Applicable Products

Product name	Product code
IX30GF2-A-10S-CV	CL0251-0167-0-00
IX31GF2-A-10S-CV	CL0251-0012-0-00
IX30GF2-B-10S-CV	CL0251-0186-0-00
IX31GF2-B-10S-CV	CL0251-0187-0-00

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ix Industrial Filed Assembly Plug Cable Assembly Instructions

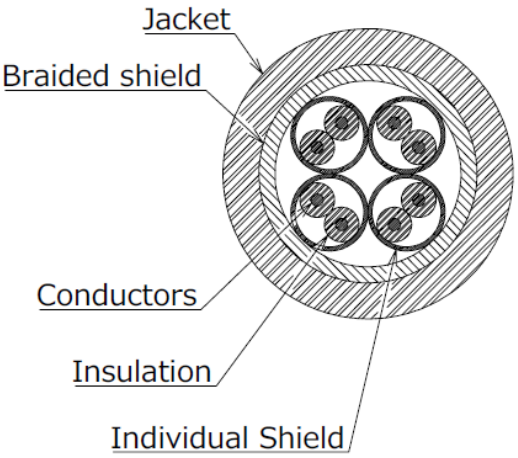
1. Scope of Applications

This manual specifies the cable assembly procedures of the IX30GF2, IX31GF2 Series.

2. Applicable Products

・IX30GF2-※-10S-CV

Items		Specifications
Conductors	Size	AWG26～28
	Number	7 Stranded wires
	Material	Annealed copper wire
Insulation Outer Diameter		⌀0.95～1.05mm
Braided Shield		Tin plated
Outer Jacket Diameter		⌀4.1～7.1mm



・IX31GF2-※-10S-CV

Items		Specifications
Conductors	Size	AWG24～25
	Number	7 Stranded wires
	Material	Annealed copper wire
Insulation Outer Diameter		⌀1.1～1.25mm
Braided Shield		Tin plated
Outer Jacket Diameter		⌀4.1～7.1mm

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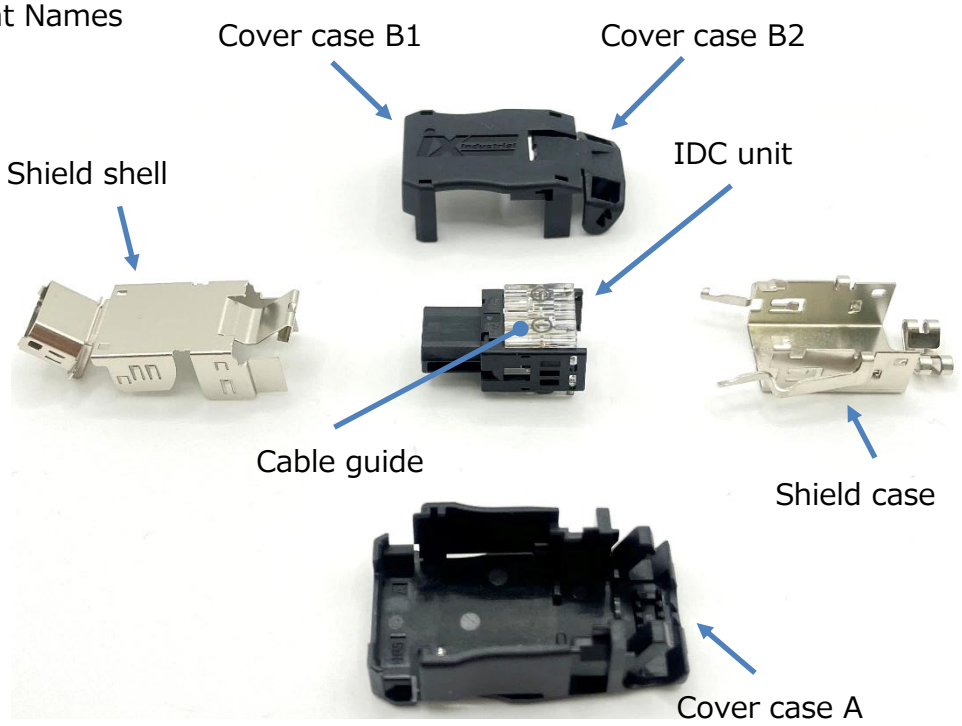
3. Operation Procedures

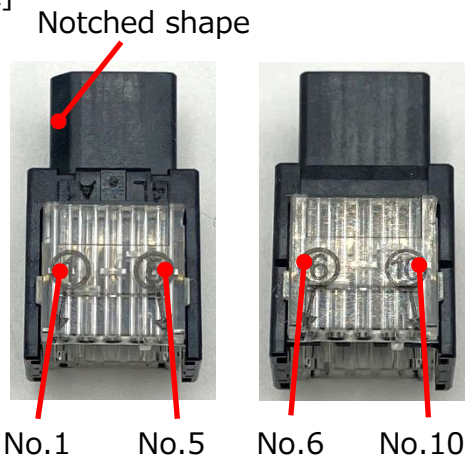
Please refer to the following pages.

