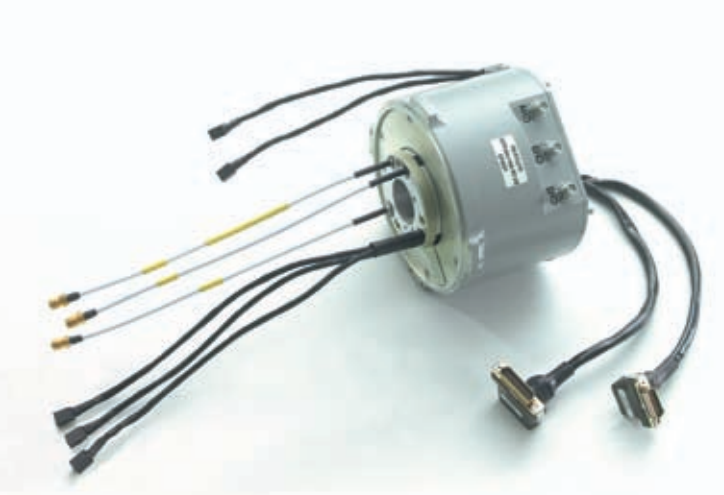
CUSTOM MICRO-D SOLUTIONS

CUSTOM DESIGN CONNECTORS

FROM CUSTOM DESIGN ASSEMBLIES TO MINI-SYSTEMS



Custom designed **solutions**

CUSTOM DESIGN CONNECTORS

In addition to the standard range of Micro-D connectors and assemblies, AXON' can develop custom designed solutions, all based on Micro-D twist-pin contact technology. AXON' is the sole manufacturer in Europe to have fully integrated in-house the design and the manufacture of the Micro-D system, including :
- Twist pins, shells, inserts and interfacial seals.
- Custom designed conductors, wires and cables.
- Complex assembly processes including optimised EMC shielding, branch braiding and overmoulding.

This high level of vertical integration enables AXON' to offer complete solutions which meet the demanding requirements of the aeronautics, space, military, industrial and off-shore markets.

Common applications

MIL-AERO

- Missiles and counter measures.
- Electro-optics.
- Navigation systems.
- Avionics equipment.
- Radar systems.
- Twist capsules.
- Shoulder launched weapon systems.
- Advanced soldier technology systems.
- Military GPS systems.

NON MILITARY

- Down-hole drilling tools.
- Automotive test equipment.
- Medical devices.
- Ruggedised computers.
- Research centres.

SPACE

- Satellite electronics.
- Space station and planetary explorer applications.

MATERIALS & FINISHES

AXON' can offer micro-D solutions with standard and special shell materials and finishes. The table below illustrates some of the more common options, however other materials and finishes may be possible on request :

▲ SALT SPRAY TEST EQUIPMENT

MATERIAL	IN ACCORDANCE WITH	DENSITY (g/cm3)	FINISH	SALT SPRAY RESISTANCE (IN ACCORDANCE WITH EIA-364-26)	TEMPERATURE RANGE	MISCELLANEOUS
ALUMINIUM 6061	SAE AMS-QQ-A-250/11	2.7	STANDARD MIL-DTL-83513 FINISHES			
			- CADMIUM WITH YELLOW CHROMATE OVER ELECTROLESS NICKEL	96 HOURS	150°C	MILITARY APPLICATIONS
			- ELECTROLESS NICKEL	48 HOURS	200°C	MOST COMMON PLATING
			SPECIAL FINISHES			
			- CADMIUM WITH YELLOW CHROMATE OVER ELECTROLESS NICKEL	500 HOURS	150°C	MILITARY APPLICATIONS
			- HEAVY ELECTROLESS NICKEL	500 HOURS	200°C	MILITARY & SPACE APPLICATIONS
			- BLACK ANODISATION (IN ACCORDANCE WITH MIL-A-8625 TYPE II CLASS 2)	48 HOURS	150°C	NON-REFLECTIVE / POOR CONDUCTIVITY
			- CHEMICAL FILM IN ACCORDANCE WITH MIL-C-5541 CLASS 3	48 HOURS	150°C	NON MAGNETIC APPLICATIONS
			- GOLD PLATING IN ACCORDANCE WITH ASTM-B-488 OVER ELECTROLESS NICKEL	48 HOURS	150°C	SPACE GRADE APPLICATIONS
STAINLESS STEEL SERIES 300	-	7.8	PASSIVATION IN ACCORDANCE WITH SAE AMS-27000	1000 HOURS	200°C	EXCELLENT CORROSION RESISTANCE
TITANIUM	-	4.5	NONE	500 HOURS	200°C	ALL ROUND PERFORMANCE WEIGHT, CORROSION, EMC
KOVAR (Fe/Ni/Co ALLOY)	-	8.4	ELECTROLYTIC NICKEL	48 HOURS	200°C	HERMETIC APPLICATIONS

NON MAGNETIC MICRO-D INTERCONNECT SOLUTIONS

Powerful magnetic fields have gained interest in high-tech industries over the past decades. Various applications (MRI, Magnetic field detection systems, etc.) now use these complex phenomena but magnetic measurements still present some issues. The difficulty comes mainly from the numerous possible sources of ferromagnetic materials surrounding the probes.
At the same time, systems using such magnetic fields are spreading and components tend to be closer to each other, increasing magnetic disturbances. Committed to its customers, AXON' has developed a new version of Micro-D products: fully non-magnetic connectors are now available. These connectors have limited or no influence on magnetic field lines, improving the reliability of magnetic measurements.

