



MINIATURE HIGH PERFORMANCE TWIST PIN CONNECTORS

MICRO-D & NANO-D
RECTANGULAR &
CIRCULAR





As a specialist in advanced inter-connect solutions, Axon' Cable has extensive experience in micro-miniature solutions based on the highly reliable Twist Pin contact technology. By its very design, the micro-D connector system meets all the requirements of robustness, durability, low contact resistance, high current, dielectric strength and vibration. With 1.27 mm (0.050") contact spacing, rectangular or circular Micro-D connectors represent an excellent solution for space and weight saving. They are based on the MIL-DTL-83513 standard.

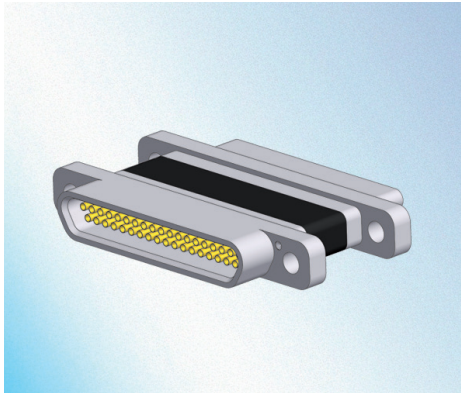
Axon' Cable also offers a large range of nano-D connectors and pigtails based on the MIL-DTL-32139 standard. With 0.635 mm (.025"), contact spacing, rectangular or circular nano connectors are an ideal solution for extreme miniaturisation.

Rectangular Micro-D connectors

- 0.050" (1.27 mm) contact spacing
- Operating temperature: 150°C or 200°C
- Metal shell: 9 to 100 contacts
- Micro-D space versions to ESCC3401 029 (QPL)and ESCC 3401 032 (QPL)

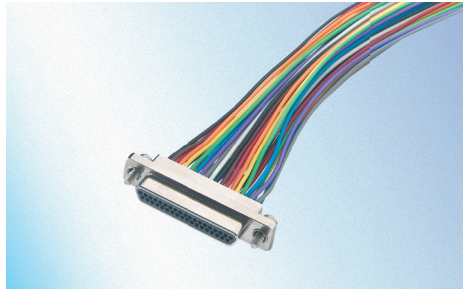
- Low profile metal shell: 9 to 51 contacts
- Plastic shell: 9 to 51 contacts

SAVER



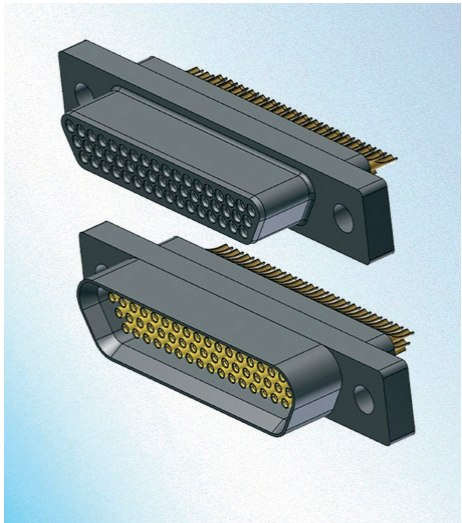
- One-piece design or back to back assembly
- Metal or plastic shell
- Low profile metal shell

MIL-DTL-83513 MICRO-D



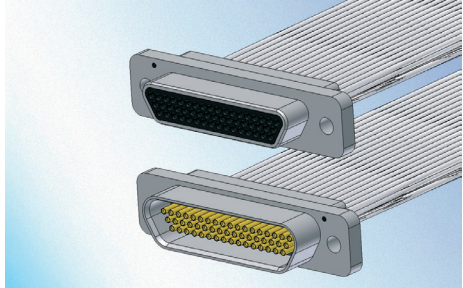
- M83513/01&/02&/06&/07
Solder cup connector - Metal shell - Plastic shell
- M83513/03&/04 & /08 & /09
Pigtail connector - Metal shell- Plastic shell
- M83513/05 Hardware
- M83513/10 to /21
PCB connector - Right angle 0.100" pitch
Metal shell
- M83513/22 to 33
PCB connector - straight- 0.075" or 0.100" pitch - Metal shell