4. Component Names

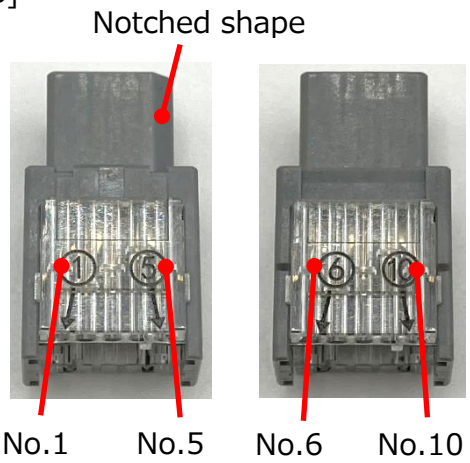


5. IDC unit Contact Number Assignment

[Key A]



[Key B]



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6. Wire arrangement for each contact

[Key A] In case of Ethernet applications

Conductor number	Signal		TIA cable wiring color	
	10/100Mbit/s	1/10Gbit/s	TIA/EIA-568-A	TIA/EIA-568-B
1	TX+	BI_DA+	White/Green	White/Orange
2	TX−	BI_DA−	Green	Orange
3	N.C	N.C	N.C	N.C
4	N.C	BI_DC+	Blue	Blue
5	N.C	BI_DC−	White/Blue	White/Blue
6	RX+	BI_DB+	White/Orange	White/Green
7	RX−	BI_DB−	Orange	Green
8	N.C	N.C	N.C	N.C
9	N.C	BI_DD+	White/Brown	White/Brown
10	N.C	BI_DD−	Brown	Brown

[Key B] There is no contact assignment for non-Ethernet applications.

7. Required components and tools

The required component and tool examples for the cable assembly are given below.

・Cable length (finish length L＋25mm length inside the plug per end)
・Calipers or Rulers (For cable termination length measurement)
・Cutters (For stripping cable jacket)
・Nippers (For cutting Tape/Other materials/Individual Shield)
・Pliers wrench (For insulation displacement)
・Pliers (For cable clamp)
・Paper or foil (For cable clamp)
・Copper tape, cloth tape (For thickening the cable during termination)

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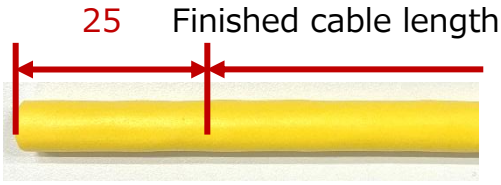
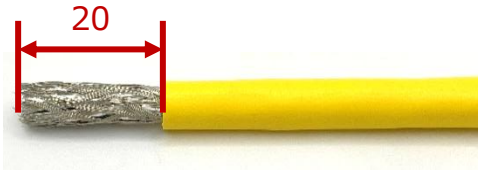
8. Cable termination

① Cut Cables



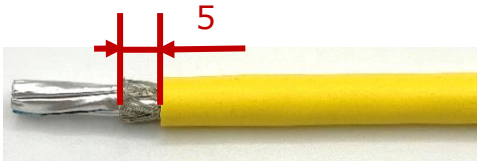
Cut cables.
Necessary cable length =
Finished cable length + excess length
(25mm from the cover case to the cable end)

② Strip Jacket



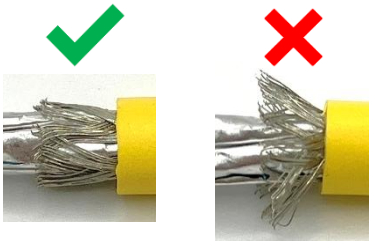
Strip cable jacket to 20mm from cable edge.

③ Cut Braided Shield



Cut braided shield to 25mm from jacket edge using nippers, etc.

※Be careful not to let the braided shield become unraveled.



