


Round Water-resistant Connectors (M8/S8)

XS3

Small Round Water-resistant Connectors

- Water-resistant, compact connector meets IP67 requirements.
- Conventional M8 screw-on models are available along with S8 snap-in models that connect and disconnect with one touch.
- XS3-R Series; connectors with cables are available. M8 models are UL certified.
- Oil-resistant Polyurethane Robot Cables added.
- M8-M12 conversion cables are also available.



 Refer to *Safety Precautions* on page 26.

Model Number Legend

Connectors with Cables Model Number Legend

| Connector | Cable specifications | XS3: M8 screw connection | | | | |
|-------------------------------------|--|--|------------------|----------------|-----------------|----|
| | | Cable length (m) | Model | Reference page | | |
| Connectors on both cable ends | Robot cable | 1 | XS3W-M421-401-R | 3 | | |
| | | 2 | XS3W-M421-402-R | | | |
| | | 5 | XS3W-M421-405-R | | | |
| | | 10 | XS3W-M421-410-R | | | |
| | Oil-resistant polyurethane robot cable | 1 | XS3W-M421-401-PR | | | |
| | | 2 | XS3W-M421-402-PR | | | |
| | | 5 | XS3W-M421-405-PR | | | |
| | | 10 | XS3W-M421-410-PR | | | |
| Connector on one cable end (Socket) | Standard cable | 2 | XS3F-M421-402-A | 10 | | |
| | | 5 | XS3F-M421-405-A | | | |
| | | 10 | XS3F-M421-410-A | | | |
| | Robot cable | 1 | XS3F-M421-401-R | | | |
| | | 2 | XS3F-M421-402-R | | | |
| | | 5 | XS3F-M421-405-R | | | |
| | Oil-resistant polyurethane robot cable | 10 | XS3F-M421-410-R | | | |
| | | 2 | XS3F-M421-402-PR | | | |
| | | 5 | XS3F-M421-405-PR | | | |
| | PUR (low-temperature use) cable | 10 | XS3F-M421-410-PR | | | |
| | | 2 | XS3F-M421-402-L | | | |
| | Connector on one cable end (Plug) | Robot cable | 5 | | XS3F-M421-405-L | 16 |
| | | | 0.3 | | XS3H-M421-4C3-R | |
| | | Oil-resistant polyurethane robot cable | 1 | | XS3H-M421-401-R | |
| 2 | | | XS3H-M421-402-PR | | | |
| 5 | | | XS3H-M421-405-PR | | | |

Note: Only DC, straight, and 4-core types are shown in this table. Refer to the relevant pages for other products.

Ratings and Specifications

| Item | Model | XS3F/H/W/P/M | XS3F-M52□-5□□-A | XS3M-M524-1□ | XS3R |
|-------------------------------------|-------|--|--|--------------|--|
| Rated current | | 1 ADC | 3 ADC | | 1 ADC |
| Rated voltage | | 125 VDC *2 | 30 VDC | | 125 VDC |
| Contact resistance (connector) | | 40 mΩ max. (20 mV max., 100mA max.) | | | 60 mΩ max. (20 mV max., 100 mA max.) |
| Insulation resistance | | 1,000 MΩ min. (at 500 VDC) | | | |
| Dielectric strength (connector) | | 1,000 VAC for 1 min (leakage current: 1 mA max.) | 650 VAC for 1 min (leakage current: 1 mA max.) | | 1,000 VAC for 1 min (leakage current: 1 mA max.) |
| Degree of protection | | IP67 (IEC60529) | | | |
| Insertion tolerance | | 200 times | | | |
| Cable tensile strength *1 | | 49 N/15 s | | | |
| Ambient operating temperature range | | -25 to 70°C *3 | -25 to 85°C | | -25 to 70°C |
| Ambient humidity range | | 20 to 85%RH | | | |

*1. Models with cable only

*2. Except 5 poles

*3. Use the robot cable within a temperature range between 0°C and 70°C to prevent the wires inside the cable from being broken when bending it.

Materials and Finish

Connector

| Item | Type Model | M8 | | | S8 | | |
|---------------|---------------|---|---------------------------------|--------------|---|---------------------------------|------|
| | | XS3F/H/W/R | XS3P/M *1 | XS3M-M524-1□ | XS3F/W (Socket side) | XS3H/W (Plug side) | XS3P |
| Contacts | | Phosphor bronze/nickel base, gold plating | Brass/nickel base, gold plating | | Phosphor bronze/nickel base, gold plating | Brass/nickel base, gold plating | |
| Fixture | | Brass/nickel plating or SUS316L | | — | | Brass/nickel plating | — |
| Contact block | | PBT resin (UL94 V-0) | | | | | |
| O-ring | | Rubber | | | | | |
| Cover | | Soft PBT resin *2 | — | | TPEE | | — |

*1. Except 5 poles

*2. Except XS3R-M426-4050-PR. Material of the cover of XS3R-M426-4050-PR: PBT resin

Note: The XS3M is for both M8 and S8.

Cables

| Item | Poles | 3 poles | 4 poles | 5 poles |
|--|-------|--|--|--|
| Standard cable | | 4 mm dia, AWG24 (0.2 mm ²) | | 4.7 mm dia, AWG24 (0.2 mm ²) |
| Robot Cable | | 4 mm dia, AWG24 | | — |
| Oil-resistant polyurethane robot cable | | — | 4.7 mm dia, AWG23 (0.3 mm ²) | — |

Note: Only the XS3F (socket) is available with 5 poles.

Pin Arrangement (Engaged Side)

| Item | Poles | 3 poles | 4 poles | 5 poles |
|------|--------------------------|---------|---------|---------|
| DC | Male (plug) contacts | | | |
| | Female (socket) contacts | | | |

XS3W Connectors with Cables, Connectors on Both Cable Ends (Socket/Plug)

Model Number Structure

Model Number Legend

Use this model number legend to identify products from their model number. Use this model number legend to identify products from their model number. When ordering, use a model number from the table in *Ordering Information*.

XS3W- **2** - -

1 2 3 4 5 6

| | | | | |
|--|--|---|---|---|
| 1. Fastening Method M: M8 S: S8 | 3. Cable Connection Direction 1: Straight (socket)/ Straight (plug) 2: Right-angle (socket)/ Right-angle (plug) 3: Straight (socket)/ Right-angle (plug) 4: Right-angle (socket)/ Straight (plug) | 4. Connections (Numbers inside circles are terminal numbers) 3: ① Brown, ② Blue, ③ Black 4: ① Brown, ② White, ③ Blue, ④ Black | 5. Cable Length 01: 1 m 02: 2 m 05: 5 m 10: 10 m | 6. Cable Specifications R : Robot cable PR : Oil-resistant polyurethane robot cable |
|--|--|---|---|---|

Ordering Information

M8 Screw-on Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|--|---------------------------------------|---|--------------------|------------------|-------------------------------------|
| Robot cable | 3 | Straight (Socket)/Straight (Plug) | 1 | XS3W-M321-301-R | UL2238 certified (File no. E207683) |
| | | | 2 | XS3W-M321-302-R | |
| | | | 5 | XS3W-M321-305-R | |
| | | | 10 | XS3W-M321-310-R | |
| | 4 | Straight (Socket)/Straight (Plug) | 1 | XS3W-M421-401-R | |
| | | | 2 | XS3W-M421-402-R | |
| | | | 5 | XS3W-M421-405-R | |
| | | | 10 | XS3W-M421-410-R | |
| | | Right-angle (Socket)/Right-angle (plug) | 2 | XS3W-M422-402-R | |
| | | | 5 | XS3W-M422-405-R | |
| | | Straight (Socket)/Right-angled (Plug) | 2 | XS3W-M423-402-R | |
| | | | 5 | XS3W-M423-405-R | |
| | | Right-angle (Socket)/Straight (Plug) | 2 | XS3W-M424-402-R | |
| | | | 5 | XS3W-M424-405-R | |
| Oil-resistant polyurethane robot cable | 4 | Straight (Socket)/Straight (plug) | 1 | XS3W-M421-401-PR | --- |
| | | | 2 | XS3W-M421-402-PR | |
| | | | 5 | XS3W-M421-405-PR | |
| | | | 10 | XS3W-M421-410-PR | |
| | | Right-angle (Socket)/Right-angle (Plug) | 1 | XS3W-M422-401-PR | |
| | | | 2 | XS3W-M422-402-PR | |
| | | 5 | XS3W-M422-405-PR | | |
| | | | 1 | XS3W-M423-401-PR | |
| | Straight (Socket)/Right-angled (Plug) | 2 | XS3W-M423-402-PR | | |
| | | 5 | XS3W-M423-405-PR | | |
| | Right-angle (socket)/Straight (Plug) | 1 | XS3W-M424-401-PR | | |
| | | 2 | XS3W-M424-402-PR | | |
| | 5 | XS3W-M424-405-PR | | | |

S8 Snap-in Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|----------------------|--------------------|---|--------------------|-----------------|-----|
| Robot cable | 4 | Straight (Socket)/Straight (Plug) | 1 | XS3W-S421-401-R | --- |
| | | | 2 | XS3W-S421-402-R | |
| | | | 5 | XS3W-S421-405-R | |
| | | Right-angle (Socket)/Right-angle (Plug) | 2 | XS3W-S422-402-R | |
| | | | 5 | XS3W-S422-405-R | |
| | | Straight (Socket)/Right-angled (Plug) | 2 | XS3W-S423-402-R | |
| | | | 5 | XS3W-S423-405-R | |
| | | Right-angle (Socket)/Straight (Plug) | 2 | XS3W-S424-402-R | |
| 5 | XS3W-S424-405-R | | | | |

Note: Ask your OMRON representative about other cable lengths.