SOLDER CUP



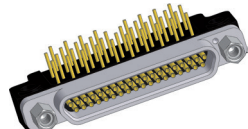
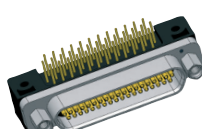
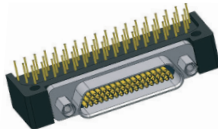
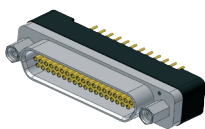
- Metal shell
- Low profile metal shell and plastic shell

PIGTAIL



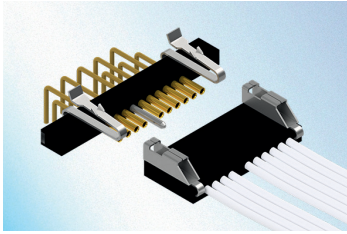
- Metal shell
- Low profile metal shell and plastic shell

PCB



Types	BS	BR	CBR	CBP
Description	Vertical Mount	Right Angle Mount	Condensed Right Angle Mount	Condensed Right Angle Mount low profile
Material	Metal and plastic shell	Metal shell	Metal and plastic shell	Low profile metal shell and plastic shell
Layout	0.100" pitch	0.100" pitch	0.100" pitch	0.100" pitch
	0.075" pitch		0.075" pitch	

MICROSTRIP



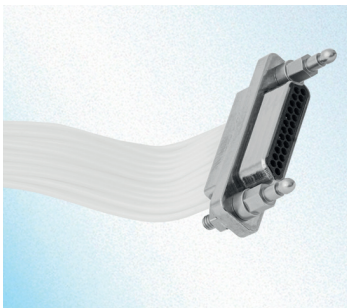
- 0.050" pitch pigtail & solder cup assemblies
- 0.050" pitch PCB connector
- Single row plastic connector : - 2 to 40 contacts

COMBO

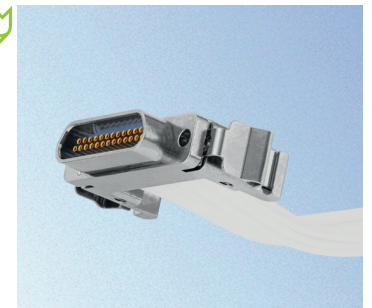


- Metal shell
- PCB and pigtail versions
- Designed to route power and signals including RF
- Circular version on request

D-CLICK



- Equipped with a user-friendly latching systems, D-click® micro-D fast-latching connectors allow customers to use the micro-D technology in space-constrained systems where access to the connectors is difficult. No hardware and no tooling are required for the connection.
- Micro-D D-Click® version to ESCC 3401 091 (QPL).
- Plastic version available (D-clickLite®).

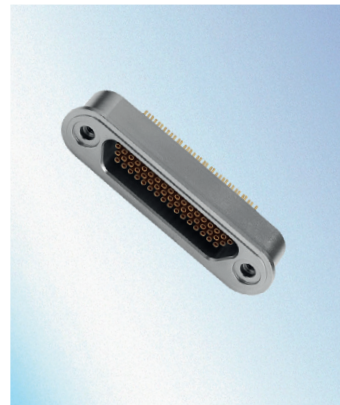


NON MAGNETIC



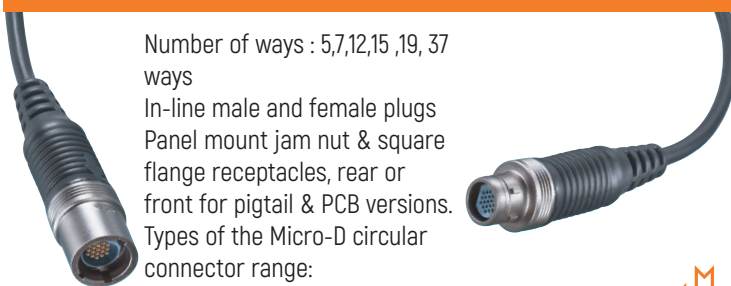
- For strong magnetic field environment
- Minimal magnetic disturbance
- Metal and plastic shell
- PCB connectors : 0.100" pitch Condensed Right Angle Mount (CBR), 0.100" Condensed Right Angle Mount low profile (CBP), 0.075" pitch Vertical Mount (BS), 0.075" pitch Condensed Right Angle Mount (CBR).

