

# Circular Micro-D connectors

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



# Expertise in space

## MICRO-D

- > Pigtail, PCB connectors, solder cup assemblies
- > Approved to ESCC3401/029 EPPL2

## NANO-D

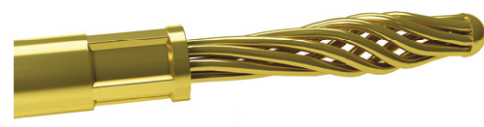
- > Pigtail, EMI range, PCB connectors (BS, CBR, SMV)
- > Approved to ESCC3401/086 EPPL2

## 120-WAY MICRO-D

- > Plug or socket connector for cable or assembly
- > Plug board straight PCB connector
- > Socket surface mount PCB connector
- > Connector saver

# Twist Pin connectors

**Twist pin contact:**  
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.



BUMP AREA WILL BE COMPRESSED INSIDE THE SOCKET DURING INSERTION

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

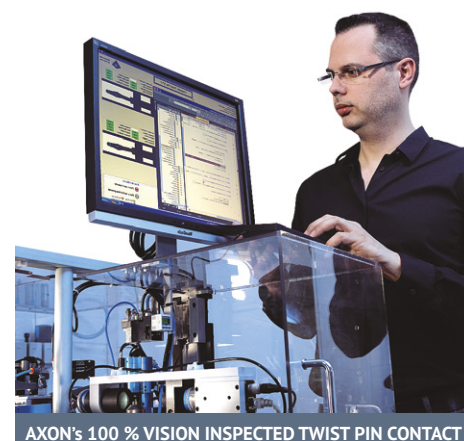


BOTH SOCKET CONTACT CHAMFER AND TWIST-PIN HEMISPHERICAL RADIUS CONTRIBUTE TO ENSURE ADEQUATE INSERTION EVEN IN CASE OF MISALIGNMENT

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.



AXON'S 100% VISION INSPECTED TWIST PIN CONTACT

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30.86 (1.215)

1.3 (.05) TYP

4 (.096) TYP

1.09 (.043) REF

6.37 (.250) TYP

1.02 (.040) TYP

3 (.118) TYP

0.47 (.007) REF

5.08 (.200)

2.54 (.100) TYP

1.27 (.050) TYP

2.54 (.100) TYP

36.45 (1.435) MAX

30.86 ± 0.13 (1.215 ± .005)

26.70 (1.051) MAX

8.92 MAX

3.81 ± 0.25 / .150 ± .010

3.81 ± 0.25 / .150 ± .010

32.44 ± 0.08 (.059 ± .003) or .710 INSERT 2-58 L

1.27 (.05)

1.09 (.043)

11 1 2 12

10 3 13

9 4 14

8 5 15

7 6

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2.49 (.098) MAX

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# Miniature high performance twist pin connectors

## Micro-D & Nano-D, Rectangular & Circular

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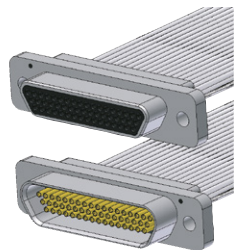
RECTANGULAR & CIRCULAR



# Rectangular Micro-D connectors

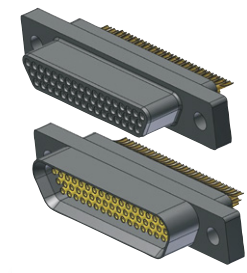
- 0.050" (1.27 mm) contact spacing
- Operating temperature: 150°C or 200°C
- Metal shell: 9 to 100 contacts
- Low profile metal shell: 9 to 51 contacts
- Plastic shell: 9 to 51 contacts

## PIGTAIL



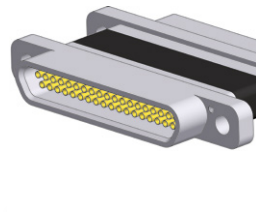
- > Metal shell
- > Low profile metal shell and plastic shell

## SOLDER CUP



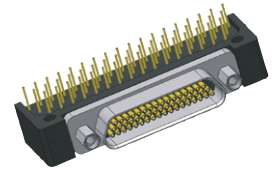
- > Metal shell
- > Low profile metal shell and plastic shell

## SAVER

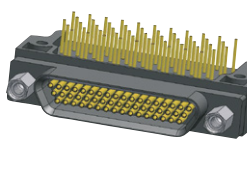


- > One-piece design or back to back assembly
- > Metal or plastic shell
- > Low profile metal shell

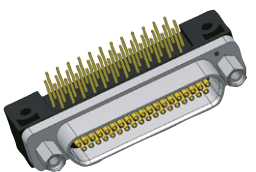
## PCB



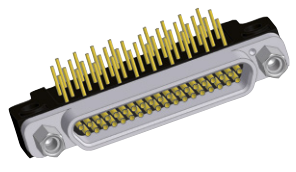
- > 0.100" pitch
- > Right Angle Mount (BR)
- > Metal shell



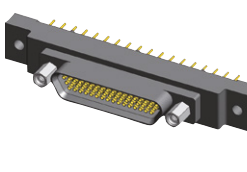
- > 0.100" pitch
- > Condensed Right Angle Mount (CBR)
- > Metal and plastic shell



