M12 Connector System

Series W

M12 connector system that resists high level of shock and vibraiton

The Smiths Interconnect M12 series is a robust and compact connectivity solution that has been developed to address specific application environments where space and weight are key concerns.

The M12's compact and robust design incorporates the industry-leading Hypertac® hyperboloid contacts that deliver unrivalled performance, ease of use and unparalleled reliability. In real-world industrial operating scenarios, the M12's comprehensive sealing properties deliver a competitive edge by ensuring uninterrupted signal integrity through keeping out dust, moisture, dirt and oil that can corrupt the connection.

The design features a unique side loading contact retention system that provides a positive contact retention and simplifies the assembly process. This simplified approach to contact assembly not only makes the product series very user friendly, but also reduces assembly times. Within a common housing design, the M12 series includes insert options from 3 to 8 ways, with both crimp and solder contact terminations available.

Smiths Interconnect's M12 connectors, are ideal for communication applications, including Gigabit internet network on-board, factory automation, drive motors, machine tools, robots, conveyor systems, handling machines and elevators, etc. They all feature outstanding protection against electromagnetic interference through a full 360° screen connection. A complete range of options and accessories are available as standard, making the series suitable for a wide range of applications. In addition, the total number of components used in the design has been optimized to reduce stocking requirements.

Features & Benefits

Hyperboloid Contact System

- Reduced cost of ownership through unrivalled contact performance and reliability
- Machined and stamped hyperboloid contact options
- Floating contacts
- Contacts can be crimped automatically

Superior Design

- 360° EMC shielded connection, protecting against electromechanical interference
- Versatile cable clamp which accommodates cable with shielding braid up to Ø 10mm

Easy of Assembly and Use

- Aesthetically pleasing and compact design
- Typically saves 10% more space than common connectors
- Minimized number of components, simplified assembly and reduced stocking requirements

Enhanced Functionality

- Developing time savings through improved production yields
- Side loading contact retention
- Simplified assembly, high contact retention forces
- Vibration protected

Technical Characteristics

Mechanical

Contact diameter 2, 3, 4, 5poles	Ø 1mm	DIN EN 61076-2-101
Contact diameter 8poles	Ø 0.8mm	DIN EN 61076-2-101
Coding	A-code, D-code	
Mating cyles	>500	
Contact retention force	>20N	EN 61984

Electrical

Current Rating	4 A (2...5 contacts) 2 A (6...8 contacts)	
Voltage Rating	90 V (5poles A-code) 250 V 60 V 30 V	NF F 61-030 DIN EN 61076-2-101 (4 contacts) DIN EN 61076-2-101 (5 contacts) DIN EN 61076-2-101 (8 contacts)
Withstanding voltage	2500 V	EN 5012-1
Contact resistance	<7 mΩ	
Overvoltage category	III	EN 61984

Material & Finishes

Shell	Brass, zinc-diecast	
Machined contacts	CuZn alloy	
Stamped contacts	Tin-bronze, stainless steel	
Inserts	PA66, PA6	
Sealing	FPM	
Shell plating	Nickel	
Machined contact plating	Nickel and gold	
Stamped contacts plating	Partly gold plated	

Physical & Environmental

Opertating temperature range	-40°C to 125°C	
Environmental level	IP67	
Contamination level	3 PD3A	DIN 60664-1 EN 50124-1
Installation altitude	up to 2000m (2...5poles), up to 6000m (8poles)	EN 61984
Fluid resistance	Oil, hydrolysis, microbes	
Salt spray	500h	
Fire & smoke	V0	UL 94
RoHS	Compliant	