④ Cut Tape/Other materials/ Individual Shield

If there is tape, other materials inside, or an individual shield, use nippers, etc., to cut off and expose the insulation.

※Be careful not to damage the insulation while cutting.

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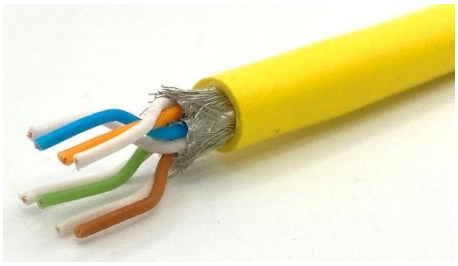
9. IDC termination to the IDC unit

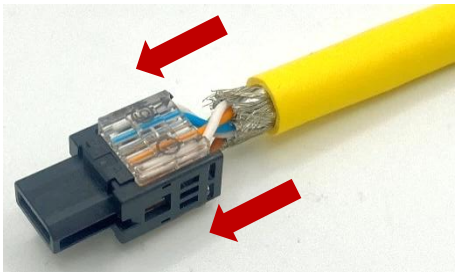
① Arrange core wires



Arrange the wires in two rows with four wires in each row for easy insertion into the cable guide.

For wiring, please refer to the wiring tables in sections [5. IDC unit Contact Number Assignment] and [6. Wire arrangement for each contact].

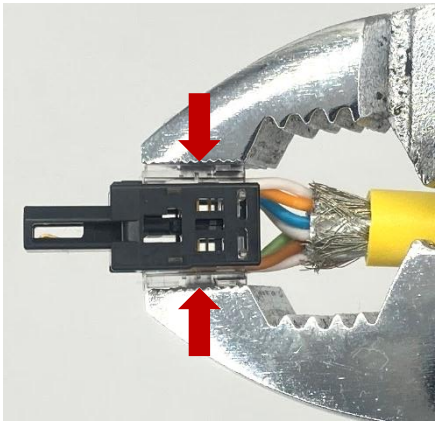
②Insert core wire into cable guide



Insert core wire into the cable guide.

※Confirm that all core wires are fully inserted into the back of the cable guide.

③Insulation displacement with pliers



Perform crimping using a pliers wrench.
Crimp by clamping the guide from both the top and bottom with the pliers wrench.

※Before crimping, check once again to ensure that none of the core wires are loose or have slipped out.

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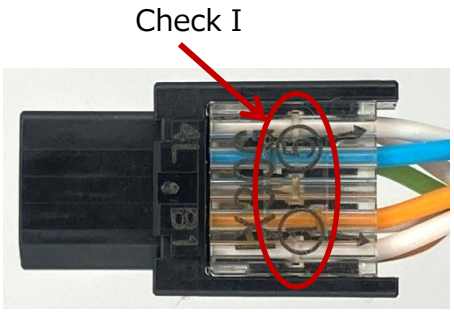
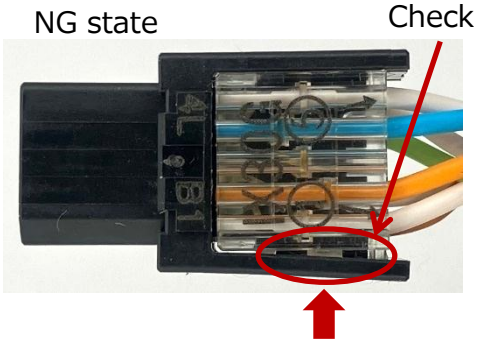




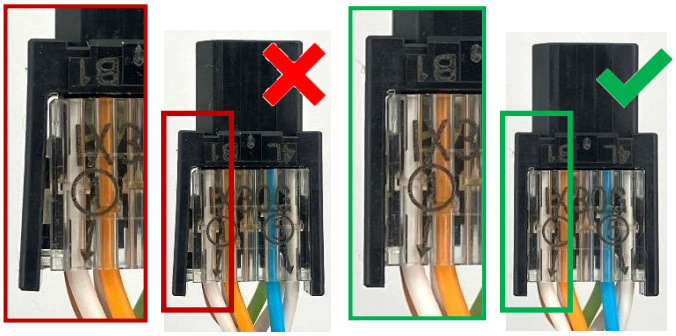
Please check the 3 points below after IDC completion.

Ⅰ The core wire does not come off from the IDC blade.

Ⅱ The latch of the cable guide shall be locked into the hole of the plug unit (the IDC unit to which the cable guide has been connected by insulation displacement).

