging environments, including space, avionics, oil & gas exploration, scientific research and medical electronics.

	Glass-ceramic to metal seal (HermAx [®])	MIL-DTL-83513
VIBRATIONS	20 g	20 g
SHOCKS	50 g	50 g
THERMAL SHOCKS (-55 / + 125°C)	> 400 cycles	5 cycles
THERMAL AGEING AT 220°C	2000 h	-

IN-HOUSE MANUFACTURING

Machining of the connector shells, glass-ceramic to metal sealing and plating are all in-house processes.



INTEGRATION: LASER WELDING OR O-RING MOUNT?

For optimum size and leak rate performance HermAx connectors can be laser welded directly to a panel, port or enclosure – and this too is a service Axon can provide.

If laser welding is not possible or not required, then HermAx connectors are also compatible with many standard o-rings, which Axon can also supply according to the application requirements.



Laser Welding



O-Ring

FROM STANDARD TO CUSTOM SOLUTIONS

Axon's HermAx[®] connectors are available in all standard Micro-D pin counts, but can also be supplied with Axon's fast locking D-Click technology, for near instant mating and de-mating with no need for tools.

Custom versions of HermAx[®] are also possible, and can be adapted as required. Circular bodies and other materials, such as aluminium or titanium are all possible.

Please contact your nearest sales office for more information.



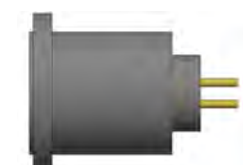
HERMAX[®] RANGE



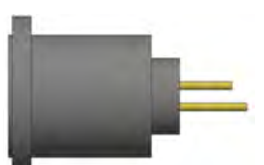
Female / male feedthrough



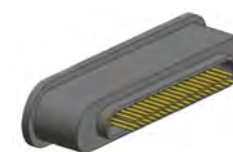
Female / female Feedthrough



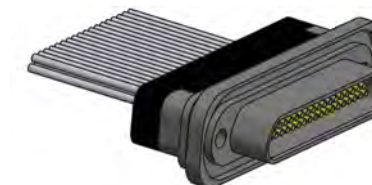
Identical contact length



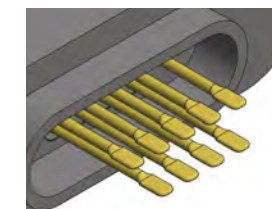
Stepped contact length



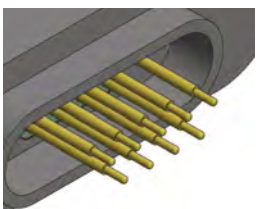
PCB connector



O-ring pigtail connector



Wirebond flat ends



Stepped ends

EXAMPLE CONNECTOR TYPES

REAR TERMINATION STYLES