

M8/M12 Sensor Connector Selection Guide

M12/M8 TypeXS2/3



M12/M8 for IP69K



e-CON Type XN2



M12 Smartclick Type XS5



1. Fast Connection

Shortest locking rotation of 1/8th of a turn greatly reduces time and effort when wiring

2. Click Feeling

An audible "click" and tactile response tells you that the Connector is securely locked.

3. Backward Compatibility

Possible to connect with standard screw-type M12 connector

4. Same degree of protection

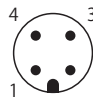
Meeting IP67 requirement

M12 Cable type

Plug (Male) Straight

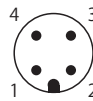


3 pole



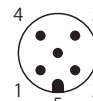
- 1 Brown
- 3 Blue
- 4 Black

4 pole



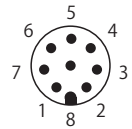
- 1 Brown
- 2 White
- 3 Blue
- 4 Black

5 pole



- 1 Brown
- 2 White
- 3 Blue
- 4 Black
- 5 Grey

8 pole



- 1 White
- 2 Brown
- 3 Green
- 4 Yellow
- 5 Grey
- 6 Pink
- 7 Blue
- 8 Shield

Cable Length (m)

PVC	0.3	XS2H-D421-AC0-A	XS2H-D421-A80-A	XS2H-D521-AG0-A	XS2H-D821-AH0-C
	1.0	XS2H-D421-CC0-A	XS2H-D421-C80-A	XS2H-D521-CG0-A	XS2H-D821-CH0-C

Technical data

Rated voltage	125VDC,250VAC	36VDC
Rated current	4A	1.5A
Protection class (IEC60529)	IP67	IP67
Temperature range	-25C to +70C	-25C to +70C

PVC Cable

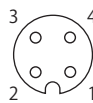
Color	Light Grey	Light Grey	Light Grey	Light Grey
Outer diameter	Φ6mm	Φ6mm	Φ6mm	Φ6mm
Conductor size	AWG20 (49 x 0.12)	AWG20 (49 x 0.12)	0.3mm ² (30 x 0.12)	0.25mm ² (20 x 0.127)
Approvals	UL Approved	UL Approved	-	-

M12 Smartclick Cable type

Socket (Female) Straight



4 pole

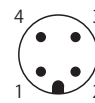


- 1 Brown
- 2 White
- 3 Blue
- 4 Black

Plug (Male) Straight



4 pole



- 1 Brown
- 2 White
- 3 Blue
- 4 Black

Cable Length (m)

PVC	2.0	XS5F-D421-D80-A
	5.0	XS5F-D421-G80-A
	10.0	XS5F-D421-J80-A

Cable Length (m)

PVC	0.3	XS5H-D421-A80-A
	1.0	XS5H-D421-C80-A

Angled



Cable Length (m)

PVC	2.0	XS5F-D422-D80-A
	5.0	XS5F-D422-G80-A
	10.0	XS5F-D422-J80-A

Angled



Cable Length (m)

PVC	0.3	XS5H-D422-A80-A
	1.0	XS5H-D422-C80-A
	2.0	XS5H-D422-D80-A

Technical data

Rated voltage	125VDC,250VAC
Rated current	4A
Protection class (IEC60529)	IP67
Temperature range	-25C to +70C

PVC Cable

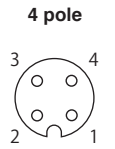
Color	Light Grey
Outer diameter	Φ6mm
Conductor size	AWG20 (49 x 0.12)
Approvals	UL Approved

M12 / M12 Smartclick Panel Mount Type

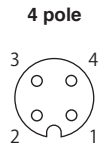
Socket (Female)



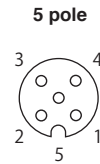
Front Lock Model
Solder Cup or With cable



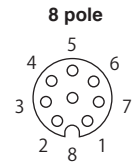
XS5P-D427-5



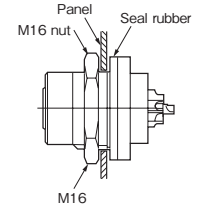
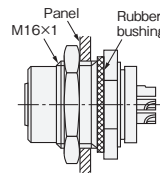
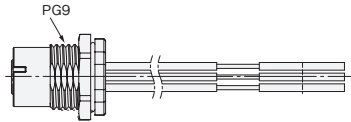
XS2P-D422-2