HERMETIC



- For applications where an enclosure needs to be isolated from the outside environment. Panel feed-through is the main application for this type of application
- Operating temperatures: up to +125°C for gasket versions
- Metal shell
- 2 versions: hermetic encapsulant with silicone or FKM gasket. Glass-to-metal seal version on request.

Circular Micro-D connectors



Number of ways : 5,7,12,15,19, 37 ways
In-line male and female plugs
Panel mount jam nut & square flange receptacles, rear or front for pigtail & PCB versions.
Types of the Micro-D circular connector range:

- Metric thread connectors
- Three lug bayonet connectors
- Triple start connectors with anti-decoupling
- Breakaway connectors
- Plastic shells

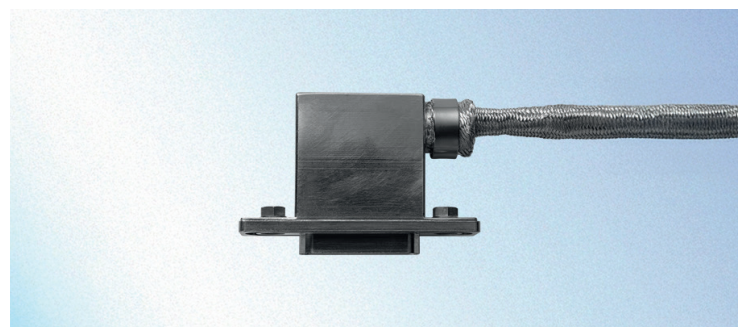
BREAKAWAY



METRIC THREAD

Backshells & accessories

- Backshells: Micro-D EMI backshell Axoclamp® EMI band termination
- Hardware
 - Removable jackscrews & jackposts
 - Rear panel mount jackposts for pigtail connectors
 - Removable jackposts for PCB connectors
 - Rear panel mount jackposts for PCB connectors
 - Non-removable hardware
 - Float mount inserts
 - U-clip mounting jackscrews
- Micro-D & Nano-D assembly kit



Nano-D connectors

- ↗ 0.025" (0.635 mm) contact spacing
- ↗ Operating temperature: 150°C or 200°C

- ↗ Metal shell: 09, 15, 21, 25, 31, 37, 51 contacts
- ↗ Single and dual row

- ↗ Nano-D space version to ESCC 3401 086 (EPPL2)

RECTANGULAR



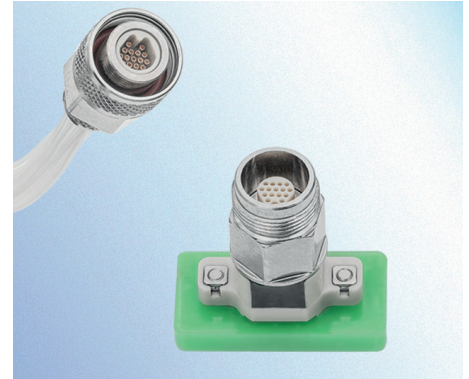
- ↗ For micro miniature operating systems
- ↗ Mil version
- ↗ M32139/03 & /04
- ↗ Pigtail connector metal shell: 09, 15, 21, 25, 31, 37, 51 contacts

NANO-D FAST LOCK



- ↗ The locking system which consists of latch clips and special guide pins makes it easy to connect and disconnect in a few second

NANO CIRCULAR



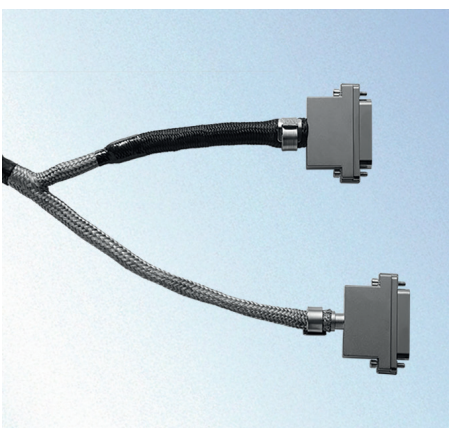
- ↗ Pigtail or PCB connectors
- ↗ Panel mount connectors
- ↗ Metal or plastic shell
- ↗ 0.025" (0.635 mm) contact spacing
- ↗ Number of ways: 15, 25 and 37

Harnessing capabilities

Axon' Cable specializes in custom cable assemblies, interconnect systems and complex harnesses with multiple branches. By leveraging expertise in precision manufacturing, overmolding, and electromagnetic interference protection, the company delivers solutions for the most demanding requirements.