Ratings and Specifications

Pin Arrangement (Engaged Side)

| Item | No. of poles | 3 poles | 4 poles |
|---------|--------------------------|---------|---------|
| DC type | Male (plug) contacts | | |
| | Female (socket) contacts | | |

Connections

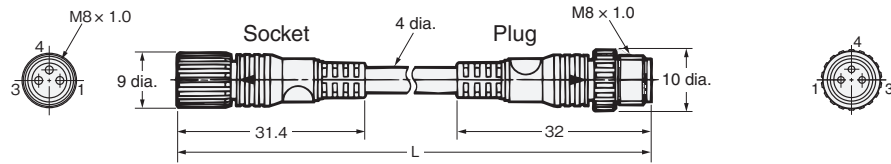
| Model | Socket side | Plug side |
|-----------|---------------------------|-------------------------------------|
| XS3W (M8) | XS3M (M8/S8) XS3H (M8) | XS3F (M8) XS3W (M8) XS3P (M8) |
| XS3W (S8) | XS3M (M8/S8) XS3H (S8) | XS3F (S8) XS3W (S8) XS3P (S8) |

- Note 1. Cables can be extended with more than one XS3W.
 2. M8 screw models and S8 snap-in models cannot be connected to each other.
 3. Only plugs and sockets with the same poles can be connected to each other.

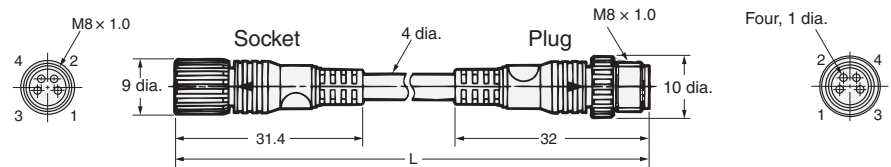
Dimensions

M8 Screw-on Connectors with Robot Cable

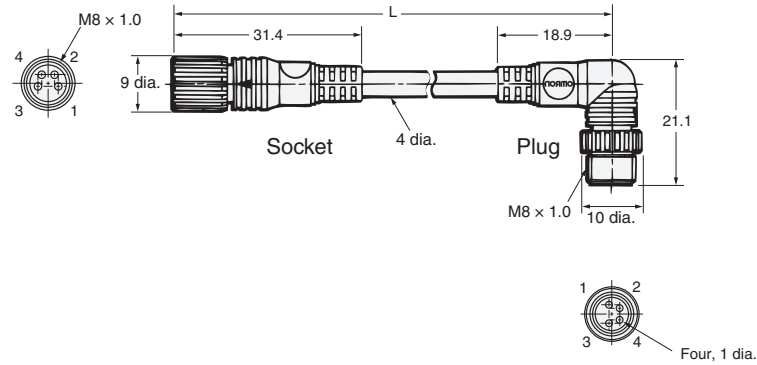
Straight (Socket)/Straight (Plug)
XS3W-M321-3□□-R (3 poles)



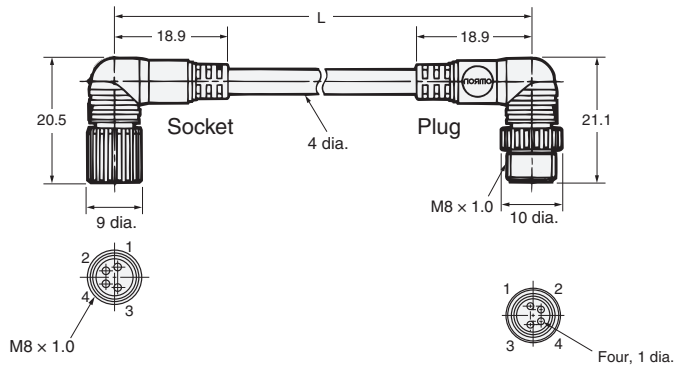
XS3W-M421-4□□-R (4 poles)



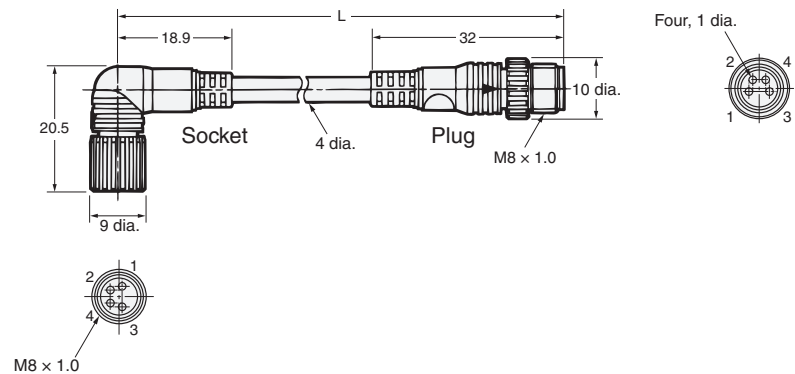
Straight (Socket)/Right-angle (Plug)
XS3W-M423-4□□-R (4 poles)



Right-angle (Socket)/Right-angle (Plug)
XS3W-M422-4□□-R (4 poles)

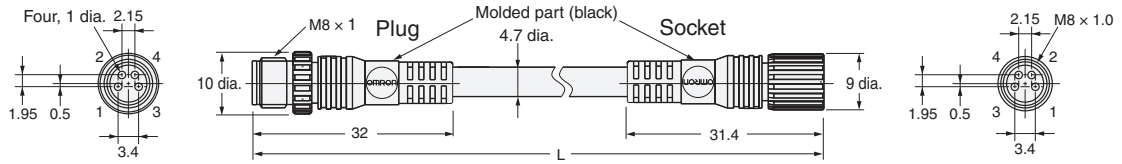


Right-angle (Socket)/Straight (Plug)
XS3W-M424-4□□-R (4 poles)

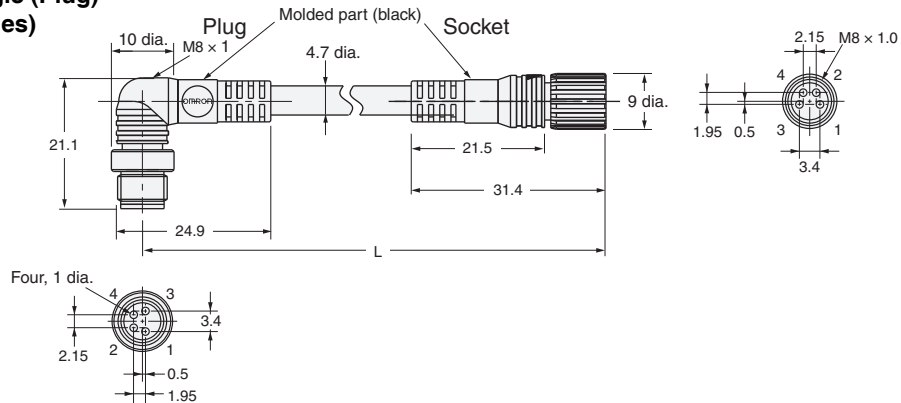


M8 Screw-on Connectors with Oil-resistant Polyurethane Robot Cable

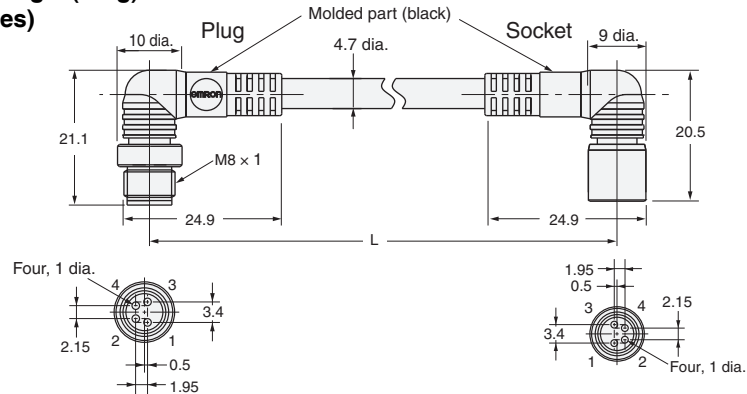
Straight (Socket)/Straight (Pug)
XS3W-M421-4□□-PR (4 poles)



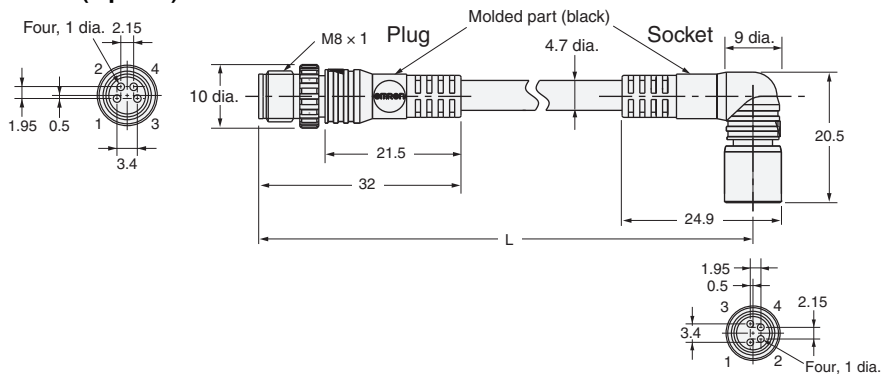
Straight (Socket)/Right-angle (Plug)
XS3W-M423-4□□-PR (4 poles)



Right-angle (Socket)/Right-angle (Plug)
XS3W-M422-4□□-PR (4 poles)

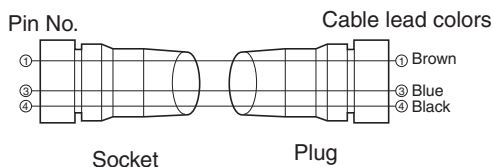


Right-angle (Socket)/Straight (Plug)
XS3W-M424-4□□-PR (4 poles)