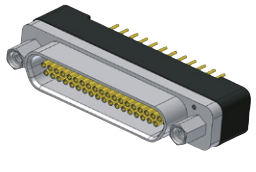
- > 0.075" pitch
- > Condensed Right Angle Mount (CBR)
- > Metal shell



- > 0.100" pitch
- > Condensed Right Angle Mount low profile (CBP)
- > Low profile metal shell and plastic shell



- > 0.100" pitch
- > Vertical Mount (BS)
- > Metal and plastic shell



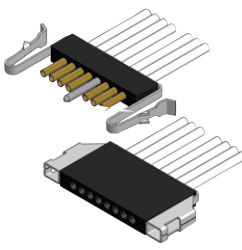
- > 0.075" pitch
- > Vertical Mount (BS)
- > Metal and plastic shell

## 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

## 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

## NON MAGNETIC



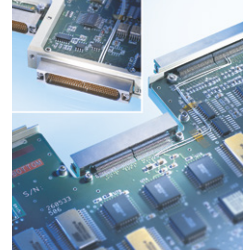
- > For strong magnetic field environment
- > Minimal magnetic disturbance
- > Metal and plastic shell
- > PCB connectors : 0.100" pitch Condensed Right Angle Mount (CBR), 0.100" Condensed Right Angle Mount low profile (CBP), 0.075" pitch Vertical Mount (BS), 0.075" pitch Condensed Right Angle Mount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

## 120 WAY MICRO-D



- > For any applications where severe environmental conditions and high density cabling are critical.
- > Plug or socket connector for cable or assembly
- > Plug board straight PCB connector
- > Socket Surface Mount PCB connector
- > Connector saver

# Nano-D connectors

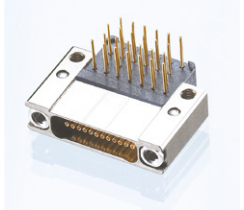
- 0.025" (0.635 mm) contact spacing
- Operating temperature: 150°C or 200°C
- Metal shell: 09, 15, 21, 25, 31, 37, 51 contacts
- Single and dual row

## RECTANGULAR FOR CABLES



- > For micro-miniature operating systems

## PCB RECTANGULAR



- > 0.050" pitch receptacles & plugs – Board Straight type (BS) & Condensed Board Right angle (CBR)
- > 0.025" pitch receptacles & plugs- Surface Mount Vertical (SMV) & Surface Mount Horizontal (SMH)

## HIGH DENSITY



- > Nano-D contacts spacing inside a standard Micro-D shell size.
- > Compatible with all the hardware types available for Micro-D pigtails and BS and CBR (0.050" pitch). 28, 52, 86 contacts

# MIL connectors

## 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

## MIL-DTL-32139 NANO-D



- > 0.025" (0.635 mm) contact spacing
- > M32139/03 & /04 Pigtail connector Metal shell: 09, 15, 21, 25, 31, 37, 51 contacts
- > Dual row

# Custom Micro-D & Nano-D connectors

Connectors presented hereafter are just a few examples of what Axon' is able to design

## FILTERED MICRO-D



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

## EMI SOLUTIONS



- > Long experience in the fields of RF and EMI protection
- > EMI customization of Micro-D connectors which include EMI gaskets or o-rings, special backshells, special connector shells designs, optimized shield termination to the backshell

## HIGH DATA RATE



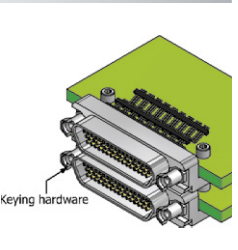
- > Rugged cable assemblies terminated with Micro-D connectors integrating high data rate standards including Ethernet, IEEE1394, SpaceWire, etc . They are able to resist high levels of shocks & vibration

## HARNESSING CAPABILITIES



- > Expertise in assembling complex multi-branched harnesses with Micro-D connectors or any type of connectors available.

## PCB SURFACE MOUNT



- > Designed to save space between Printed Circuit Boards, surface mount connectors are available in 3 versions: - SMV (Surface Mount Vertical) - SMT (Surface Mount Transversal on the edge of the card) - SMH (Surface Mount Horizontal)

## MINI SYSTEMS



- > Expertise in integrating mechanical parts and electronic components in one system to perform specific functions

## CIRCULAR COMBO



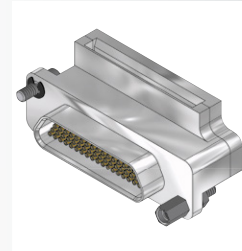
- > Designed to route power and signals including RF

## NANO CIRCULAR

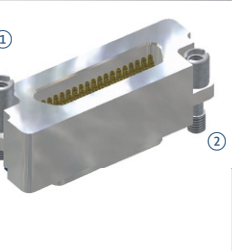


- > 0.025" (0.635mm) contact spacing

## CUSTOM DESIGNED SHELLS & HARDWARE



- > Micro-D with special integrated backshell for flat cable



- > Custom Micro-D design 51 way saver with custom retractable screws.

- ① HIGH POSITION TO FACILITATE THE MATING
- ② LOW POSITION TO LOCK THE CONNECTOR

## FAST-LATCHING CONNECTOR SYSTEM

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