Ⅲ There is no gap between the IDC unit and the cable guide. If the gap can be closed by pressing the areas indicated by the arrows by hand, then it can be used without a problem.

※If incorrectly wired, reassemble using a new IDC unit.



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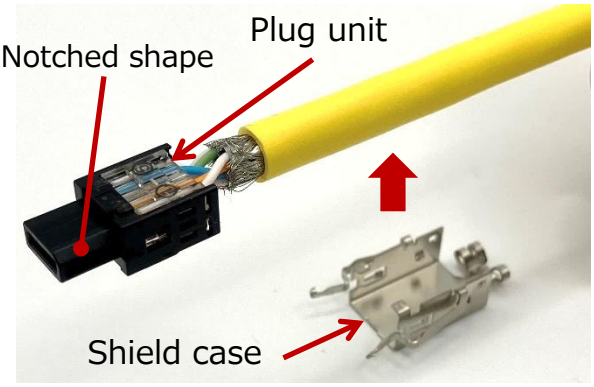
10. Shield case and shield shell assembly

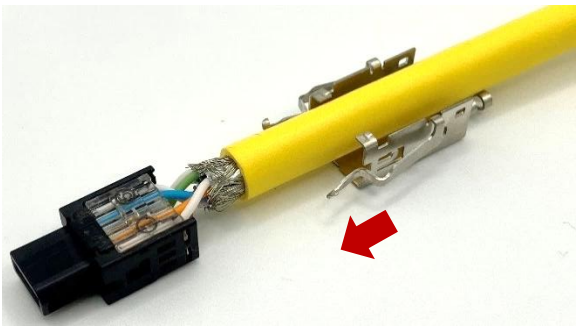
① Shield case assembly



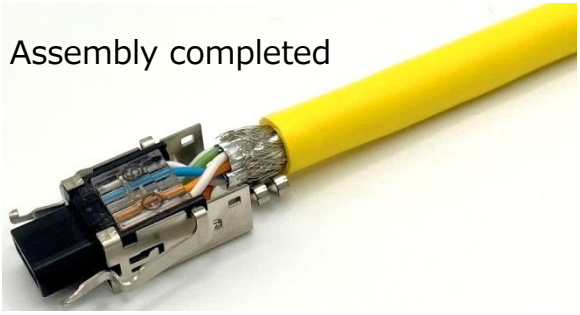
Assemble the shield case to the plug unit to which the IDC termination with the cable has been performed.

Pull the cable upward and fit the shield case onto the lower side of the cable.

※The notched shape of the plug unit faces upward in respect to the shield case as shown in the figure.



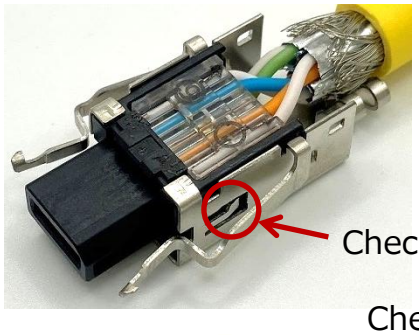
Slide the shield case in place until you hear the plug unit making a click sound.

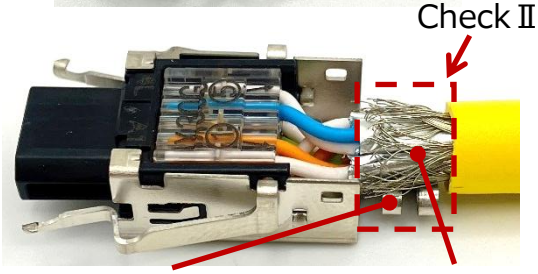


Please check the 2 points below after assembly completion.

Ⅰ The lock must be engaged. (An identical structure is present on the opposite side as well.)

Ⅱ The shield case must be in contact with the braided shield of the cable.