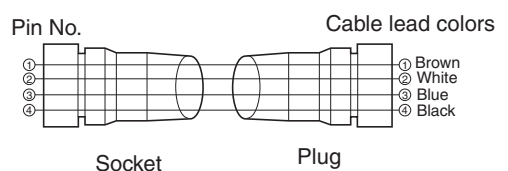


Wiring Diagram

3 Cores

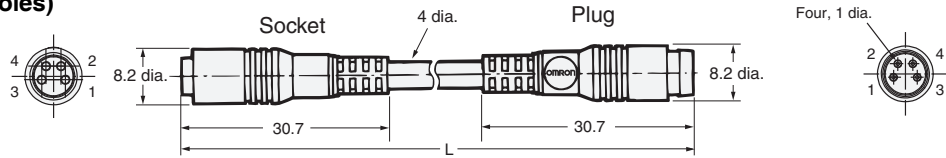


4 Cores

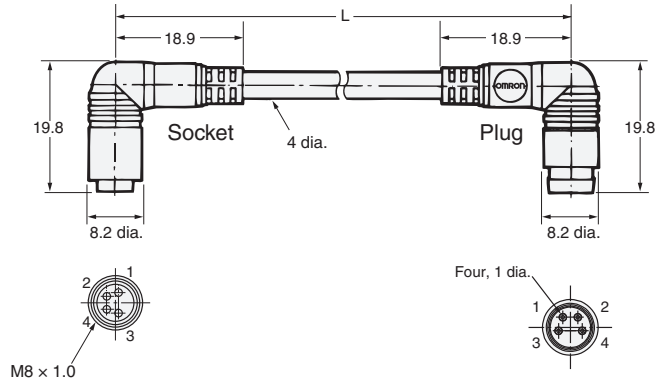


S8 Snap-in Connectors with Robot Cable

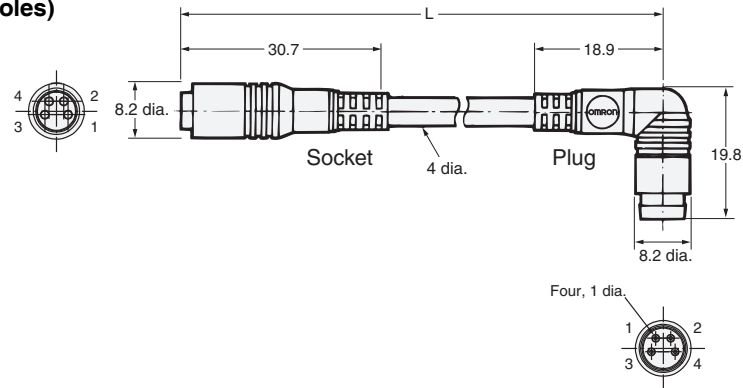
Straight (Socket)/Straight (Plug)
XS3W-S421-4□□-R (4 poles)



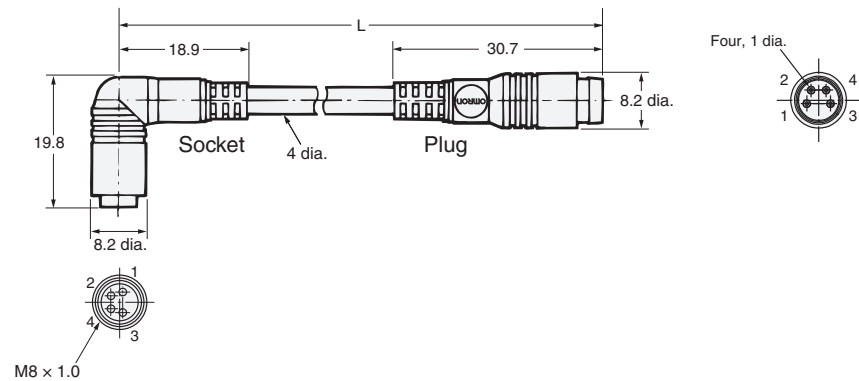
Right-angle (Socket)/Right-angle (Plug)
XS3W-S422-4□□-R (4 poles)



Straight (Socket)/Right-angle (Plug)
XS3W-S423-4□□-R (4 poles)

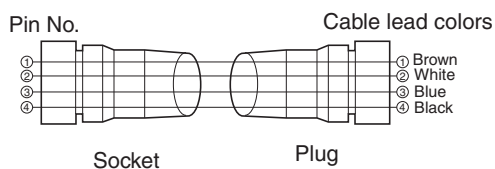


Right-angle (Socket)/Straight (Plug)
XS3W-S424-4□□-R (4 poles)



Wiring Diagram

4 Cores



XS3W Connectors with Cables, Connectors on Both Cable Ends (M8 Socket/M12 Plug or M8 Plug/M12 Socket)

Model Number Structure

Model Number Legend

Use this model number legend to identify products from their model number. Use this model number legend to identify products from their model number. When ordering, use a model number from the table in *Ordering Information*.

XS3W-M **2** **-** **C2-A**

1
2
3
4
5
6

1. Fastening Method

M: M8

2. Connector Poles

3: 3 poles

4: 4 poles

3. Cable Connection Direction

C: M8 screw-on, straight (socket)

/M12 Smartclick, straight (plug)

D: M12 Smartclick, straight (socket)

/M8 screw-on, straight (plug)

4. Connections (Numbers inside circles are terminal numbers)

3: ① Brown, ② Blue, ③ Black

4: ① Brown, ② White, ③ Blue, ④ Black

5. Cable Length

C2: 20 cm

6. Cable Specifications

A: Standard cable

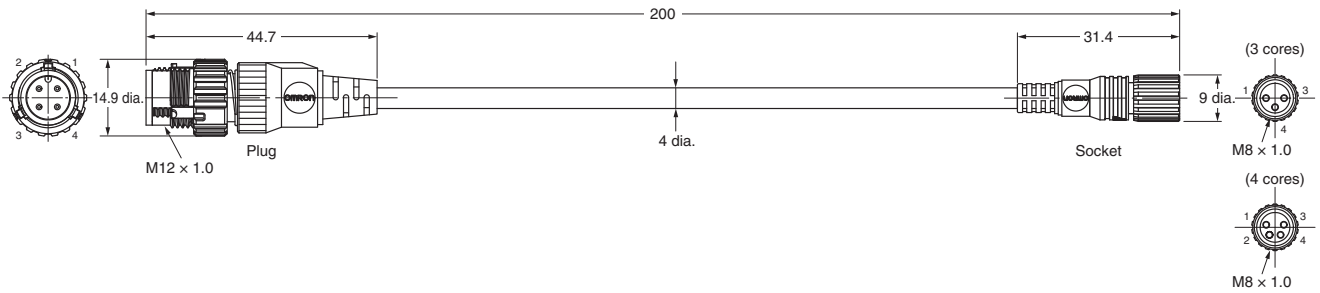
Ordering Information

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|----------------------|--------------------|--|--------------------|------------------------|-----|
| Standard cable | 3 | M8 screw-on, straight (Socket)/ M12 Smartclick, straight (Plug) | 0.2 | XS3W-M32C-3C2-A | --- |
| | | M12 Smartclick, straight (Socket)/ M8 screw-on, straight (Plug) | | XS3W-M32D-3C2-A | |
| | 4 | M8 screw-on, straight (Socket)/ M12 Smartclick, straight (Plug) | | XS3W-M42C-4C2-A | |
| | | M12 Smartclick, straight (Socket)/ M8 screw-on, straight (Plug) | | XS3W-M42D-4C2-A | |

Dimensions

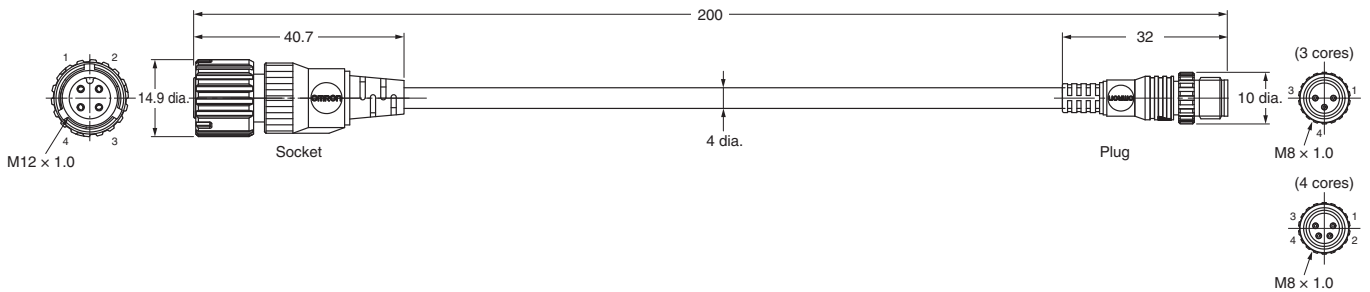
M8 Screw-on Connectors, Straight (Socket)/M12 Smartclick Connectors, Straight (Plug)

XS3W-M32C-3C2-A (3 poles)
 XS3W-M42C-4C2-A (4 poles)



M12 Smartclick Connectors, Straight (Socket)/M8 screw-on Connectors, Straight (Plug)

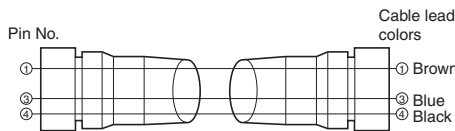
XS3W-M32D-3C2-A (3 poles)
 XS3W-M42D-4C2-A (4 poles)



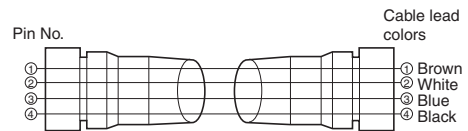
Note: For 3-core, M12 connectors, pin 2 is not connected internally.

Wiring Diagram

3 Cores

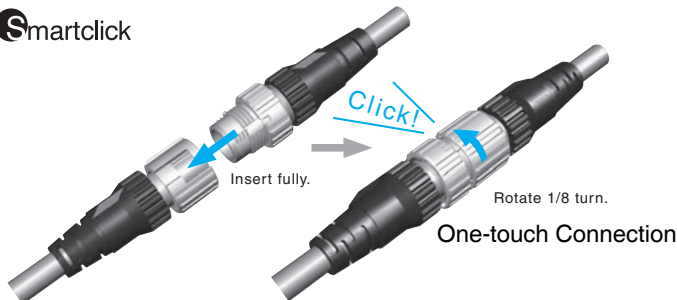


4 Cores



For the M12 connectors, one-touch (Smartclick) connectors that are compatible with previous screw-on M12 connectors are used. Refer to your OMRON website for details.

XS5 Series



XS3F Connectors with Cables, Sockets on One Cable End

Model Number Structure

Model Number Legend

Use this model number legend to identify products from their model number. When ordering, use a model number from the table in *Ordering Information*.

