

## Sensor connection can be completed...

...easily...

...by anyone...

...with unified parts.



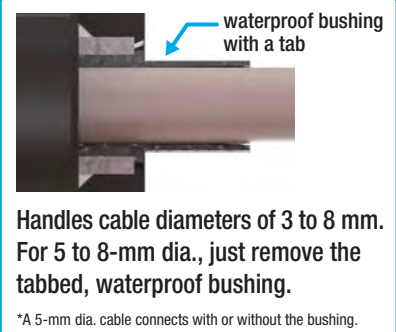
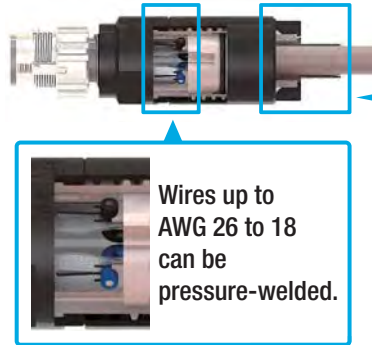
Round Waterproof Pressure-welded Assembly Connectors

## XS5C/G



## ■ Features

**Unified parts...**  
**for less stock management.**



**Anyone...**  
**...with no torque management**

**Visual confirmation**  
**is possible.**

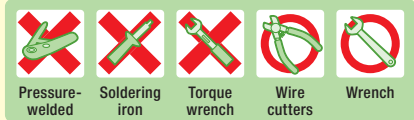


The tightened position is clear, so torque management is not required.

**Easy...**  
**...with no special tools**

**Pressure-welding for easy connection.**

The only tools you'll need are wire cutters and a wrench.



**Just six steps to complete wiring with no special tools.**



Remove the cable sheath.



Insert the wires into the Cap Unit.



Insert the wires into the wire guides in the IDC (Insulation Displacement Contact) cover.



Cut off the ends of the wires that extend from the Unit.



Insert the Cap Unit into the Contact Block.



Twist the Cap Unit and Contact Block to pressure-weld the wires.

## ■ Ordering Information

### Plug



Number of poles	4
Model	XS5G-D418
Minimum order	50

### Socket



Number of poles	4
Model	XS5C-D418
Minimum order	50

## ■ Ratings and Specifications

Rated current	4 A		
Rated voltage	250 VDC		
Contact resistance (connector)	40 mΩ max. (20 mV max., 100 mA max.)		
Dielectric strength (connector)	1,500 VAC for 1 min (leakage current: 1 mA max.)		
Degree of protection	IP67 (IEC60529)		
Insertion tolerance	50 times		
Lock strength	Tensile: 100 N/15 s, Torsion: 1 N·m/15 s		
Cable holding strength	Cable diameter: Less than 4 mm	12 N/15 s	
	4 mm to less than 6 mm	30 N/15 s	
	6 mm or larger	100 N/15 s	
Ambient operating temperature range	-25 to 70 °C		
Number of pressure-weld repairs	10 times max. (Limited to the same external diameter and wire diameter.)		

## ■ Materials and Finish

Pin block	PBT resin (UL94V-0)
Overmolding/Cover	PBT resin (UL94V-0)
Contacts	Phosphor bronze/nickel base
	Gold-plated contacts (0.15 μm)
Fixtures	Nickel-plated zinc alloy
O-ring	Rubber

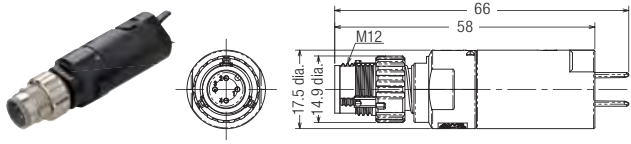
## ■ Recommended Cables

Cable outer diameter	3 to 8 mm
Core sizes	0.14 to 0.75 mm <sup>2</sup> (AWG 26 to 18)
Minimum wire diameter	0.08 mm
Outer diameter of wire covering	0.7 to 2.6 mm
Sheath material	PVC, PE, PUR
Material of wire covering	PVC, PE