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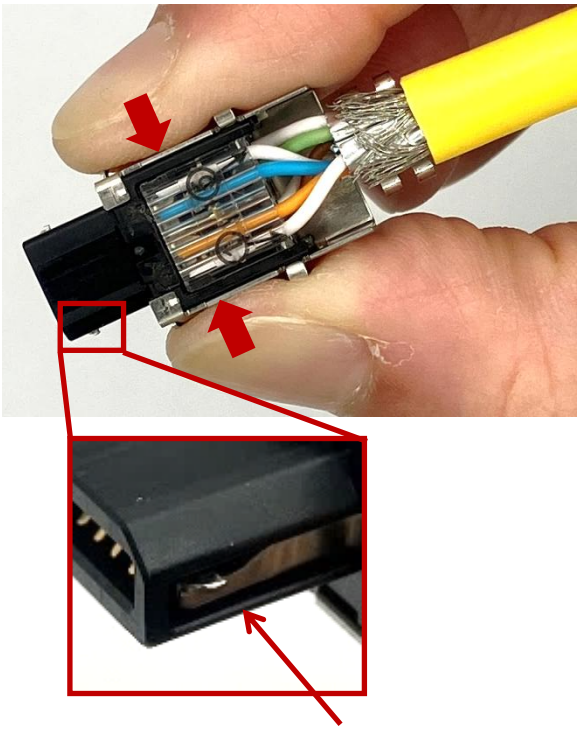
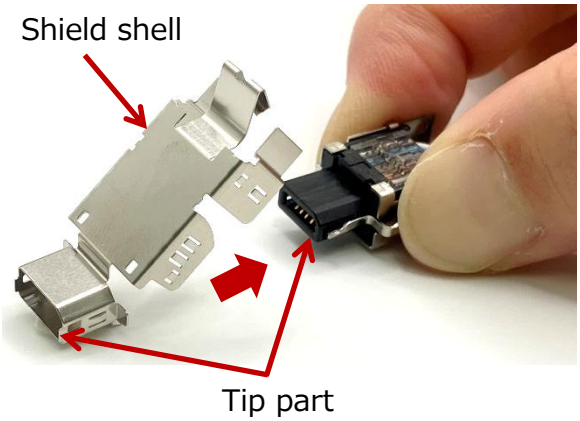
② Shield shell assembly



Tip of the locking spring.

Assemble the shield shell onto the plug unit with the shield case attached.

While assembling the shield shell, push on the spring on the shield case to keep the locking spring inside of the plug unit as shown in the figure.



Tip part

Insert the shield shell in the direction of the arrow while pushing in the spring.

Stop pushing the locking spring after the tip parts of the plug unit and the shield shell are aligned.

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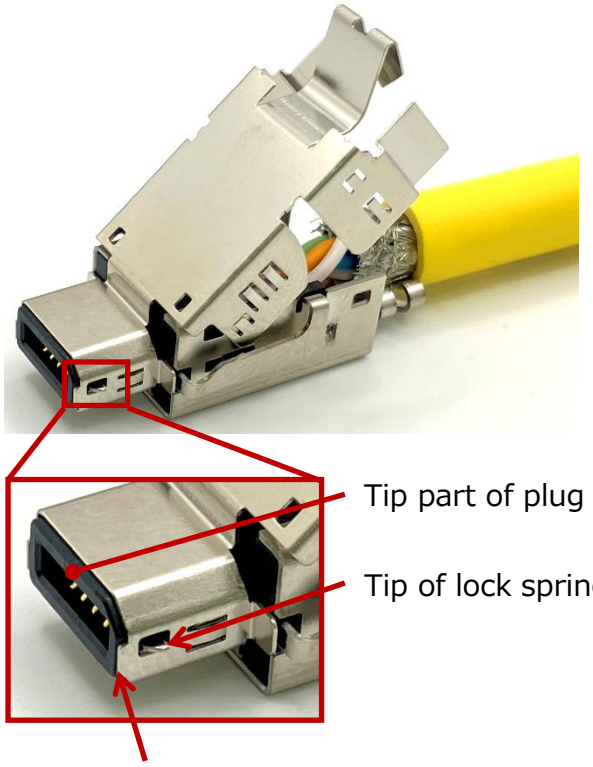
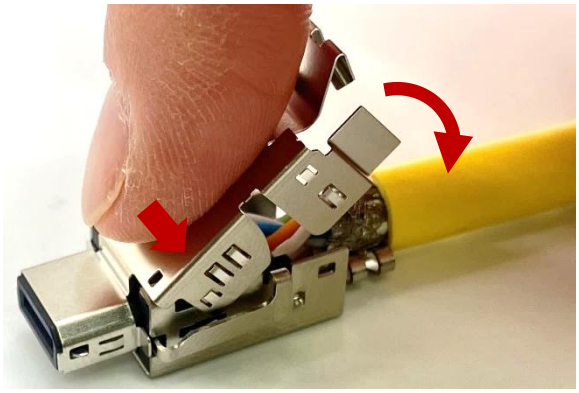


※After insertion completion,
confirm the tip of the locking spring is projecting from the shield shell opening, and the tip parts of the plug unit and shield shell are aligned.