From around 1985 onwards, Axon' has been assembling micro-D connectors in all their forms: PCB, pigtails, savers, strips, solder cup and complex multi-branched harnesses, designed for the most challenging of environments. As a result, Axon' has gained a wealth of experience in the termination of single wires and composite cables into a wide range of circular, rectangular and micro-D connectors.

EMI SOLUTIONS



- ↗ Expertise in assembling complex multi-branched harnesses with micro-D connectors or any types of connectors available.
- ↗ Overbraiding and optimised shield termination for EMI protection

MINI SYSTEMS



- ↗ Axon's twist capsules can integrate signal, power, coaxial cables, controlled impedance pairs, and bus cables.
- ↗ Flexible wires for cabling in a restricted space.

HIGH DATA RATE



- ↗ Rugged cable assemblies terminated with micro-D connectors integrating high data rate standards including Ethernet, IEEE1394, SpaceWire, etc. They resist to high levels of shocks & vibration.

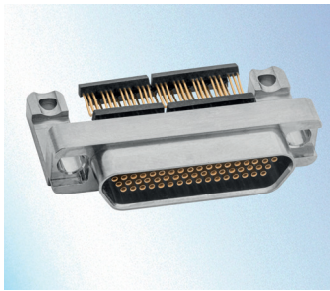
Custom Micro-D based connectors

FILTERED MICRO-D



- ↳ Protect the electronic equipment from electromagnetic interference
- ↳ Available in pigtail and PCB versions
- ↳ Electrical lines can be partially filtered (selective filtering)

PCB SURFACE MOUNTING



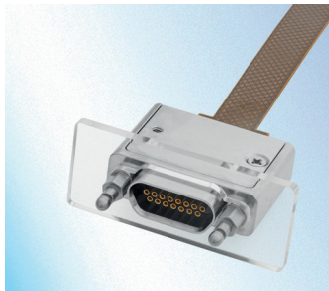
- Designed to save space between Printed Circuit boards. Surface mount connectors are available in 3 versions:
- ↳ SMV (Surface Mount Vertical)
 - ↳ SMT (Surface Mount Transversal)
 - ↳ SMH (Surface Mount Horizontal)

MAXIDENS



- ↳ Increased number of contacts in a micro-D shell
- ↳ About 40% contacts more compared to standard micro-D design.

MICRO-D WITH FLAT CABLE



- ↳ Adaptable to 2 rows standard micro-D connectors
- ↳ Easy grounding
- ↳ Easy to repair

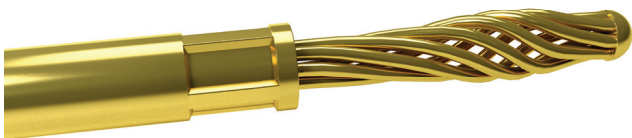
Twist Pin contacts

THE HEART OF THE AXON' MICRO-D AND NANO-D CONNECTORS

The Twist Pin contact by its design and performance enables the system to meet the most severe requirements – often significantly more so than stipulated in the MIL-DTL-83513 and MIL-DTL-32139 standards.



AXON's 100 % VISION INSPECTED TWIST PIN CONTACT



CHARACTERISTICS	AXON' TWIST PIN	MIL REQUIREMENT
Number of contact points with female contact	7	No requirement
Contact resistance (following test \$3.5.6)	Max 3 mΩ (under 3 A)	8 mΩ (under 2.5 A)
Vibration (no discontinuity > 1 μs)	200 g*	20 g*
Shock (no discontinuity > 1 μs)	500 g*	50 g*
Crimping	22 to 36 AWG	24 to 26 AWG

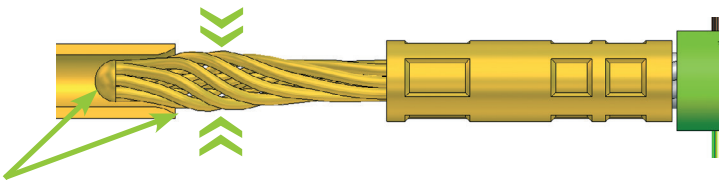
(*) VIBRATION & SHOCK VALUES DEPENDING ON TEST PROFILES (FOR MICRO-D)

AXON' carry out 100% automatic vision inspection of the shape and dimensions of every twist-pin produced.