## ■ Dimensions

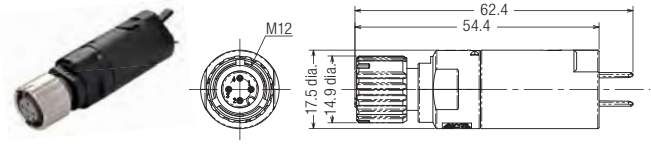
### XS5G-D418 Plug

(Units: mm)



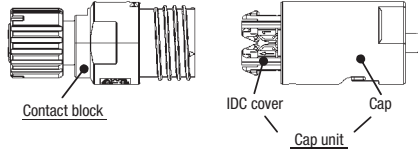
### XS5C-D418 Socket

(Units: mm)



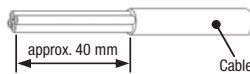
## ■ Assembling procedure

### 1) Preparations (Make sure they are all at hand.)



### 2) Dressing the cable end

- Peel covering of a cable.

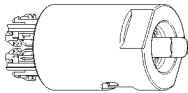


External diameter of applicable cable	Conductor cross section
3 to 8 mm	0.14 to 0.75 mm <sup>2</sup> / AWG 26 to 18

### 3) Choose the waterproof bushing

- Choose the waterproof bushing type according to the cable size.

<External diameter of cable: In case of 3 to 5 mm>  
Use the cap unit in the delivery state.



<External diameter of cable: In case of 5 to 8 mm>

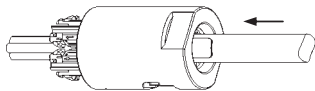
When using, pick tab both sides of the waterproof bushing with a tab and pull it out in the direction of an arrow.



\* When it isn't necessary to pull out bushing, do not pull a tab or pull out bushing carelessly. Do not insert the pulled-out bushing again.

### 4) Cable insertion

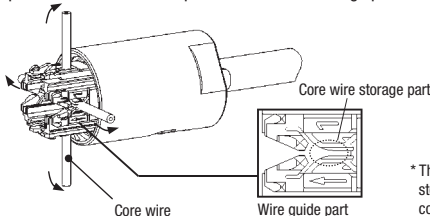
- Insert a cable in the cap unit.



- \* Insert fully until a cable doesn't enter any more.
- \* It's shown by a figure in case of cable external diameter 3 to 5 mm.

### 5) Wiring

- Confirm the terminal number indication\*1 of a IDC (Insulation Displacement Contact) cover, insert a core wire in each wire guide according to the terminal number and push in to the lowermost part of a core wire storage part.

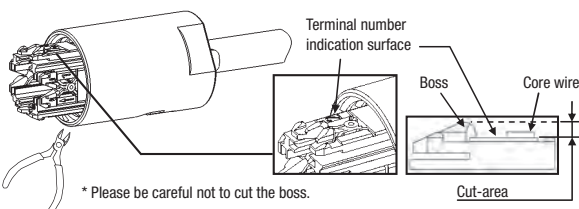


\*1 Terminal No.1: Brown  
Terminal No.2: White  
Terminal No.3: Blue  
Terminal No.4: Black

\* There is a difference in a storing state depending on core wire diameter.

### 6) Processing the core wire end

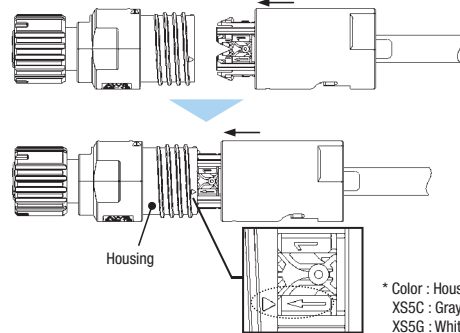
- Cut the end part of each core wire with nippers. Cutting the core wire end in the range of cut-area of figure.



\* Please be careful not to cut the boss.

### 7) Assembling the Contact block

- Insert the cap unit core wire end processing has completed in a contact block.
- Use a  $\triangle$  mark of a housing and an arrow of a IDC cover, as a guideline for alignment. The location of the arrow is the side of the terminal No.1.

