

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

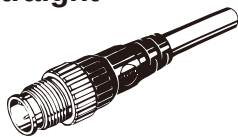
Possible to connect with standard screw-type M12 connector

4.Same degree of protection

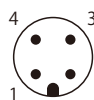
Meeting IP67 requirement

M12 Cable type

Plug (Male) Straight



3 pole



1 Brown
3 Blue
4 Black

4 pole



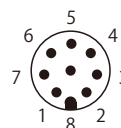
1 Brown
2 White
3 Blue
4 Black

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

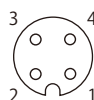
Color	Light Grey	Light Grey	Light Grey	Light Grey
Outer diameter	Φ6mm	Φ6mm	Φ6mm	Φ6mm
Conductor size	AWG20 (49 x 0.12)	AWG20 (49 x 0.12)	0.3mm ² (30 x 0.12)	0.25mm ² (20 x 0.127)
Approvals	UL Approved	UL Approved	—	—

M12 Smartclick Cable type

Socket (Female) Straight



4 pole



1 Brown
2 White
3 Blue
4 Black

Cable Length (m)

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

Angled



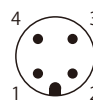
Cable Length (m)

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

Plug (Male) Straight



4 pole



1 Brown
2 White
3 Blue
4 Black

Cable Length (m)

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

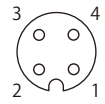
M12 / M12 Smartclick Panel Mount Type

Socket (Female)



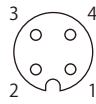
Front Lock Model
Solder Cup or With cable

4 pole



XS5P-D427-5

4 pole



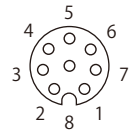
XS2P-D422-2

5 pole

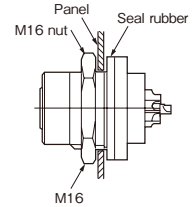
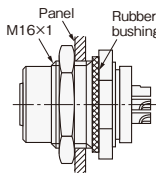
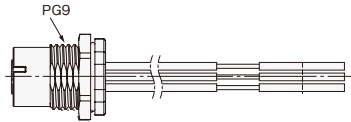


XS2P-D522-2

8 pole

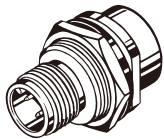


XS2P-D822-2



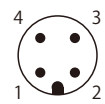
1 Brown 2 White 3 Blue 4 Black
Cable Length : 50cm

Plug (Male)



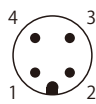
Front Lock Model
Solder Cup or With cable

4 pole



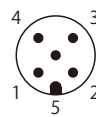
XS5M-D427-5

4 pole



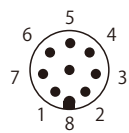
XS2M-D424-2

5 pole

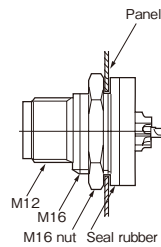
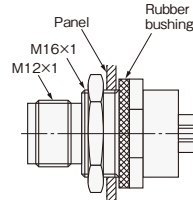
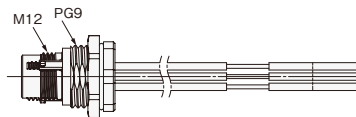


XS2M-D524-2

8 pole

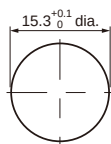


XS2M-D824-4

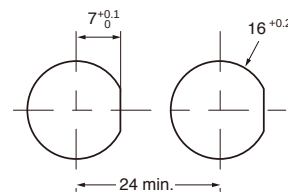


1 Brown 2 White 3 Blue 4 Black
Cable Length : 50cm

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

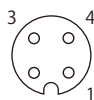
M12 Cable type

Socket (Female)

Straight

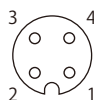


3 pole



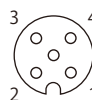
1 Brown
3 Blue
4 Black

4 pole



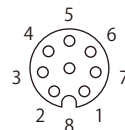
1 Brown
2 White
3 Blue
4 Black

5 pole



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

8 pole

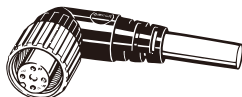


1 White
2 Brown
3 Green
4 Yellow
5 Grey
6 Pink
7 Blue
8 Shield

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

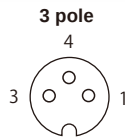
Color	Black	Black	Black	Light Grey
Outer diameter	Φ5mm	Φ5.4mm	Φ5.8mm	Φ6mm
Conductor size	0.34mm ² (43 x 0.1)	0.34mm ² (43 x 0.1)	0.34mm ² (43 x 0.1)	0.25mm ² (20 x 0.127)
Approvals	UL pending	UL pending	UL pending	-
Features	Flame retardant	Flame retardant	Flame retardant	-
Temperature range	-25C to +70C			