XS2P-D522-2



XS2P-D822-2

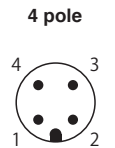


1 Brown 2 White 3 Blue 4 Black
Cable Length : 50cm

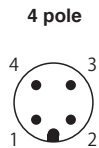
Plug (Male)



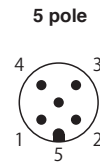
Front Lock Model
Solder Cup or With cable



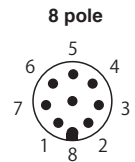
XS5M-D427-5



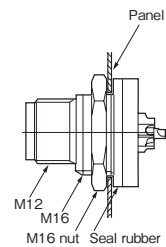
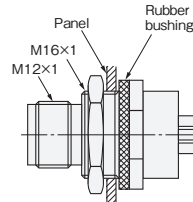
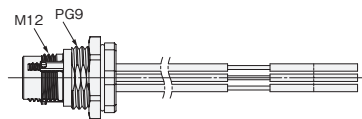
XS2M-D424-2



XS2M-D524-2

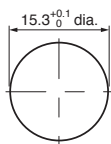


XS2M-D824-4

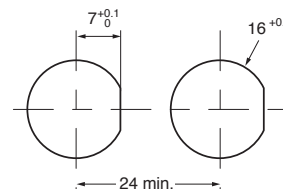


1 Brown 2 White 3 Blue 4 Black
Cable Length : 50cm

Panel Cutout



Panel Cutout



Note: The panel thickness is 1 to 4 mm.

Technical data

Rated voltage	125VDC, 250VAC	36VDC
Rated current	4A	1.5A
Protection class (IEC60529)	IP67	IP67
Temperature range	-25C to +70C	-25C to +70C

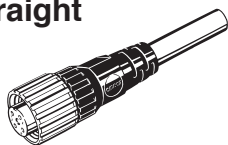
Material

Contact / Surface	Copper Alloy / Nickel base, Au0.4μm
Connector housing	4,8 Pole:PBT resin (UL94V-0) / 5 Poles:PA resin(UL94V-0)
Nut /Surface	Copper Alloy / Nickel plated

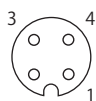
M12 Cable type

Socket (Female)

Straight

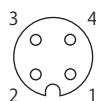


3 pole



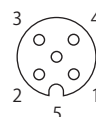
- 1 Brown
- 3 Blue
- 4 Black

4 pole



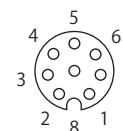
- 1 Brown
- 2 White
- 3 Blue
- 4 Black

5 pole



- 1 Brown
- 2 White
- 3 Blue
- 4 Black
- 5 Yellow/Green

8 pole

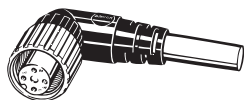


- 1 White
- 2 Brown
- 3 Green
- 4 Yellow
- 5 Grey
- 6 Pink
- 7 Blue
- 8 Shield

Cable Length (m)

PVC	2.0	XS2F-M12PVC3S2M	XS2F-M12PVC4S2M	XS2F-M12PVC5S2M	XS2F-D821-DH0-C
	5.0	XS2F-M12PVC3S5M	XS2F-M12PVC4S5M	XS2F-M12PVC5S5M	XS2F-D821-GH0-C
	10.0	XS2F-M12PVC3S10M	XS2F-M12PVC4S10M	-	-
PUR	2.0	XS2F-M12PUR3S2M	XS2F-M12PUR4S2M	XS2F-M12PUR5S2M	-
	5.0	XS2F-M12PUR3S5M	XS2F-M12PUR4S5M	XS2F-M12PUR5S5M	-
	10.0	XS2F-M12PUR3S10M	XS2F-M12PUR4S10M	-	-

Angled



Cable Length (m)

PVC	2.0	XS2F-M12PVC3A2M	XS2F-M12PVC4A2M	XS2F-M12PVC5A2M	-
	5.0	XS2F-M12PVC3A5M	XS2F-M12PVC4A5M	XS2F-M12PVC5A5M	-
	10.0	XS2F-M12PVC3A10M	XS2F-M12PVC4A10M	-	-
PUR	2.0	XS2F-M12PUR3A2M	XS2F-M12PUR4A2M	XS2F-M12PUR5A2M	-
	5.0	XS2F-M12PUR3A5M	XS2F-M12PUR4A5M	XS2F-M12PUR5A5M	-
	10.0	XS2F-M12PUR3A10M	XS2F-M12PUR4A10M	-	-