Push down the shield shell in the direction shown in the figure, and secure the shield case and shield shell clamp.

※When assembling the shield shell, please press the spot close to the bending area. If you press down the top of the shield shell (shield contact area) the shield shell may deform.

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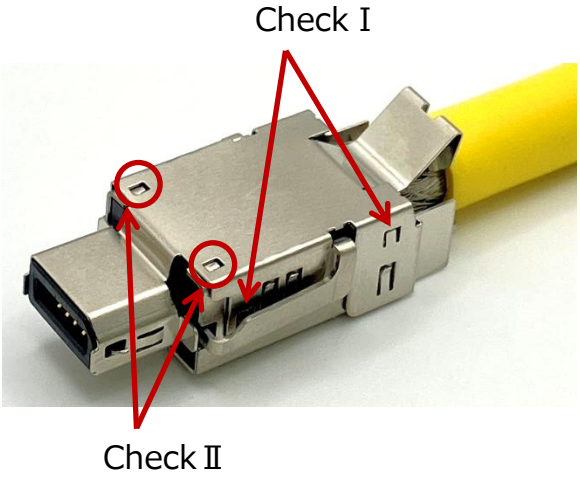

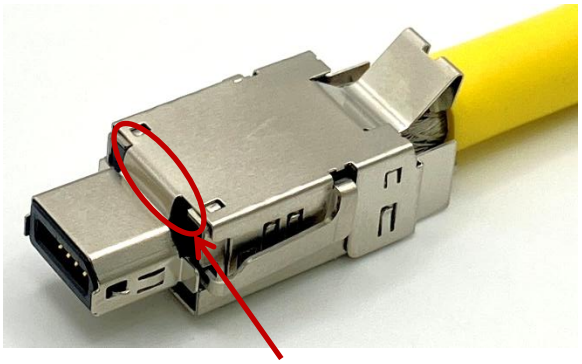

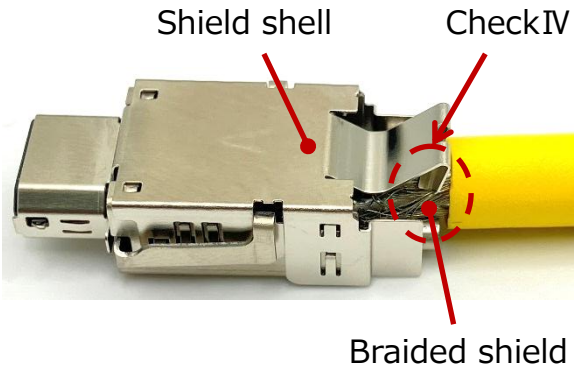

Please check the 4 points below after assembly completion.

Ⅰ Whether the parts of the shield shell and shield case that should be engaged are or not. (An identical structure is present on the opposite side as well.)

Ⅱ The projection of the shield case is caught in the opening of the shield shell.

Ⅲ The shield shell close to the bending area is not deformed.

Ⅳ The shield shell must be in contact with the braided shield of the cable. (An identical structure is present on the opposite side as well.)

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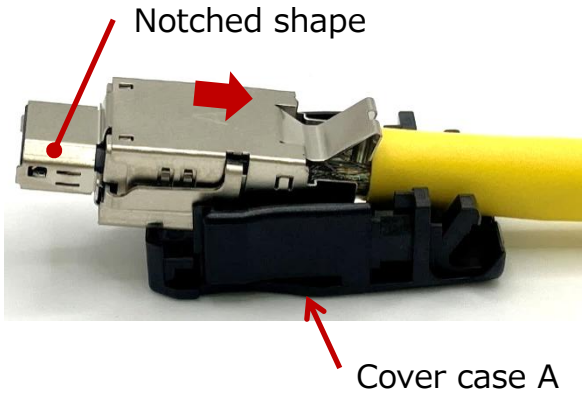
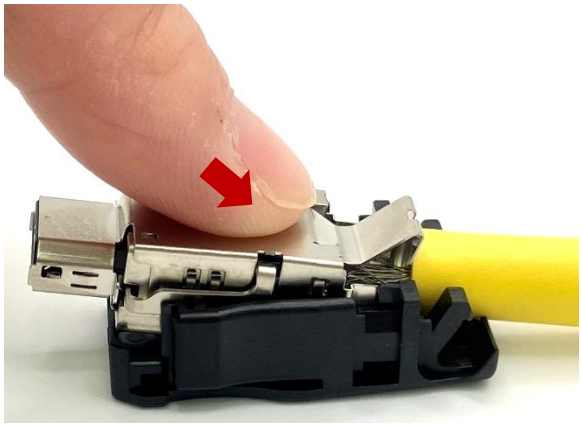
11. Cover case assembly