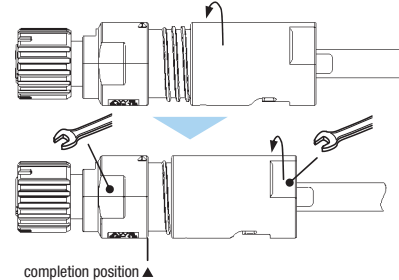


\* Color : Housing/IDC cover  
XS5C : Gray  
XS5G : White

\* Confirm that the color of the housing and the IDC cover is same before insertion.

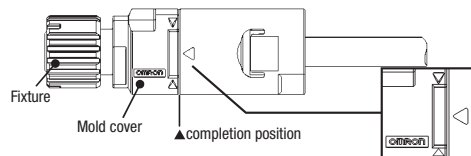
### 8) Tightening up the cap

- After inserting the cap unit and tightening a screw up lightly by hand, screw up the cap by a tool of a spanner or wrench (size 15 mm).\*2



\*2 When screwing up the cap by large size tool, it may cause damage.

- When a gap between a mold cover of contact block and a cap disappeared assembly and wire connection has completed.



\* When the operation has completed,  $\triangle$  mark of cap comes into the square of the indicator formed into a mold cover ( $\triangleright \triangle \triangleleft$ ), so also use it as guideline to know to complete.

\* Avoid tightening a cap up beyond the completion position. It may cause damage.

### 9) Final checking

- When the connector has been assembled, make sure the line insulation is as specified.

## Repair work procedure

### Cap unit removal

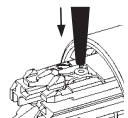
- When releasing wire connection, remove the cap unit in the opposite procedure of assembly work. [ (8)→7) ]

\* The core wire remain connected to the IDC connection part rarely. In that case, remove core wire end part to the vertical direction by tweezers etc. Do not touch the IDC contact directly at that time.

\* When IDC cover was left on the housing side, remove it by pulling a cable. In case IDC cover has been removed by holding strongly and pulling, it may cause damage.

### Cable removal

- When removing the cable from the cap unit, pull the cable to the opposite direction of assembly work procedure 4). When tip of the core wire end has been pushed lightly into the IDC cover by tweezers etc, cable removal becomes easy.



### Repair work

- When connecting the wire again, do assembly (repair work) according to assembling procedure 1)→8).

\* In case of repair, use a cable of the same diameter and a core wire of the same diameter. The number of times of repair wire connection is maximum 10 times.

\* When doing a repair, work after enough removing the foreign substance and moisture adhering to a connector. Be careful so that the foreign substance and moisture do not enter the wire connection part. It may cause short-circuit etc.



## ■ Safety Precautions

### Precautions for Correct Use

Do not use the Connectors in an atmosphere or environment that exceeds the specifications.

#### Connector Connection and Disconnection

- When connecting or disconnecting Connectors, be sure to hold the Connectors by hand.
- Do not hold the cable when disconnecting Connectors.
- When mating Connectors, be sure to insert the plug all the way to the back of the socket before attempting to lock the Connectors.
- Do not use tools of any sort to mate the Connectors. Always use your hands. Pliers or other tools may damage the Connectors.
- When mating to an M12 Threaded Connector, such as on the XS2, tighten the lock with your hands. (The suitable tightening torque is 0.39 to 0.49 N·m.)

#### Wiring

- Always confirm wiring diagrams before wiring sensors, limit switches, or other devices.
- Lay the cables so that external force is not applied to the Connectors. Otherwise, the degree of protection (IP67) may not be achieved.

#### Degree of Protection

- The degree of protection of Connectors (IP67) is not for a fully watertight structure. Do not use the Connectors underwater.
- Do not step on or place any objects on the Connectors. Doing so may damage the Connectors.

## ■ General Precautions

- Do not pull excessively on the Connectors or cables. Do not install the Connectors or cables in any way that would place a load directly on the mating section or cable connections. Doing so can damage the Connectors or break the wires inside the cables.
- Install the Connectors and cables where they will not be stepped on to prevent the wires inside the cables from being broken and to prevent the Connectors from being damaged. If the Connectors or cables must be installed where they might be stepped on, protect them with covers.
- Refer to the specifications for your cables before bending the cables and do not bend them past their minimum bending radius.
- If sensors or switches are not attached during installation, protect the mating surface of the Connector with a XS2Z-22 Waterproof Cover or XS2Z-14/15 Dust Cover.

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