PUR Cable

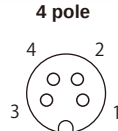
Color	Black	Black	Black
Outer diameter	Φ4.3mm	Φ4.7mm	Φ5mm
Conductor size	0.34mm ² (43 x 0.1)	0.34mm ² (43 x 0.1)	0.34mm ² (43 x 0.1)
Approvals	UL pending	UL pending	UL pending
Features	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free 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

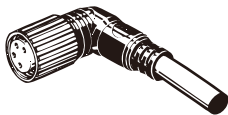
Straight



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

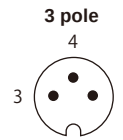
Angled



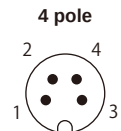
Cable Length (m)

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

Plug (Male)



1 Brown
3 Blue
4 Black



1 Brown
2 White
3 Blue
4 Black



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



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	0.34mm ² (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	0.34mm ² (43 x 0.1)	0.34mm ² (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	

PVC Cable

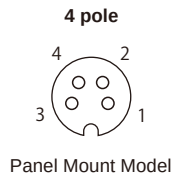
Color	Black	Black
Outer diameter	Φ5mm	Φ4.8mm
Conductor size	0.34mm ² (43 x 0.1)	0.25mm ² (32 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant	Flame retardant
Temperature range	-25C to +70C	

PUR Cable

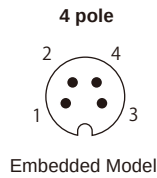
Color	Black	Black
Outer diameter	Φ4.3mm	Φ4.7mm
Conductor size	0.34mm ² (43 x 0.1)	0.34mm ² (43 x 0.1)
Approvals	UL pending	UL pending
Features	Flame retardant Halogen free Oil resistance	Flame retardant Halogen free Oil resistance
Temperature range	Cable fixed : -50C to +80C / Cable moved : -25C to +80C	

M8 Panel Mount /Embedded/Y-Joint Type

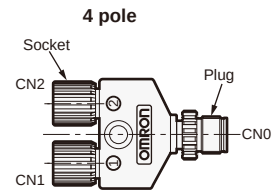
Socket (Female)



Plug (Male)



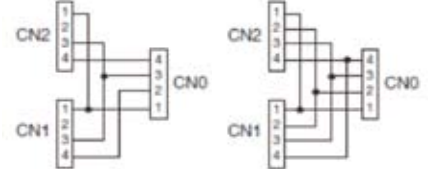
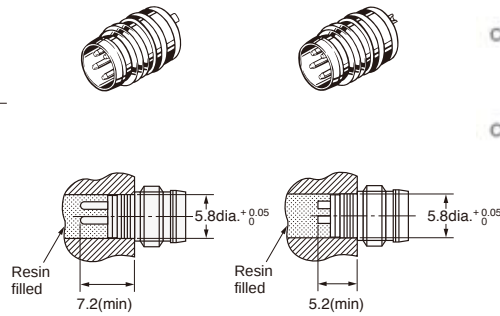
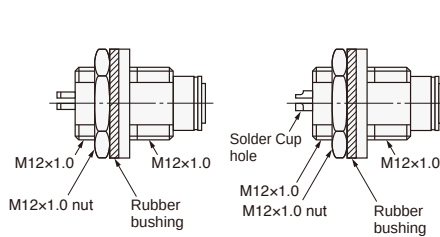
Y-Joint (Plug/Socket)



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

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

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

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

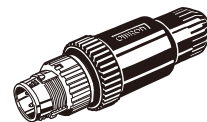
Angled



Cable Diameter

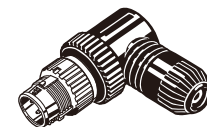
3-4mm	XS5C-D4S6	-
4-5mm	XS5C-D4S4	-
5-6mm	XS5C-D4S2	-

Plug (Male)



Cable Diameter

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



Cable Diameter

3-4mm	XS5G-D4S6	-
4-5mm	XS5G-D4S4	-
5-6mm	XS5G-D4S2	-

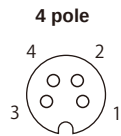
Contact terminations are screws

Technical data

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

M8 / M12 Cable type for IP69K

M8 Socket (Female)