Technical data

Rated voltage	125VDC,250VAC	36VDC
Rated current	4A	1.5A
Protection class (IEC60529)	IP67	IP67

Material

Contact / Surface	Copper Alloy / Nickel base, Au0.4µm		
Connector housing	3,4,8 Pole:PBT resin (UL94V-0) / 5 Poles:PA resin(UL94V-0)		
Cover	3,4,8 Pole:Polyester elastomer / 5 Poles:PVC		
Nut /Surface	Copper Alloy / Nickel plated		

PVC Cable

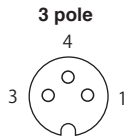
Color	Black	Black	Black	Light Grey
Outer diameter	Φ5mm	Φ5.4mm	Φ5.8mm	Φ6mm
Conductor size	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)	0.25mm ² (20 x 0.127)
Approvals	UL pending	UL pending	UL pending	-
Features	Flame retardant	Flame retardant	Flame retardant	-
Temperature range	-25C to +70C			

PUR Cable

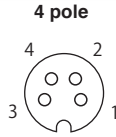
Color	Black	Black	Black
Outer diameter	Φ4.3mm	Φ4.7mm	Φ5mm
Conductor size	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)
Approvals	UL pending	UL pending	UL pending
Features	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance
Temperature range	Cable fixed : -50C to +80C / Cable moved : -25C to +80C		

M8 Cable type

Socket (Female)

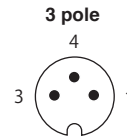


- 1 Brown
- 3 Blue
- 4 Black

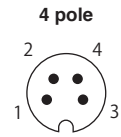


- 1 Brown
- 2 White
- 3 Blue
- 4 Black

Plug (Male)



- 1 Brown
- 3 Blue
- 4 Black



- 1 Brown
- 2 White
- 3 Blue
- 4 Black

Straight



Cable Length (m)

	PVC	2.0	XS3F-M8PVC3S2M	XS3F-M8PVC4S2M
		5.0	XS3F-M8PVC3S5M	XS3F-M8PVC4S5M
		10.0	XS3F-M8PVC3S10M	XS3F-M8PVC4S10M
	PUR	2.0	XS3F-M8PUR3S2M	XS3F-M8PUR4S2M
		5.0	XS3F-M8PUR3S5M	XS3F-M8PUR4S5M
		10.0	XS3F-M8PUR3S10M	XS3F-M8PUR4S10M



Cable Length (m)

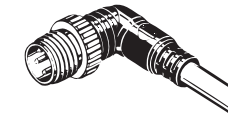
	PVC	0.3	XS3H-M8PVC3S03M	XS3H-M8PVC4S03M
		1.0	XS3H-M8PVC3S1M	XS3H-M8PVC4S1M
	PUR	0.3	XS3H-M8PUR3S03M	XS3H-M8PUR4S03M
		1.0	XS3H-M8PUR3S1M	XS3H-M8PUR4S1M

Angled



Cable Length (m)

	PVC	2.0	XS3F-M8PVC3A2M	XS3F-M8PVC4A2M
		5.0	XS3F-M8PVC3A5M	XS3F-M8PVC4A5M
		10.0	XS3F-M8PVC3A10M	XS3F-M8PVC4A10M
	PUR	2.0	XS3F-M8PUR3A2M	XS3F-M8PUR4A2M
		5.0	XS3F-M8PUR3A5M	XS3F-M8PUR4A5M
		10.0	XS3F-M8PUR3A10M	XS3F-M8PUR4A10M



Cable Length (m)

	PVC	0.3	XS3H-M8PVC3A03M	XS3H-M8PVC4A03M
		1.0	XS3H-M8PVC3A1M	XS3H-M8PVC4A1M
	PUR	0.3	XS3H-M8PUR3A03M	XS3H-M8PUR4A03M
		1.0	XS3H-M8PUR3A1M	XS3H-M8PUR4A1M

