

# M12 Connector System

## Series W



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.

M12 connector system that resists high level of shock and vibration

## 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 cycles	>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

Operating 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	