AXON's non-magnetic Micro-D connectors have been designed using new materials and surface treatments to avoid the use of ferromagnetic materials. The magnetisation of these connectors has been reduced by a factor of 10^4 compared to standard connectors.

DESCRIPTION OF MAGNETIC PHENOMENA OCCURRING IN MICRO-D CONNECTORS

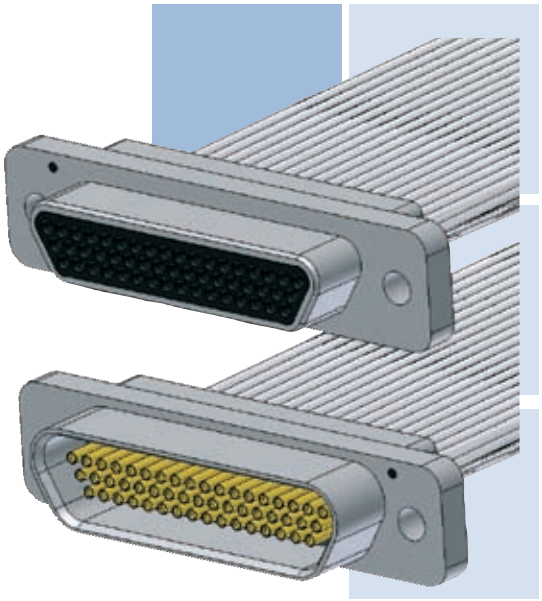
In response to growing market need, AXON' has developed proprietary equipment to characterise and quantify the magnetic influence of connectors on their environment. This equipment reproduces magnetic conditions and measures the connector's interference in both magnetised and demagnetised states. All connectors are tested and most magnetic environments can be reproduced. Drawing on experience in magnetic fields, AXON' can provide specific non-magnetic properties for custom-designed connectors. Custom interconnect solutions can be designed for specific values of magnetic permeability.

PERFORMANCES OF NON-MAGNETIC CONNECTORS

AXON' has extended the D-line® product family to cope with most applications sensitive to magnetic fields. For very high magnetic fields AXON' can offer special, almost totally non-magnetic interconnect solutions, presenting extremely low levels of magnetic permeability.
For very high magnetic fields, AXON' propose special connecting solutions totally non magnetic. It presents extremely low magnetic permeability.

GENERAL PERFORMANCES	
	Non magnetic Micro-D connectors
Residual Magnetic Level	NMB * : 200 gamma residual magnetism level NMC on demand* : 20 gamma residual magnetism level
Operating temperature range	-55°C/+200°C
Current rating	3 A max

For other operating performances please refer to MIL-DTL-83513
* NMB and NMC levels are defined by NASA GSFC/S-311-P-4 for non magnetic subminiature connectors and adapted to the dimensions of microminiature connectors.



NON MAGNETIC CONNECTOR

PLASTIC OR METAL SHELL

- For strong magnetic field environments.
- Minimal magnetic disturbance.
- High performance metal connector and PTFE wire.
- Environmentally sealed.
- Operating temperature : 200°C.
- 9 to 100 contacts.

IDENTIFICATION CODE

MDN	1A	51	S	4	L	050	B

SERIES
MDN : Micro-D Non magnetic series.

CONNECTOR TYPE
1A : < 200 nT - Nickel aluminium shell + potting 200°C.
2A : < 20 nT - Nickel aluminium shell + potting 200°C.

NUMBER OF CONTACTS
09,15,21,25,31,37,51, 51DR, 100.
See pages 16&17 for contact arrangements.

CONNECTOR GENDER
P : Male (pin contacts).
S : Female (socket contacts).

TERMINATION TYPE
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.

For colour code V only
3 : M22759/11, AWG26. 19 strands, 600V.
F : E2607, AWG26, 7 strands, 600V.
Solid uninsulated wires
G : AWG 25 gold plated.
FS : Solder cup.

COLOUR CODE
F : All yellow.
L : All white.
BLANK : If wire type is G or FS.
W : 10 colour repeat.
V : MIL-STD-681 striped (only for wire types 3 and F).
See page 20 for colour code.

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

L in cm (inches)	L ≤ 10 L ≤ 3.940	10 < L ≤ 100 3.940 < L ≤ 39.40	L > 100 L > 39.40
TOLERANCE in cm (inches)	-0 / +0.5 -0 / +0.200	-0 / +3 -0 / +1.180	-0 / +5 -0 / +1.970

HARDWARE
Titanium or CuBe parts .
B : No hardware.
M : Non magnetic low profile hex skt head jackscrews (removable).
N : Non magnetic high profile hex skt head jackscrews (removable).
S : Non magnetic low profile slot head jackscrews (removable).
T : Non magnetic high profile slot head jackscrews (removable).
X : Special non magnetic hardware

For plastic shells, please contact us (non magnetic contacts and hardware).
Other designs available: low-profile, PCB connectors,etc. Please contact us.