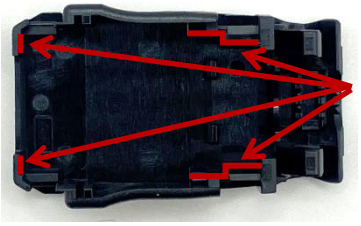
Assemble the cover case.
Position so that the notched shape on the plug is facing upward as shown in the left diagram.

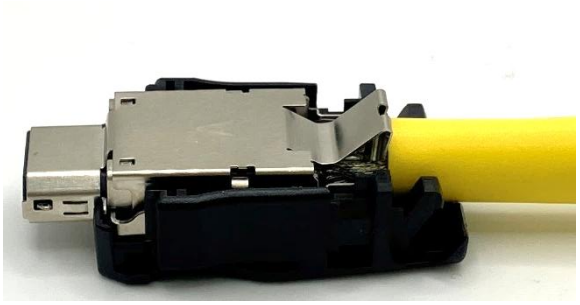
※The figure features the A key, but the notched shape should be facing upward for all key types.

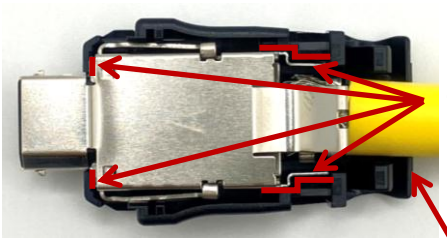


Press it in with your finger in the direction of the arrow to assemble.

※Fit the case by aligning the thick lines as shown in the figure below.







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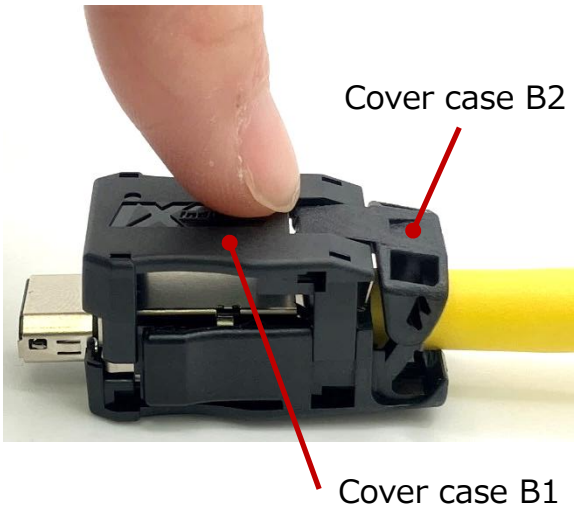

Assemble cover case B1 by pressing it in with your finger.

※Before locking cover case B1, make sure that the locking part of cover case B2 does not catch on cover case A.

There are four locking parts on cover case A. (An identical structure is present on the opposite side as well.)
Ensure all the locking parts are completely engaged.
Push the sides of the locking parts if cover case assembly is not completed even after pushing on the top and bottom.

※Confirm to ensure outlines of the cover case are aligned in place.

※The shield shell may be visible from the seam of the cover case, but this does not indicate an issue.

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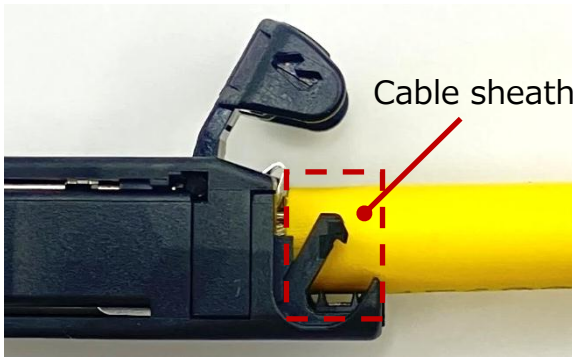
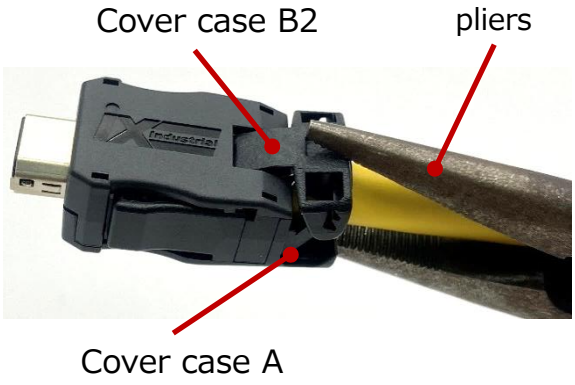
12. Cable Clamp

