

Patient comfort and the challenging environment inside the human body require that portable or implantable medical devices be both highly reliable and extremely small in size.

Axon' circular nano connectors have been developed to meet these requirements by connecting medical equipment in an extremely small space.

NANO CIRCULAR CONNECTORS FOR SPACE SAVING

In addition to a large range of micro-D rectangular and circular connectors in compliance with the MIL-DTL-83513 standard, Axon' offers **nano miniature rectangular and circular connectors** based on the nano-D technology (**MIL-DTL-32139**). With a contact spacing of 0.635 mm (.025"), it is the ideal solution for **extreme miniaturisation**. The **nano circular** connector range has the following advantages:

- RELIABILITY: all connectors in the nano miniature range meet the severe requirements laid down by the MIL-DTL-32139 standard.
- FAST AND SECURE CONNECTION: fast locking systems facilitate the connection and handling by the patient and medical staff. The keying system ensures that the connector is correctly plugged in. There is no risk of incorrect connection or damage to the connector during use.
- WEIGHT SAVING: for optimum patient comfort, the medical device and its components should be as light as possible.





A LARGE RANGE OF NANO CIRCULAR CONNECTORS

To meet the connection needs of medical devices, Axon' offers several types of nano miniature circular connectors:

- Nano circular pigtail connectors (with flying leads),
- Nano circular PCB connectors in BS (vertical) or CBR (right angle) board termination styles.
- Axon's nano circular connectors can also be integrated into more complex harnesses, including expert miniaturized overmolding, if needed, for optimal protection of connections,
- Male and female connectors are available in 15, 25 and 37 ways. Other tailored numbers of ways are also possible.

The nano circular connectors are available in different shell materials:

- PLASTIC SHELLS: lightweight, space-saving plastic connectors with keying system to ensure reliable and accurate mating.
- METAL SHELLS:
 - nickel plated aluminum as standard,
 - on request, other materials.

The metallic nano circular connectors are offered with keying and threaded **fast locking system**. Both shell styles are compatible with the chemical sterilization process commonly used in hospitals.





VERTICAL INTEGRATION FOR TURNKEY SOLUTIONS

From conductors to insulated cables, connector contacts to shells, and even to complex molded harnesses, Axon' has all these manufacturing capabilities in-house, and for medical applications, can ensure that all components are sterlizable and biocompatible.

Any **overmolding** must perfectly adhere to the cable and limit the multiplication of bacteria in areas that are not accessible for the cleaning or sterilisation of the assembly. Cables designed by Axon' are sealed against contamination in the connecting and branch areas (Y-shaped overmolding). The cables must withstand the handling of both medical staff and patients.

RELIABILITY FAST CONNECTION MINIATURIZATION





CONNECTORS AND CONNECTIONS ADAPTED TO MEDICAL DEVICES

- Patient treatment: surveillance and diagnostic equipment
- Surgical devices
- Endoscopy
- Medical imaging
- Radiography and MRI scan (Magnetic Resonance Imaging)
- Biological analysers
- Cosmetic treatment and care
- Portable Electrocardiograph
- Oximetry: oxygen saturation
- Dental equipment

ISO13485 approved for the design of medical cable assemblies, Axon' Cable is equipped with ISO7 and ISO8 medical assembly clean rooms. In these working areas protected from contaminants such as bacteria or particles, Axon' manufactures its most sensitive products including implantable cable assemblies. Equipped with a fast prototyping workshop and 3D printing machines, Axon' is able to propose connector prototypes in a short lead-time to validate the design.

Today numbering more than 2,400 employees, for over 50 years the Axon' group has specialized in high specification cables, connectors and interconnect for advanced markets such as medical, automotive, aeronautics, space, defence and research centres.









» BRAZIL

AXON' CABLE INDUSTRIA E. COMÉRCIO LTDA

Tél.: +55 21 3596–8002 salesbrazil@axon–cable.com

» CANADA

AXON' CABLE INC. CANADIAN OFFICE

Tél.: +1 514 898 2044 sales@axoncable.com

» CHINA

AXON' INTERCONNECT LTD

Tél.: +86 757 2838 7200 sales@axon-interconnect.com

» GERMANY

AXON' KABEL GMBH

Tél.: +49 7152-97992-0 sales@axon-cable.de

» HUNGARY

AXON' KÁBELGYÁRTÓ KFT.

Tél.: +36 76 508 195 axon@axon-cable.hu

» INDIA

AXON' INTERCONNECTORS & WIRES PVT LTD

Tél.: +91 (0) 806 816 2966 sales@axon-cable.in

DHRUV: YOUR OFFSET PARTNER

DHRUV AXON' INTERCONNECT PRIVATE LTD

» JAPAN

AXON' CABLE JAPAN OFFICE

Tél.: +81 26 217 6728 axon-japan@axon-cable.com

» LATVIA

AXON' CABLE SIA

Tél.: +371 6540 78 91 axon@axoncable.lv

» MEXICO

AXON' INTERCONEX,

S.A. DE C.V.

Tél.: +52 442 215 2713 axon-mexico@axoncable.com

» SINGAPORE

AXON' CONNECT PTE LTD

Tél.: +65 6250 3169 sales.singapore@axon-cable.com

» SPAIN

AXON' CABLE SPANISH OFFICE

Tél.: +34 91 418 43 46 axon-spain@axon-cable.com

» UNITED KINGDOM

AXON' CABLE LTD

Tél.: +44 1383 421500 sales@axon-cable.co.uk

» USA

AXON' CABLE INC.

Tél.: +1 847 230 7800 sales@axoncable.com

HEADQUARTERS: FRANCE

AXON' CABLE S.A.S.

2 ROUTE DE CHALONS EN CHAMPAGNE 51210 MONTMIRAIL

Tél.: +33 3 26 81 70 00 e-mail: sales@axon-cable.com





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www.axon-cable.com