XS3F- **2** **-** **-**

1
2
3
4
5
6

1. Fastening Method

M: M8
S: S8
E: M8
SUS316L Lock

2. Connector Poles

3: 3 poles
4: 4 poles
5: 5 poles

3. Cable Connection Direction

1: Straight
2: Right-angle

4. Connections (Numbers inside circles are terminal numbers)

3: ① Brown, ② Blue, ③ Black
4: ① Brown, ② White, ③ Blue, ④ Black
5: ① Brown, ② White, ③ Blue, ④ Black, ⑤ Gray

5. Cable Length

01: 1 m
02: 2 m
05: 5 m
10: 10 m

6. Cable Specifications

A: Standard cable
L: PUR cable (low-temperature use)
R: Robot cable
PR: Oil-resistant polyurethane robot cable

Ordering Information

M8 Screw-on Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL | |
|--|--------------------|----------------------------|--------------------|-----------------|-------------------------------------|-----------------|
| Standard cable | 3 | Straight | 2 | XS3F-M321-302-A | --- | |
| | | | 5 | XS3F-M321-305-A | | |
| | | Right-angle | 2 | XS3F-M322-302-A | | |
| | | | 5 | XS3F-M322-305-A | | |
| Robot cable | | Straight | 1 | XS3F-M321-301-R | UL2238 certified (File no. E207683) | |
| | | | 2 | XS3F-M321-302-R | | |
| | | | 5 | XS3F-M321-305-R | | |
| | | | 10 | XS3F-M321-310-R | | |
| | Right-angle | | 2 | XS3F-M322-302-R | | |
| | | | 5 | XS3F-M322-305-R | | |
| 10 | | XS3F-M322-310-R | | | | |
| Standard cable | 4 | Straight | 2 | XS3F-M421-402-A | --- | |
| | | | 5 | XS3F-M421-405-A | | |
| | | | 10 | XS3F-M421-410-A | | |
| | | Right-angle | 2 | XS3F-M422-402-A | | |
| | | | 5 | XS3F-M422-405-A | | |
| | | | 10 | XS3F-M422-410-A | | |
| Standard SUS316L cable lock | | Straight | 2 | XS3F-E421-402-A | --- | |
| | | | 5 | XS3F-E421-405-A | | |
| | | | Right-angle | 2 | | XS3F-E422-402-A |
| | | | | 5 | | XS3F-E422-405-A |
| Robot cable | | Straight | 1 | XS3F-M421-401-R | UL2238 certified (File no. E207683) | |
| | | | 2 | XS3F-M421-402-R | | |
| | 5 | | XS3F-M421-405-R | | | |
| | 10 | | XS3F-M421-410-R | | | |
| | Right-angle | | 1 | XS3F-M422-401-R | | |
| | | | 2 | XS3F-M422-402-R | | |
| | | | 5 | XS3F-M422-405-R | | |
| | | | 10 | XS3F-M422-410-R | | |
| Oil-resistant polyurethane robot cable | Straight | 2 | XS3F-M421-402-PR | --- | | |
| | | 5 | XS3F-M421-405-PR | | | |
| | | 10 | XS3F-M421-410-PR | | | |
| | | Right-angle | 1 | | XS3F-M422-401-PR | |
| | | | 2 | | XS3F-M422-402-PR | |
| | | | 5 | | XS3F-M422-405-PR | |
| PUR cable (low-temperature use) | Straight | 2 | XS3F-M421-402-L | --- | | |
| | | 5 | XS3F-M421-405-L | | | |
| | | Right-angle | 2 | | XS3F-M422-402-L | |
| | | | 5 | | XS3F-M422-405-L | |
| Standard cable | 5 | Straight | 2 | XS3F-M521-502-A | --- | |
| | | | 5 | XS3F-M521-505-A | | |
| | | | 10 | XS3F-M521-510-A | | |
| | | Right-angle | 2 | XS3F-M522-502-A | | |
| | | | 5 | XS3F-M522-505-A | | |
| | | | 10 | XS3F-M522-510-A | | |

S8 Snap-in Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|----------------------|--------------------|----------------------------|--------------------|-----------------|-----|
| Robot cable | 4 | Straight | 1 | XS3F-S421-401-R | --- |
| | | | 2 | XS3F-S421-402-R | |
| | | | 5 | XS3F-S421-405-R | |
| | | Right-angle | 1 | XS3F-S422-401-R | |
| | | | 2 | XS3F-S422-402-R | |
| | | | 5 | XS3F-S422-405-R | |

Note: Ask your OMRON representative about other cable lengths.

Connections

| Model | Mating Connectors |
|-----------|------------------------------------|
| XS3F (M8) | XS3M (M8/S8), XS3H (M8), XS3W (M8) |
| XS3F (S8) | XS3M (M8/S8), XS3H (S8), XS3W (S8) |

Note 1. M8 screw models and S8 snap-in models cannot be connected to each other.
 2. Only plugs and sockets with the same poles can be connected to each other.

Dimensions

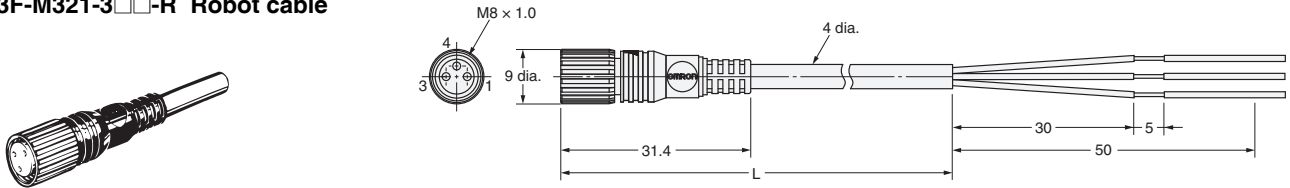
(Unit: mm)

M8 Screw-on Connectors (3 poles)

Straight

XS3F-M321-3□□-A Standard cable

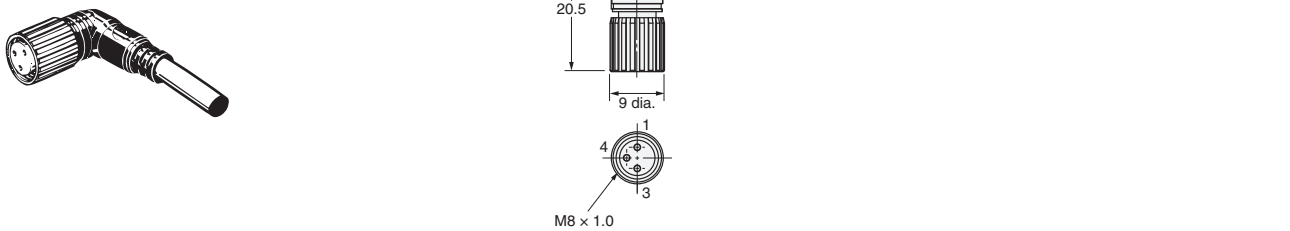
XS3F-M321-3□□-R Robot cable



Right-angle

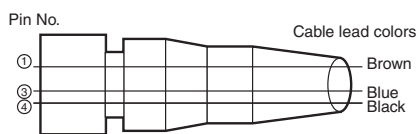
XS3F-M322-3□□-A Standard cable

XS3F-M322-3□□-R Robot cable



Wiring Diagram

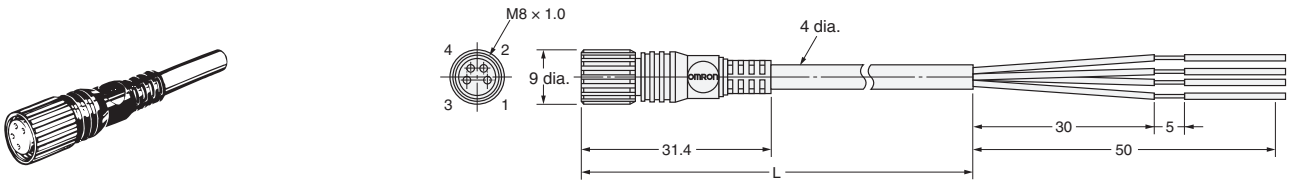
3 Cores



M8 Screw-on Connectors (4 poles)

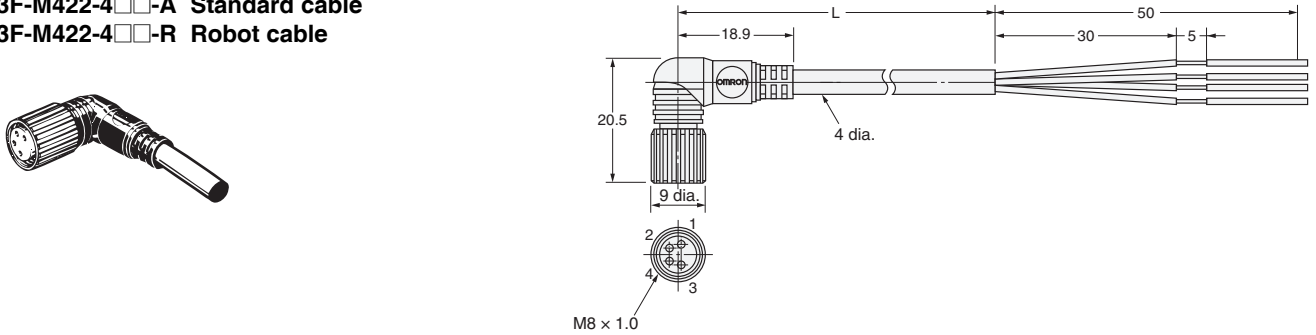
Straight

- XS3F-M421-4□□-A Standard cable
- XS3F-M421-4□□-R Robot cable



Right-angle

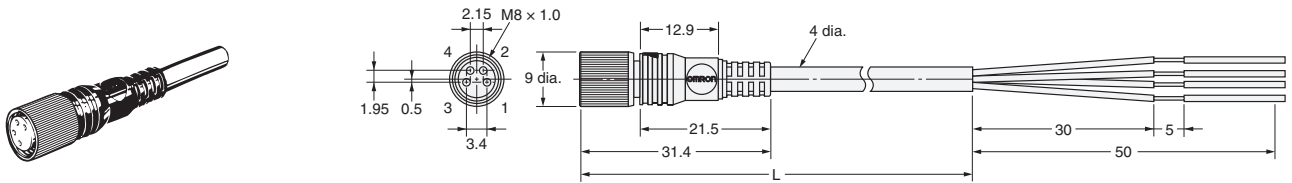
- XS3F-M422-4□□-A Standard cable
- XS3F-M422-4□□-R Robot cable