Technical data

Rated voltage	125VDC
Rated current	1A
Protection class (IEC60529)	IP67

Material

Contact / Surface	Copper Alloy / Nickel base, Au0.4μm
Connector housing	PBT resin (UL94V-0)
Cover	Polyester elastomer (UL94V-0)
Nut /Surface	Copper Alloy / Nickel plated

PVC Cable

Color	Black	Black
Outer diameter	Φ5mm	Φ4.8mm
Conductor size	AWG22 (43 x 0.1)	0.25mm ² (32 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant	Flame retardant
Temperature range	-25C to +70C	

PVC Cable

Color	Black	Black
Outer diameter	Φ5mm	Φ4.8mm
Conductor size	AWG22 (43 x 0.1)	0.25mm ² (32 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant	Flame retardant
Temperature range	-25C to +70C	

PUR Cable

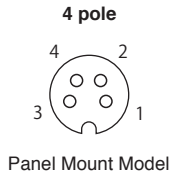
Color	Black	Black
Outer diameter	Φ4.3mm	Φ4.7mm
Conductor size	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance
Temperature range	Cable fixed : -50C to +80C / Cable moved : -25C to +80C	

PUR Cable

Color	Black	Black
Outer diameter	Φ4.3mm	Φ4.7mm
Conductor size	AWG22 (43 x 0.1)	AWG22 (43 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance
Temperature range	Cable fixed : -50C to +80C / Cable moved : -25C to +80C	

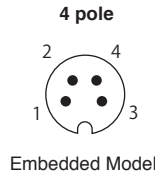
M8 Panel Mount /Embedded/Y-Joint Type

Socket (Female)



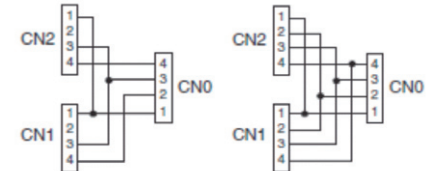
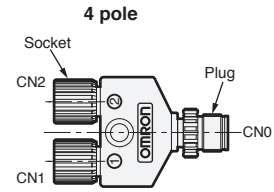
PCB Terminal	Solder Cup
XS3P-M421-1	XS3P-M421-2

Plug (Male)

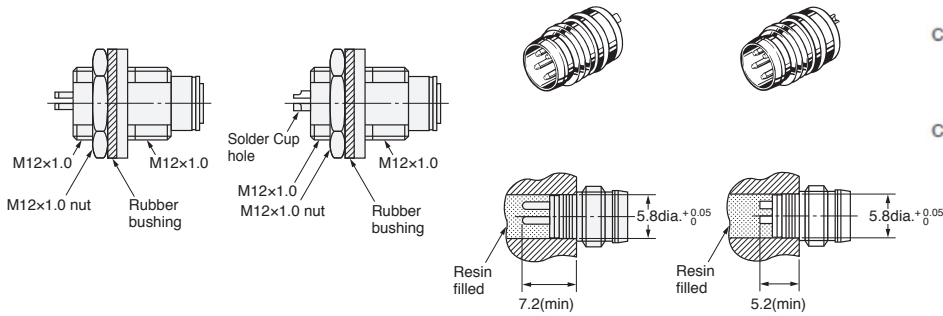


PCB Terminal	Solder Cup
XS3M-K421-1	XS3M-K421-2

Y-Joint (Plug/Socket)



XS3R-M426-1	XS3R-M426-5
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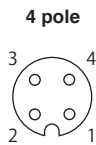


Technical data

Rated voltage	125VDC
Rated current	1A
Protection class (IEC60529)	IP67
Temperature range	-25C to +70C

M12 Smartclick Assembled Type

Socket (Female)

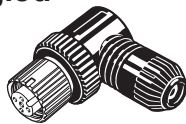


Straight



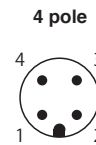
Cable Diameter	XS5C-D4S5	XS5C-D5S5
3-4mm	XS5C-D4S3	XS5C-D5S3
4-5mm	XS5C-D4S1	XS5C-D5S1
6-7mm	XS5C-D4S9	XS5C-D5S9
7-8mm	XS5C-D4S7	XS5C-D5S7

Angled



Cable Diameter	XS5C-D4S6	-
3-4mm	XS5C-D4S4	-
4-5mm	XS5C-D4S2	-

Plug (Male)