BUMP AREA WILL BE COMPRESSED INSIDE THE SOCKET DURING INSERTION

→ INSERTION AND RETENTION PERFORMANCE OF THE TWIST-PIN AND SOCKET MATED PAIR

BOTH SOCKET CONTACT CHAMFER AND TWIST-PIN HEMISPHERICAL RADIUS CONTRIBUTE TO ENSURE ADEQUATE INSERTION EVEN IN CASE OF MISALIGNMENT





INTERNATIONAL PRESENCE

SUBSIDIARIES

» AUSTRALIA

AXON' CONNECT PTY LTD
MELBOURNE
TEL.: +61 417 284 674
e-mail: sales.australia@axon-cable.com

» BRAZIL

AXON' CABLE INDUSTRIA E COMÉRCIO LTDA
RIO DE JANEIRO
TEL.: +55 21 3596-8002
e-mail: salesbrazil@axon-cable.com

» CANADA

AXON' CÂBLAGE INC./AXON' WIRING INC.
MONTREAL, QUEBEC
TEL.: +1 514-898-2044
e-mail: sales@axoncable.com

» CHINA

AXON' INTERCONNECT LTD
SHUNDE, GUANGDONG
TEL.: +86 757 2838 7200
e-mail: sales@axon-interconnect.com

» GERMANY

AXON' KABEL GMBH
LEONBERG
TEL.: +49 7152-97992-0
e-mail: sales@axon-cable.de

» HUNGARY

AXON' KÁBELGYÁRTÓ KFT.
KECSKEMÉT
TEL.: +36 76 508 195
e-mail: axon@axon-cable.hu

» INDIA

AXON' INTERCONNECTORS & WIRES PVT LTD
BANGALORE
TEL.: +91 (0) 806 816 2966
e-mail: sales@axon-cable.in

DHRUV AXON' INTERCONNECT PRIVATE LTD
e-mail: sales@dhruv-cable.in

» JAPAN

AXON' CABLE JAPAN OFFICE
NAGANO
TEL./FAX: +81 2 6217 6728
e-mail: axon-japan@axon-cable.com

» LATVIA

AXON' CABLE SIA
DAUGAVPILS
TEL.: +371 6540 78 91
e-mail: axon@axoncable.lv

» MEXICO

AXON' INTERCONEX, S.A. DE C.V.
QUERÉTARO
TEL.: +52 44 2215 2713
e-mail: axon-mexico@axoncable.com.mx

» SINGAPORE

AXON' CONNECT PTE LTD
SINGAPORE
TEL.: +65 6250 3169
e-mail: sales.singapore@axon-cable.com

» SPAIN

AXON' CABLE SPANISH OFFICE
MADRID
TEL.: +34 911.30.91.23
e-mail: axon-spain@axon-cable.com

» UNITED KINGDOM

AXON' CABLE LTD
DUNFERMLINE
TEL.: +44 1383 421500
e-mail: sales@axon-cable.co.uk

» USA

AXON' CABLE INC.
SCHAUMBURG
TEL.: +1 847 230-7800
e-mail: sales@axoncable.com



Axon' Cable is a global leader in the design and manufacture of high-performance interconnect solutions for a wide range of industries, including aerospace, defence, medical, and industrial markets. Since 1965, Axon' Cable has established itself as a trusted partner to its customers by providing innovative solutions that meet their most demanding requirements. From custom-designed cables and connectors to cable assemblies and harnesses, Axon' Cable's expertise and state-of-the-art manufacturing facilities enable it to deliver reliable, high-quality products that are optimized for performance and reliability. With a commitment to excellence and a focus on customer satisfaction, Axon' Cable is dedicated to driving innovation and advancing the state-of-the-art in interconnect technology.

HEADQUARTERS

» FRANCE

» AXON' CABLE S.A.S.

2 Route de Châlons en Champagne
51210 MONTMIRAIL
TEL.: +33 3 26 81 70 00
sales@axon-cable.com



www.axon-cable.com

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