M8 SUS316L Lock (4 poles)

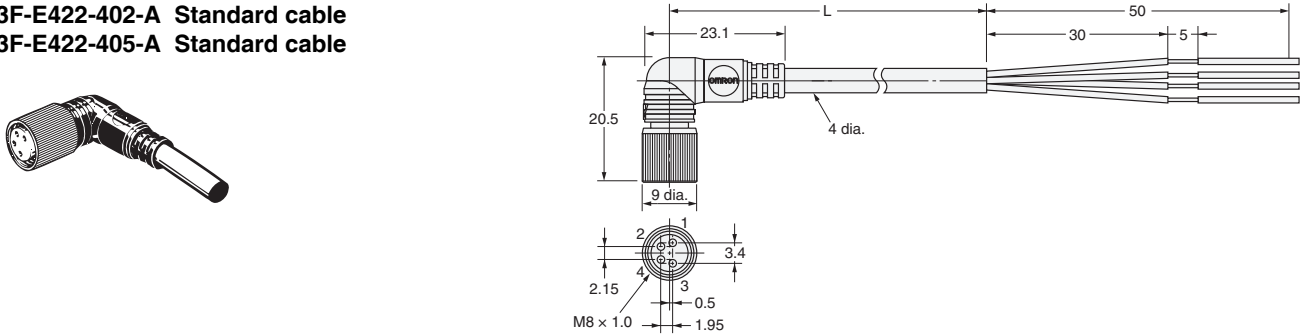
Straight

- XS3F-E421-402-A Standard cable
- XS3F-E421-405-A Standard cable



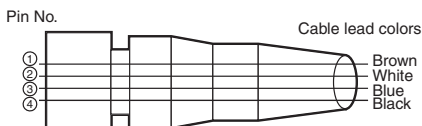
Right-angle

- XS3F-E422-402-A Standard cable
- XS3F-E422-405-A Standard cable



Wiring Diagram

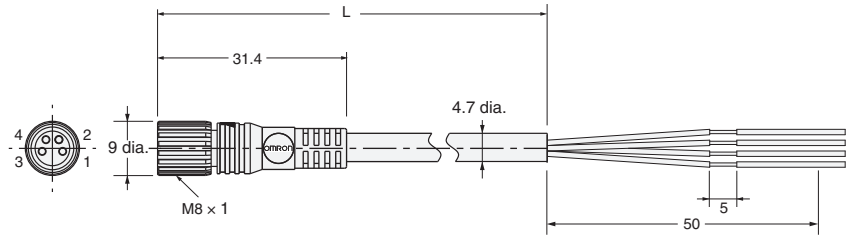
4 Cores



M8 Screw-on Connectors (4 poles)

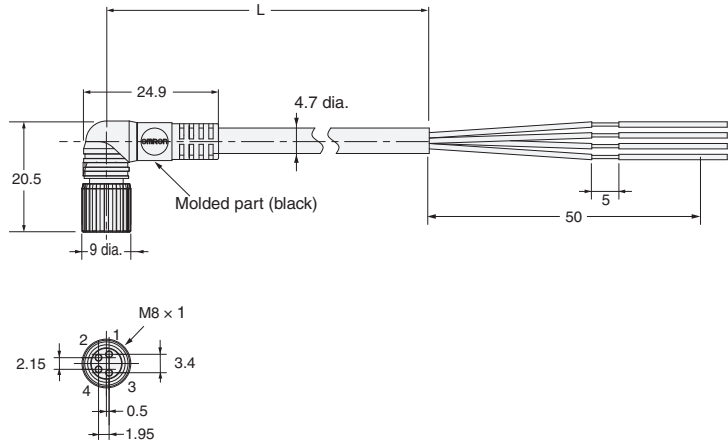
Straight

Oil-resistant polyurethane robot cable
 XS3F-M421-4□□-PR
 PUR cable
 XS3F-M421-4□□-L



Right-angle

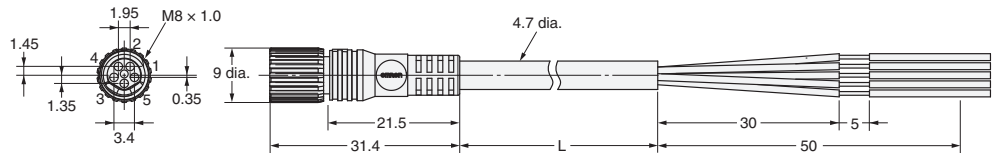
Oil-resistant polyurethane robot cable
 XS3F-M422-4□□-PR
 PUR cable
 XS3F-M422-4□□-L



M8 Screw-on Connectors (5 poles)

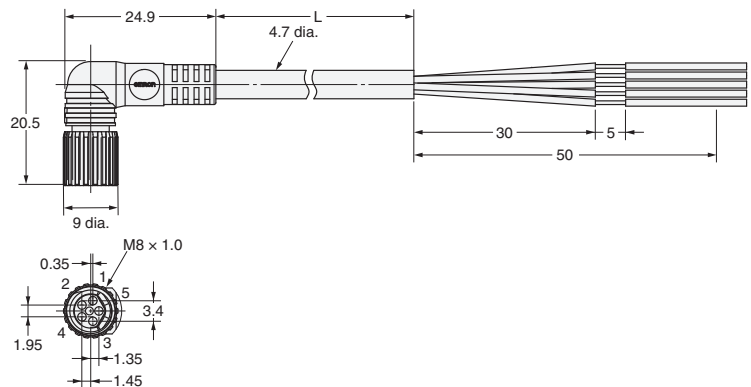
Straight

XS3F-M521-5□□-A Standard cable



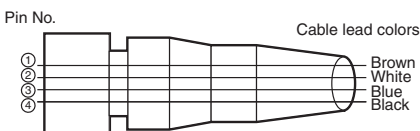
Right-angle

XS3F-M522-5□□-A Standard cable



Wiring Diagram

4 Cores



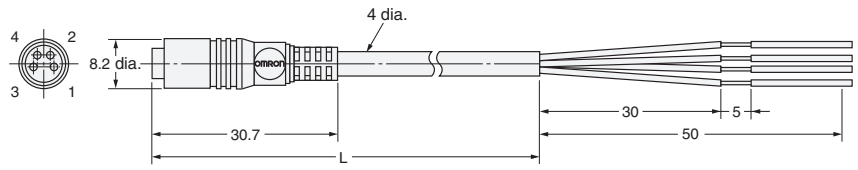
5 Cores



S8 Snap-in Connectors (4 poles)

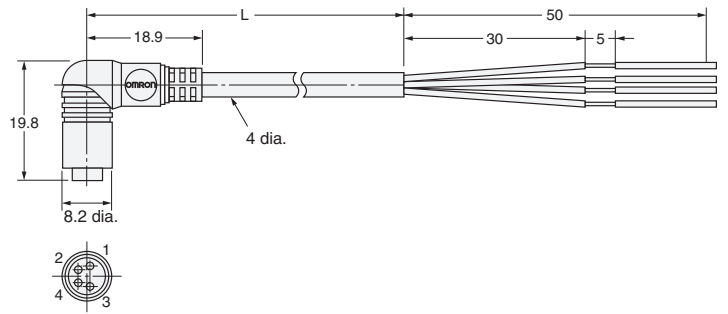
Straight

XS3F-S421-4□□-R Robot cable



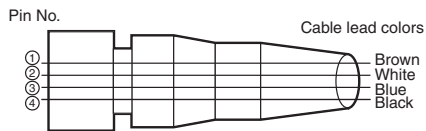
Right-angle

XS3F-S422-4□□-R Robot cable



Wiring Diagram

4 Cores



XS3H Plugs on One Cable End

Model Number Structure

Model Number Legend

Use this model number legend to identify products from their model number. When ordering, use a model number from the table in *Ordering Information*.

XS3H- **2** **-** **-**

1
2
3
4
5
6

1. Fastening Method

M: M8
S: S8

2. Connector Poles

3: 3 poles
4: 4 poles

3. Cable Connection Direction

1: Straight
2: Right-angle

4. Connections (Numbers inside circles are terminal numbers)

3: ① Brown, ② Blue, ③ Black
4: ① Brown, ② White, ③ Blue, ④ Black

5. Cable Length

C3: 0.3 m
01: 1 m
02: 2 m
05: 5 m

6. Cable Specifications

R: Robot cable
PR: Oil-resistant polyurethane robot cable

Ordering Information

M8 Screw-on Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|--|--------------------|----------------------------|--------------------|------------------|-------------------------------------|
| Robot cable | 3 | Straight | 0.3 | XS3H-M321-3C3-R | UL2238 certified (File no. E207683) |
| | | | 1 | XS3H-M321-301-R | |
| | 4 | Straight | 0.3 | XS3H-M421-4C3-R | |
| | | | 1 | XS3H-M421-401-R | |
| | | Right-angle | 0.3 | XS3H-M422-4C3-R | |
| | | | 1 | XS3H-M422-401-R | |
| Oil-resistant polyurethane robot cable | 4 | Straight | 2 | XS3H-M421-402-PR | --- |
| | | | 5 | XS3H-M421-405-PR | |
| | | Right-angle | 1 | XS3H-M422-401-PR | |
| | | | 2 | XS3H-M422-402-PR | |
| | | | 5 | XS3H-M422-405-PR | |

Note: Ask your OMRON representative about other cable lengths.