Use pliers to crimp the cable clamp.
Clamp cover case A and cover case B2 from both the top and bottom with the pliers.

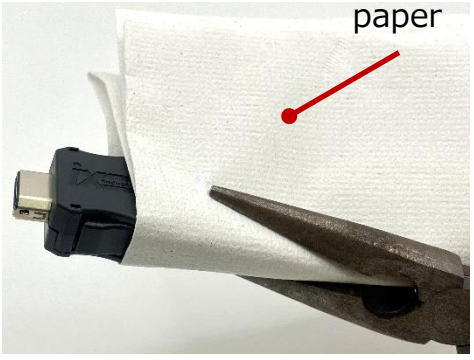
Recommended crimp strength in cable axial direction : 50N or above



※Ensure the cable sheath is in the red-framed area before clamping the cable.



※To prevent scratches on the cover case during clamping, use paper or equivalent protective material if necessary.



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1st latch

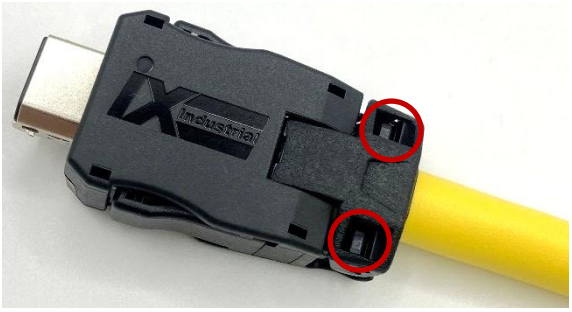
2nd latch

3rd latch

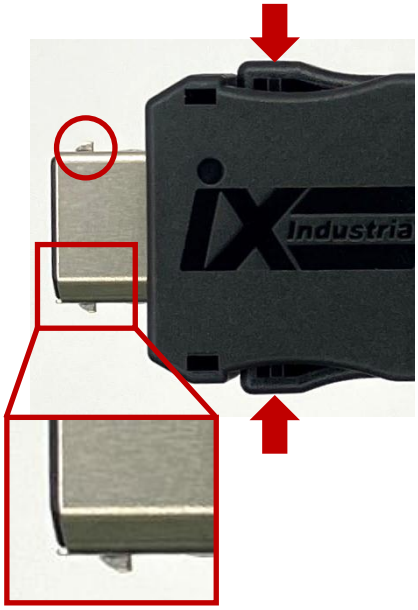
※As the latch has a three-step structure, please adjust it to match the outer diameter of the cable sheath in use.

※If the requirement of 50 [N] or more is not satisfied, please check section [15. Precautions During Wiring].

Assembly completed



※Make sure that both the left and right latches are securely engaged.
Also, when viewed from the cable outlet direction, make sure that the edges of both latch sections are aligned straight.



After cable clamp, confirm that the top of the lock can no longer be seen when pushed down into the locking spring and that the lock returns when the finger is removed.

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15. Wiring Precautions

・Depending on the cable specifications, it may not be possible to achieve a clamping strength of 50N or more after the cable clamp is applied.
Handling Method
After sheath stripping, wrapping copper tape or cloth tape around the sheath to increase its thickness may improve the clamping strength.
※If the sheath is made too thick, it may not be possible to clamp it properly. As a guideline, please aim to increase the thickness to achieve the following outer diameter.
1st latch : ⌀6.4~7.1mm
2nd latch : ⌀4.2~6.3mm
3rd latch : ~⌀4.1mm

・Both drain wire shielded cables and unshielded cables can be used. For cables with a drain wire shield, ensure that the drain wire is securely connected to the shield contact area of the shield case or shield shell.

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Concluded

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16. Revision history

Rev No.	Content of revision	Prepared by	Checked by	Approved by	Date
0	The first edition	MT.YASUDA	KI.KAGOTANI	TU.TANIGUCHI	2025/5/23

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