1 Brown 2 White
3 Blue 4 Black

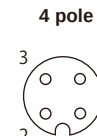
Straight



Cable Length (m)

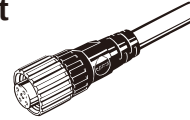
PVC	2.0	XS3F-E421-402-A
	5.0	XS3F-E421-405-A
	10.0	XS3F-E421-410-A

M12 Socket (Female)



1 Brown 2 White
3 Blue 4 Black

Straight



XS2F-E421-D80-E
XS2F-E421-G80-E
XS2F-E421-J80-E

Angled



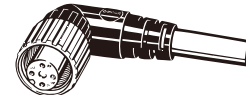
Cable Length (m)

PVC	2.0	XS3F-E422-402-A
	5.0	XS3F-E422-405-A
	10.0	XS3F-E422-410-A

Technical data

Rated voltage	125VDC
Rated current	1A
Protection class (IEC60529)	IP69K
Temperature range	-25C to +70C

Angled



XS2F-E422-D80-E
XS2F-E422-G80-E
XS2F-E422-J80-E

Technical data

125VDC, 250VAC
4A
IP69K
-25C to +105C

Material

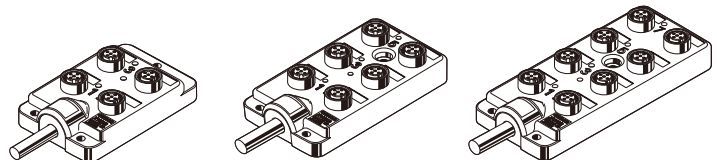
Contact / Surface	Copper Alloy / Nickel base, Au0.4μm
Connector housing	PBT resin (UL94V-0)
Cover	Polyester elastomer (UL94V-0)
Nut / Surface	Stainless Steel

PVC Cable

Color	Dark Grey
Outer diameter	Φ4.0mm
Conductor size	0.2mm ² (18 X 0.12)
Approvals	-
Features	-

Black
Φ6.0mm
0.5mm ² (45 X 0.12)
-
High temperature cable

M12 Terminal Box



	Cable Length 5m	4 Port	6 Port	8 Port
M12	3-wire NPN / 2-wire 3-4	XW3B-P455-G11	XW3B-P655-G11	XW3B-P855-G11
	2-wire 1-4 / without polarity 3-4	XW3B-P452-G11	XW3B-P652-G11	XW3B-P852-G11
	3-wire PNP / 2-wire 1-4	XW3B-P453-G11	XW3B-P653-G11	XW3B-P853-G11
M12 Smartclick	3-wire NPN / 2-wire 3-4	XW3D-P455-G11	-	XW3D-P855-G11
	2-wire 1-4 / without polarity 3-4	XW3D-P452-G11	-	XW3D-P852-G11
	3-wire PNP / 2-wire 1-4	XW3D-P453-G11	-	XW3D-P853-G11

e-CON Connectors

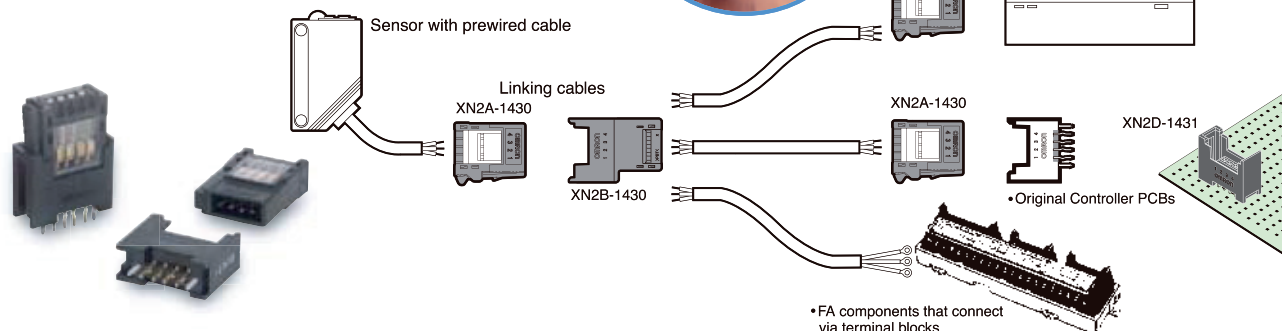
Industrial PCB Connectors XN2 Series

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.

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Authorised Distributor:

Note: Specifications subject to change without notice.
06/10

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