S8 Snap-in Connectors

| Cable specifications | No. of cable cores | Cable connection direction | Cable length L (m) | Model | UL |
|----------------------|--------------------|----------------------------|--------------------|-----------------|-----|
| Robot cable | 4 | Straight | 0.3 | XS3H-S421-4C3-R | --- |
| | | | 1 | XS3H-S421-401-R | |
| | | Right-angle | 0.3 | XS3H-S422-4C3-R | |
| | | | 1 | XS3H-S422-401-R | |

Connections

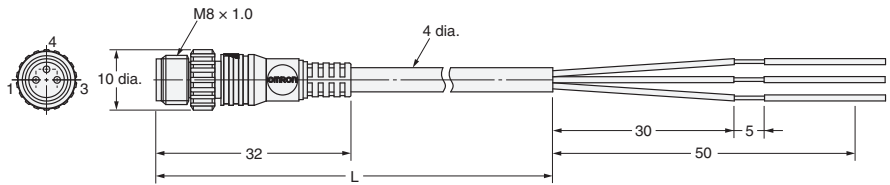
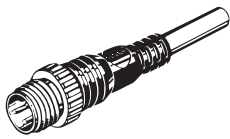
| Model | Mating Connectors |
|-----------|---------------------------------|
| XS3H (M8) | XS3F (M8), XS3W (M8), XS3P (M8) |
| XS3H (S8) | XS3F (S8), XS3W (S8), XS3P (S8) |

Note 1. M8 screw models and S8 snap-in models cannot be connected to each other.
2. Only plugs and sockets with the same poles can be connected to each other.

Dimensions

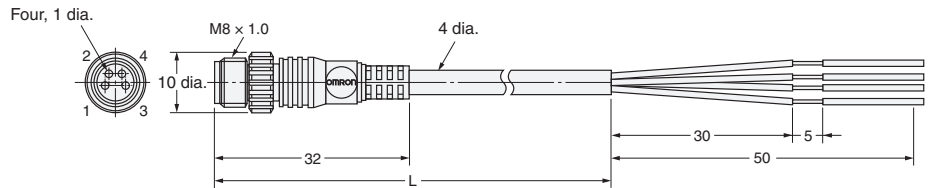
M8 Screw-on Connectors (3 poles)

Straight
XS3H-M321-3□□-R Robot Cable

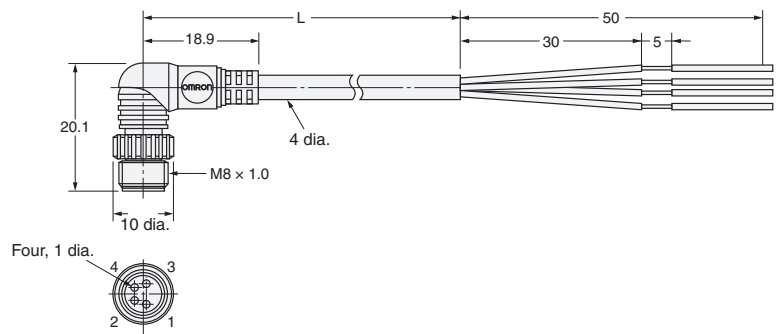


M8 Screw-on Connectors (4 poles)

Straight
XS3H-M421-4□□-R Robot Cable

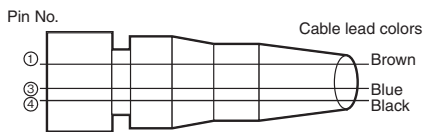


Right-angle
XS3H-M422-4□□-R Robot Cable

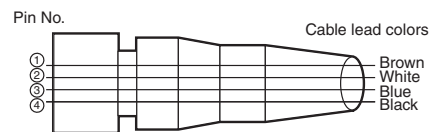


Wiring Diagram

3 Cores

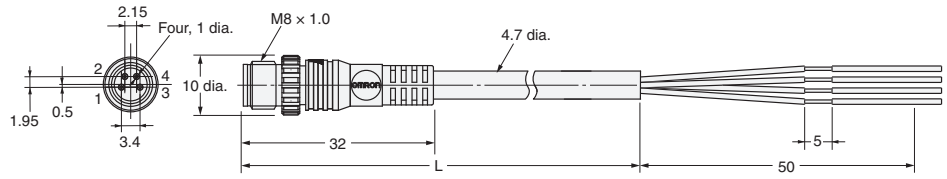


4 Cores

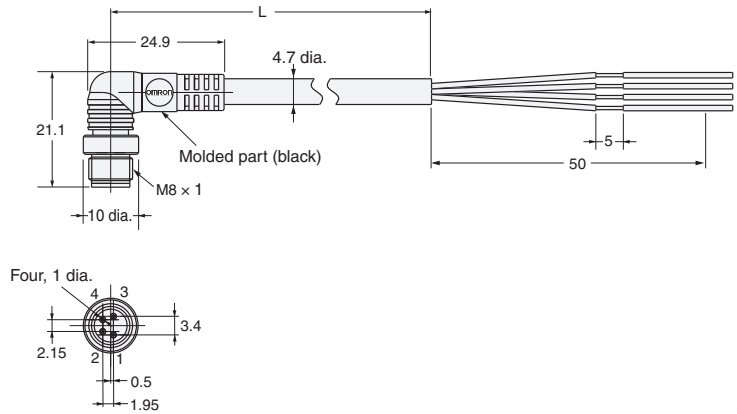


M8 Screw-on Connectors (4 poles)

Straight
XS3H-M421-4□□-PR Oil-resistant Polyurethane Robot Cable

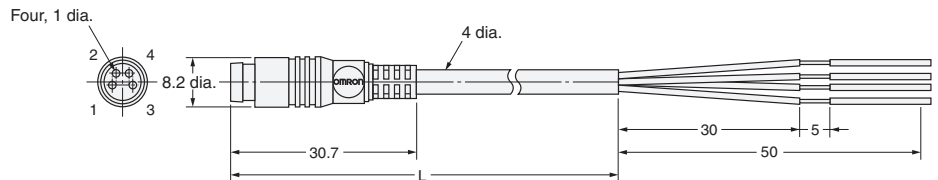


Right-angle
XS3H-M422-4□□-PR Oil-resistant Polyurethane Robot Cable

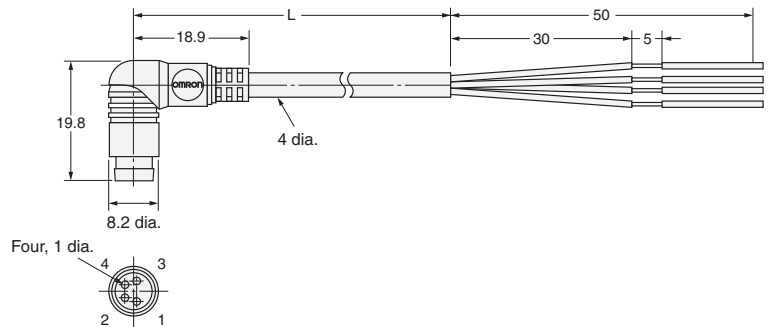


S8 Snap-in Connectors (4 poles)

Straight
XS3H-S421-4□□-R Robot Cable

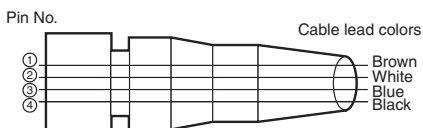


Right-angle
XS3H-S422-4□□-R Robot Cable



Wiring Diagram

4 Cores



XS3P Panel-mounting Sockets for Terminal Boxes

Ordering Information

| Connection method | Connector Poles | Panel mounting | Pin shape | Applicable wires | Model | UL |
|-------------------|-----------------|-------------------------|-----------------|------------------|--------------------|-----|
| M8 screw-on | 4 | Front lock or rear lock | DIP pins | — | XS3P-M421-1 | --- |
| | | | Solder cup pins | AWG24 max. | XS3P-M421-2 | |
| | | Rear lock | Solder cup pins | AWG24 max. | XS3P-M422-2 | |
| S8 snap-in | | Front lock or rear lock | DIP pins | — | XS3P-S421-1 | |
| | | | Solder cup pins | AWG24 max. | XS3P-S421-2 | |

Connections

| Model | Mating Connectors |
|-----------|----------------------|
| XS3P (M8) | XS3H (M8), XS3W (M8) |
| XS3P (S8) | XS3H (S8), XS3W (S8) |

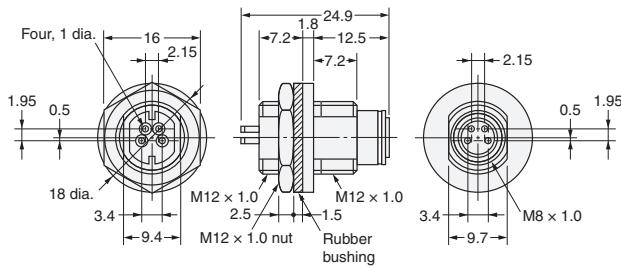
Note 1. M8 screw models and S8 snap-in models cannot be connected to each other.
 2. Only plugs and sockets with the same poles can be connected to each other.

Dimensions

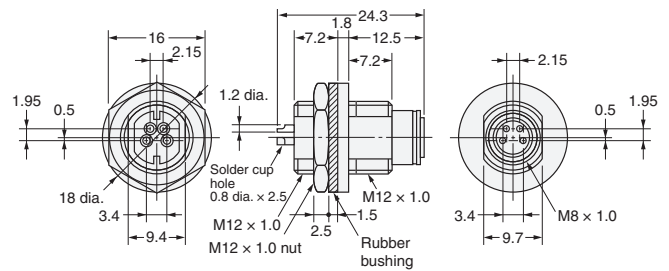
(Unit: mm)

M8 Screw-on Connectors

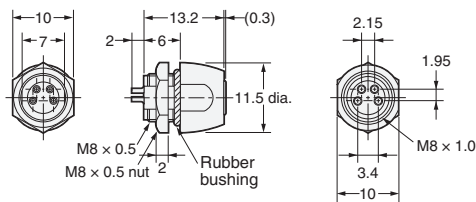
XS3P-M421-1 (DIP Pins) Front lock or rear lock