Cable Diameter	XS5G-D4S5	XS5G-D5S5
3-4mm	XS5G-D4S3	XS5G-D5S3
4-5mm	XS5G-D4S1	XS5G-D5S1
6-7mm	XS5G-D4S9	XS5G-D5S9
7-8mm	XS5G-D4S7	XS5G-D5S7

Cable Diameter	XS5G-D4S6	-
3-4mm	XS5G-D4S4	-
4-5mm	XS5G-D4S2	-

Contact terminations are screws

Technical data

Rated voltage	125VDC, 250VAC
Rated current	4A
Protection class (IEC60529)	IP67
Temperature range	-25C to +70C

e-CON Connectors

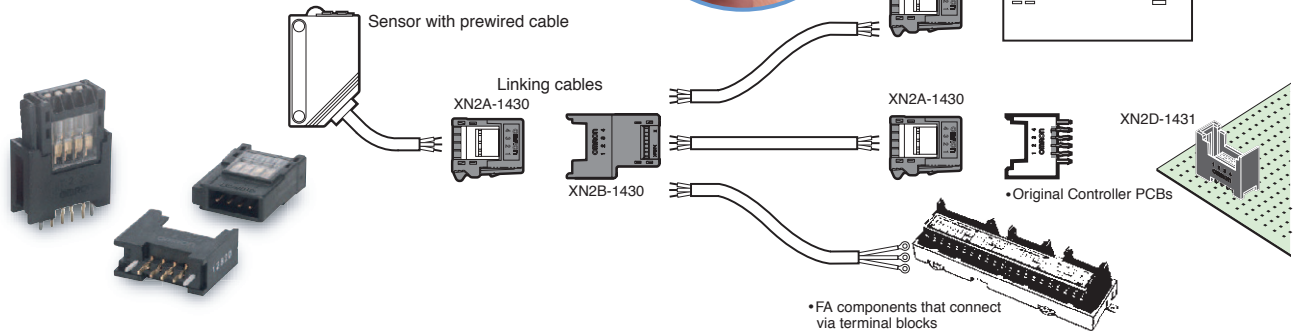
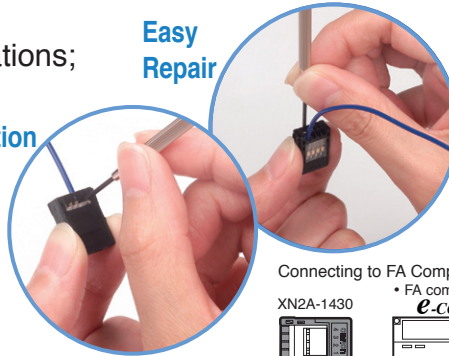
Industrial PCB Connectors XN2 Series

Easy-wire Connectors with **e-CON** Specifications; Ideal for Connecting Sensors.

- Use industry-proven spring clamps for wiring.
- No special tools required.
- Easy to rewire and repair.
- Each Connector accepts any size wire from AWG28 (0.08mm²) to AWG20 (0.5mm²). (External sheath diameter: 1.5 mm max.)

Easy Connection

Easy Repair



Ordering Information

Type	Cable Plug Connector	Cable Socket Connector	Single-socket PCB Socket Connector	Four-socket PCB Socket Connector
Appearance				
Model	XN2A-1430	XN2B-1430	XN2D-1431	XN2D-4431

Ratings and Specifications

Rated current	3 A/pole (Using 0.5 mm ² wire) 2 A/pole (Using 0.3 mm ² wire) 1 A/pole (Using 0.2 mm ² wire) 0.5 A/pole (Using 0.1 mm ² wire)
Rated voltage	32 VDC
Contact resistance *1	30mΩ max. (20 mVDC max., 100 mA max.)
Insulation resistance	1000MΩ min. (at 500 VDC)
Dielectric strength	1,000 VAC for 60 s (leakage current: 1 mA max.)
Insertion tolerance	50 times
Ambient temperature *2	Operating: -30°C to 75°C
Applicable wires	0.08 mm ² (AWG28) to 0.5mm ² (AWG20),The external diameter of the cable sheath is 1.5 mm max.

*1. This value is the contact resistance of the connector.

*2. The temperature is limited, however, to the maximum operating temperature for the cables.

Cat. No. G017-E-01A In the interest of product improvement, specifications are subject to change without notice.

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