XS3P-M421-2 (Solder Cup Pins) Front lock or rear lock

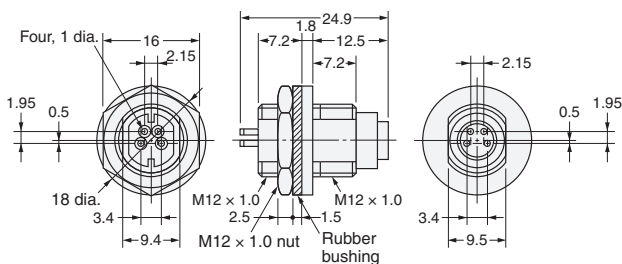


XS3P-M422-2 (Solder Cup Pins), Rear Lock Slim Models

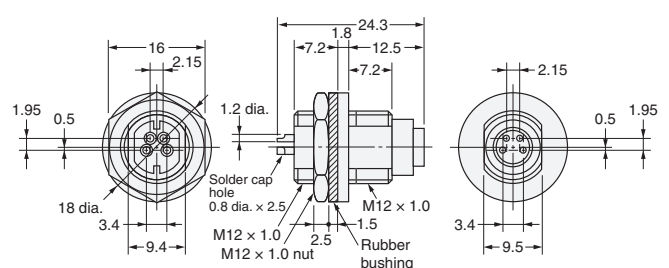


S8 Snap-in Connectors

XS3P-S421-1 (DIP Pins) Front lock or rear lock

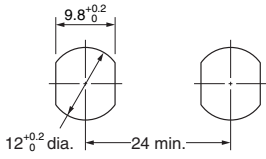


XS3P-S421-2 (Solder Cup Pins) Front lock or rear lock



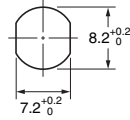
Mounting Dimensions for XS3P Screw-on Models and Snap-in Models

Panel Cutout
XS3P-□421-□

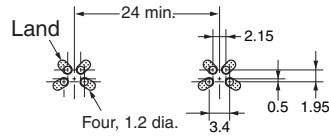


Note: The panel thickness is 1 to 3 mm.

XS3P-M422-2



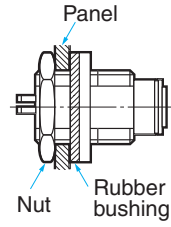
PCB-mounting Dimensions



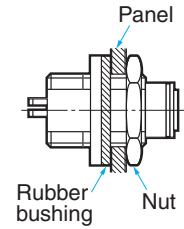
Note: The panel thickness is 2.4 mm maximum.

Panel-mounting Dimensions

Rear lock



Front Lock



Safety Precautions

Refer to *Safety Precautions* on page 26.

Precautions for Correct Use

Panel-Mounting

- When mounting XS3P Panel-mounting Connectors to panels, refer to Panel-mounting Dimensions and provide rubber bushings and nuts for the Connectors. Apply a tightening torque of between 0.4 and 0.6 N·m to mount the Connectors.

XS3M Sensor-Embedded Plugs

Ordering Information

| Mounting method | Connector Poles | Pin shape | Applicable wires | Model | UL |
|-----------------|-----------------|-----------------|------------------|--------------------|----|
| Embedded model | 4 | DIP pins | — | XS3M-K421-1 | — |
| | | Solder cup pins | AWG26 max. | XS3M-K421-2 | |

Connections

| Model | Mating Connectors |
|-------|----------------------------|
| XS3M | XS3F (M8/S8), XS3W (M8/S8) |

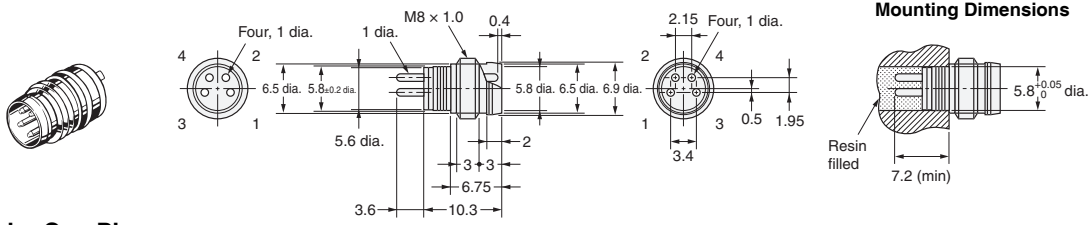
Note 1. The plug can be connected to both M8 screw and S8 snap-in models.
 2. Only plugs and sockets with the same poles can be connected to each other.

Dimensions

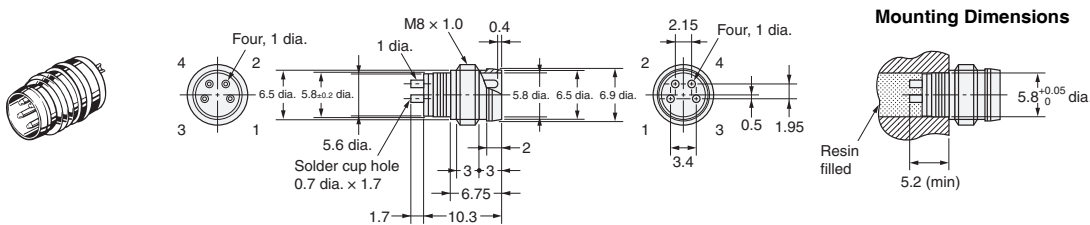
(Unit: mm)

Embedded Plug with Screw Threads

DIP Pins XS3M-K421-1



Solder Cup Pins XS3M-K421-2



XS3M Panel-mounting Plugs

Ordering Information

| Mounting method | Connector Poles | Pin shape | Shield pin | Applicable wires | Model | UL |
|-----------------|-----------------|--|------------|------------------|--------------|-----|
| Front Lock | 5 | DIP pins 4.5 mm (for either round holes or solder cups) | No | AWG26 max. | XS3M-M524-10 | --- |
| | | | Yes | | XS3M-M524-11 | |

Connections

| Model | Mating Connectors |
|--------------|-------------------|
| XS3M-M524-1□ | XS3F-M52□-5□□-A |

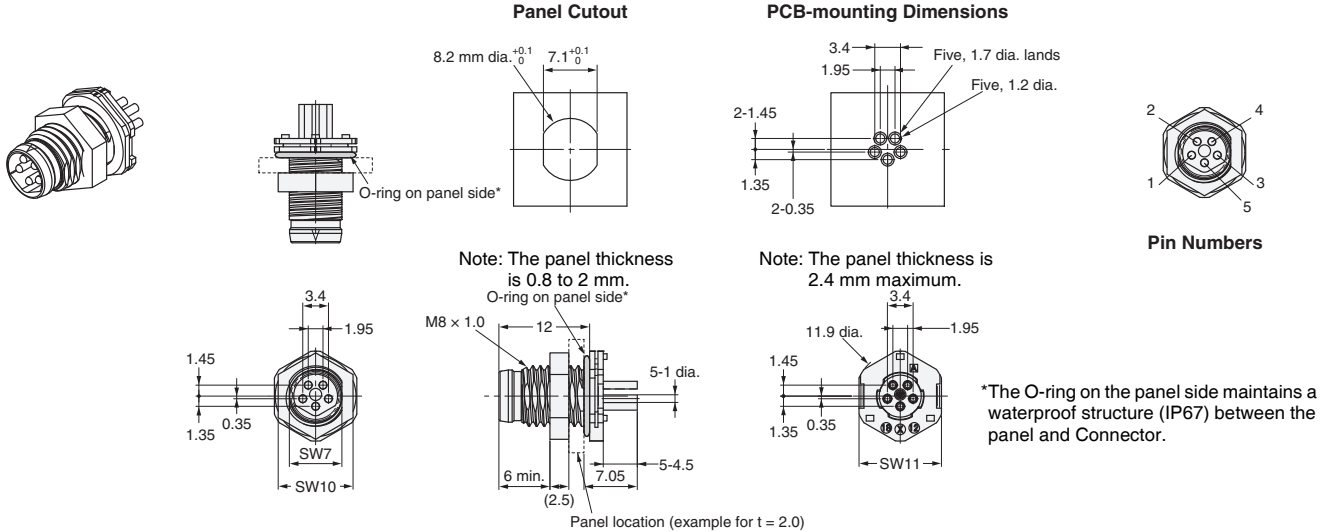
Note: Only plugs and sockets with the same poles can be connected to each other.

Dimensions

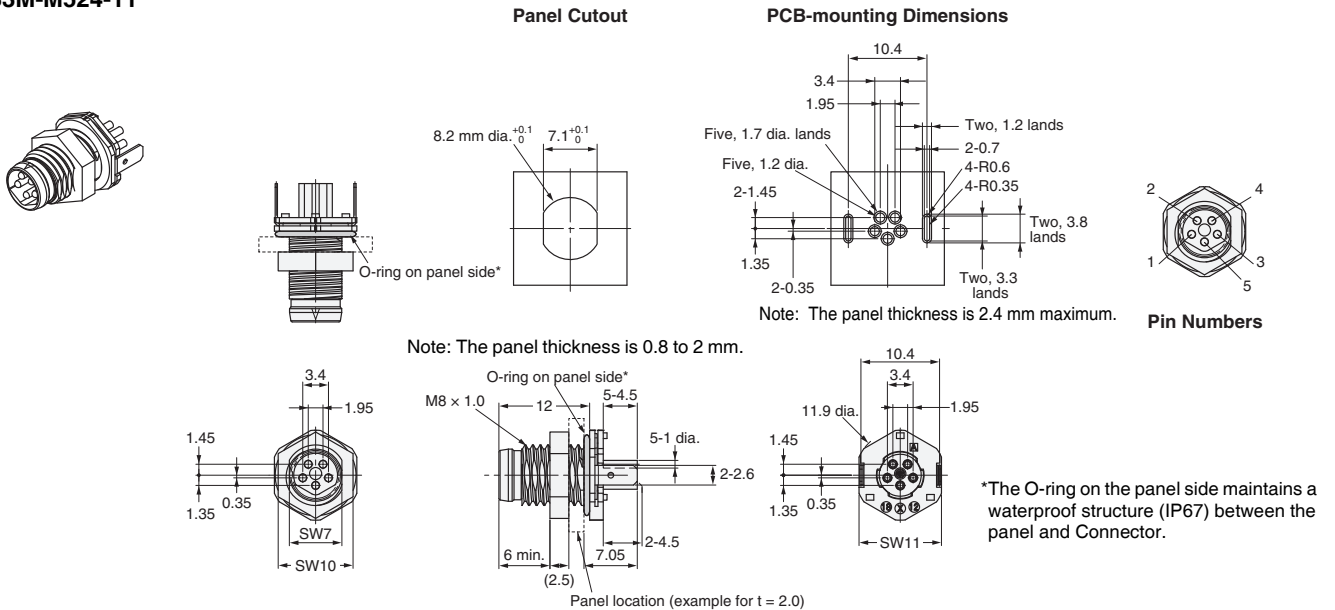
(Unit: mm)

Front lock (5 pins)

DIP Pins 4.5 mm (for Either Round Holes or Solder Cups), Without Shield Pin XS3M-M524-10



DIP Pins 4.5 mm (for Either Round Holes or Solder Cups), With Shield Pin XS3M-M524-11



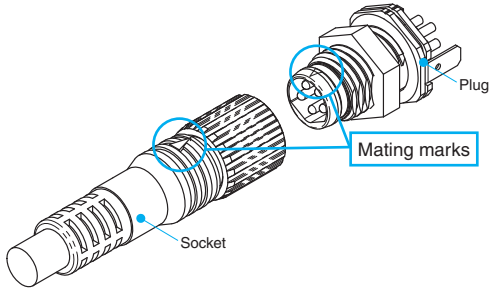
Safety Precautions

Refer to *Safety Precautions* on page 26.

Precautions for Correct Use

XS3M-M524-□□ Connection

To mate the Connectors, align the mating marks on the Plug and Socket (see following figure), insert the Connectors completely, and tighten the lock nut, being careful not to damage the threads.



XS3M-M524-□□ Panel Mounting

After you mount the Connector to the panel, attach the nut and tighten it to a suitable torque (0.4 N·m).

XS3R Y-Joint Plug/Socket Connectors

Ordering Information

For M8 Connectors

| Cable | Connector | Cable length L (m) | Model | UL |
|--|-------------------------------|--------------------|---------------------|--|
| With cable | Connectors on both cable ends | 0.5 | XS3R-M426-1C51-A | --- |
| | | 1 | XS3R-M426-1011-A | |
| | | 2 | XS3R-M426-1021-A | |
| | | 3 | XS3R-M426-1031-A | |
| | Connector on one cable end | 2 | XS3R-M426-1020-A | |
| | | 5 | XS3R-M426-1050-A | |
| Robot cable | Connector on one cable end | 5 | XS3R-M426-1050-R | UL2238 certified (File no. E207683) |
| Oil-resistant polyurethane robot cable | Connector on one cable end | 5 | XS3R-M426-4050-PR * | --- |
| Without cable | Connectors on both cable ends | --- | XS3R-M426-1 | --- |
| | | --- | XS3R-M426-5 | |

*XS3R-M426-4050-PR is dedicated to wiring of 2-wire sensors.

Connections

| Model | Mating Connectors |
|-----------|-------------------|
| XS3R (M8) | XS3F (M8) |
| | XS3H (M8) |
| | XS3W (M8) |
| | XS3P (M8) |
| | --- |

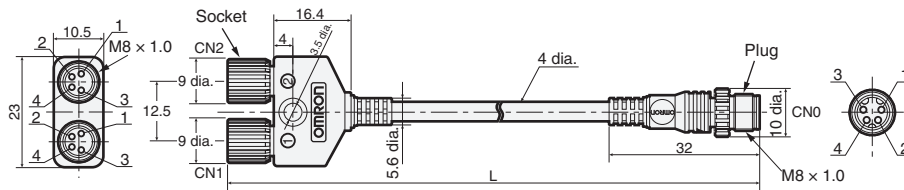
Dimensions

(Unit: mm)

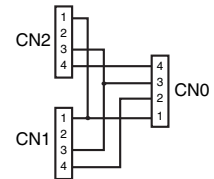
M8 Screw-on Connectors

Connectors on Both Cable Ends (Y-Joint Plug/Socket)

XS3R-M426-1□□1-A With cable



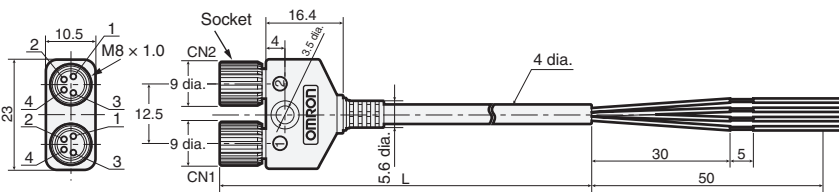
Wiring Diagram



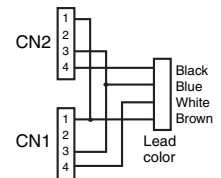
Connector on One Cable End (Y-Joint Plug/Socket)

XS3R-M426-1□□0-A With cable

XS3R-M426-1□□0-R Robot cable

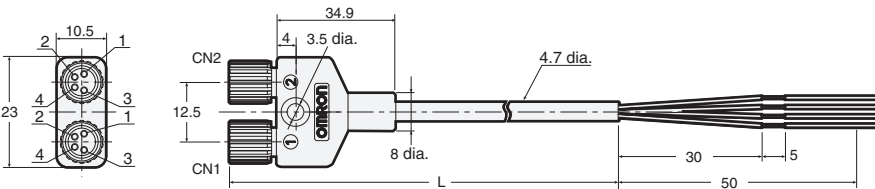


Wiring Diagram

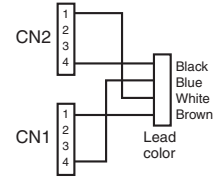


Connector on One Cable End (Y-Joint Plug/Socket)

XS3R-M426-4□□0-PR Oil-resistant polyurethane robot cable

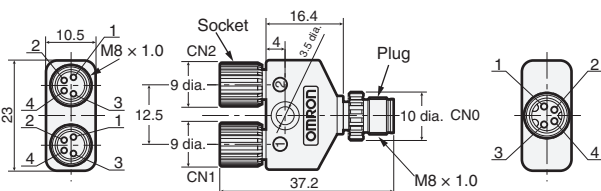


Wiring Diagram



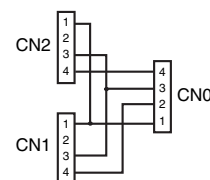
Connector on Both Ends (Y-Joint Plug/Socket) without Cable

XS3R-M426-□

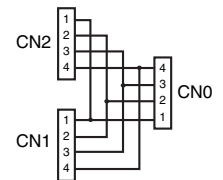


Wiring Diagram

XS3R-M426-1



XS3R-M426-5

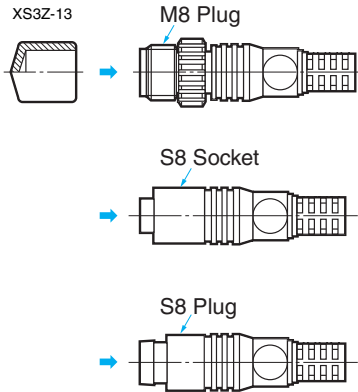


Common Accessories and Tools (Order Separately)

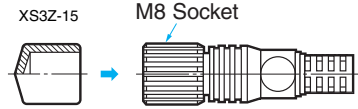
Ordering Information

Dust Covers

XS3Z-13



XS3Z-15



The Dust Cover is for dust prevention and does not ensure IP67 degree of protection.
 When mounting the Dust Cover to a Connector, be sure to press the Dust Cover onto the Connector until the Connector is fully inserted into the Dust Cover.

| Model | Material | Suitable connector | |
|---------|---------------|--------------------|------------------|
| | | Model | Mounting portion |
| XS3Z-13 | PVC resin/red | XS3H/XS3W/XS3R | M8 plug |
| | | XS3F/XS3W | S8 socket |
| | | XS3H/XS3W | S8 plug |
| | | XS3M | M8/S8 plug |
| XS3Z-15 | | XS3F/XS3W/XS3R | M8 socket |

Safety Precautions

Precautions for Correct Use

Do not use the product in atmospheres or environments that exceed product ratings.

Connections

- The XS3 and XS2 Sensor I/O Connectors cannot be connected to each other.
- You cannot mate Connectors that have a different number of poles.
- When using Sensors with Connectors or Limit Switches, use the Sensor I/O Connectors specified in the catalog.
- Do not connect M8 screw-on models and S8 snap-in models together, otherwise the proper degree of protection of the Connectors will not be maintained.

Connector Connection and Disconnection

- Before connecting or disconnecting Connectors, make sure that no power is being supplied to the Connectors.
- When connecting or disconnecting Connectors, be sure to hold the Connectors by hand. Do not disconnect the Connectors by pulling the cable.
- Do not touch the mating surface of the connectors with wet hands. If there is any water on the Connector or near the Connector, be sure to wipe off the water before connecting or disconnecting the Connector, otherwise the Connector may short-circuit internally or not ensure good insulation.
- Make sure that mating section of any Connector is free of metal dust or power.
- Do not use pliers to tighten mounting the thread bracket, otherwise the thread bracket may be damaged. Be sure to tighten each thread bracket by hand within a torque of 0.2 N·m. If the thread bracket is not tightened securely, the Connector may not maintain its proper degree of protection or the thread bracket may fall off due to vibration.
- When you tighten or loosen a thread bracket, hold onto only the thread bracket.
If you hold onto the cover or cable, excessive rotational force will be applied to the Connector and may damage it.
- Fully insert S8 snap-in models until the Connectors are hidden by the metal casing of the opposite parts, otherwise the Connectors will not maintain their proper degree of protection or the thread brackets may become loose due to vibration.

Degree of Protection

- Do not impose external force continuously on the joints of pin blocks and covers, otherwise the Connectors may not keep its proper degree of protection (i.e., IP67).
- Connectors are not fully watertight. Do not use them underwater.
- The Connectors are not oil-resistant. Do not use them where they would be subject to oil.
- If Connectors are used in places with vibration or shock, secure the mating section of each Connector, otherwise the Connectors may be disconnected or fail to maintain their proper degree of protection.
- Connectors are of resin mold construction. Do not impose excessive force on them.

Storage

Do not store Connectors for long periods of time in the following locations

- Locations subject to dust or high humidity
- Locations subject to ammonia gas or sulfide gas

Setup

- Do not make any cable bends near the base of the Unit.
- Any bends made must have a minimum radius of 36 mm.

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Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

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Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

Note: Do not use this document to operate the Unit.

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