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## 1. Scope

This document specifies the steps from crimping the DF62W-series crimped terminals to cables (AWG20 to AWG30) to inserting the terminals to crimping sockets,and inserting the terminal into the crimp case, and the procedure for mounting the panel of the DF62WP series.

## 2. Connectors

■ Crimping cases

**DF62W ❶ # ❷ – ✳ ❸ EP ❹ – 2.2 ❺ C ❻**

| | |
|---|---|
| ❶ | Name: DF62W |
| ❷ | Wire seal<br>#=None or A to E |
| ❸ | No. of poles: 2 to 9 |
| ❹ | Connector types<br>S : Socket<br>EP: In-line plug |
| ❺ | Contact pitch: 2.2 mm |
| ❻ | Shape of connection/terminal<br>C : Crimping case |

△4 ■ Crimping cases (Panel waterproof type)

**DF62WP ❶ – ✳/✳/✳/✳ ❷ EP ❸ – 2.2 ❹ C ❺**

| | |
|---|---|
| ❶ | Name: DF62WP |
| ❷ | No. of poles: 2 to 9<br>" /" Indicates that the connector is a composite connector with a number of poles separated by it. |
| ❸ | Connector types<br>EP: In-line plug |
| ❹ | Contact pitch: 2.2 mm |
| ❺ | Shape of connection/terminal<br>C : Crimping case |

■ Water proof pin

**DF62W – WP ❶**

| | |
|---|---|
| ❶ | Application<br>WP: Waterproof pin |

| | COUNT | DESCRIPTION OF REVISIONS | DESIGNED | CHECKED | DATE |
|---|---|---|---|---|---|
| △4 | 12 | DIS-H-00006326 | KI.SUGAWARA | ST.WADA | 20201006 |

TITLE

DF62W Series Cable Assembly Procedure

△4

DF62WP series panel installation procedure

HRS HIROSE ELECTRIC CO.,LTD.

| | | |
|---|---|---|
| APPROVED | KI.AKIYAMA | 20140215 |
| CHECKED | OM.MIYAMOTO | 20140214 |
| DESIGNED | KT.ISHII | 20140213 |
| WRITTEN | KT.ISHII | 20140213 |

TECHICAL SPECIFICATION | ETAD-H0760 | △4 | 

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■ Crimped terminals

**DF62W – EP 2226 PCF A**

❶ ❷ ❸ ❹

| |
|---|
| ❶ Application<br>EP: In-line |
| ❷ Compatible cables<br>2022: AWG20 to 22　2226: AWG22 to 26<br>2830: AWG28 to 30 |
| ❸ Shape/packing<br>SCF : Socket terminal, reeled<br>SC　: Socket terminal, separate<br>PCF : Plug terminal, reeled<br>PC　: Plug terminal, separate |
| ❹ Plating<br>A　　: Gold plating<br>Blank : Tin plating |

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# 3. Steps for harnessing

## 3.1. Cable stripping

Strip cables in accordance with Crimping Quality Standards (ATAD-H0762/0763).
In so doing, make sure there is no scratch on cable cores.

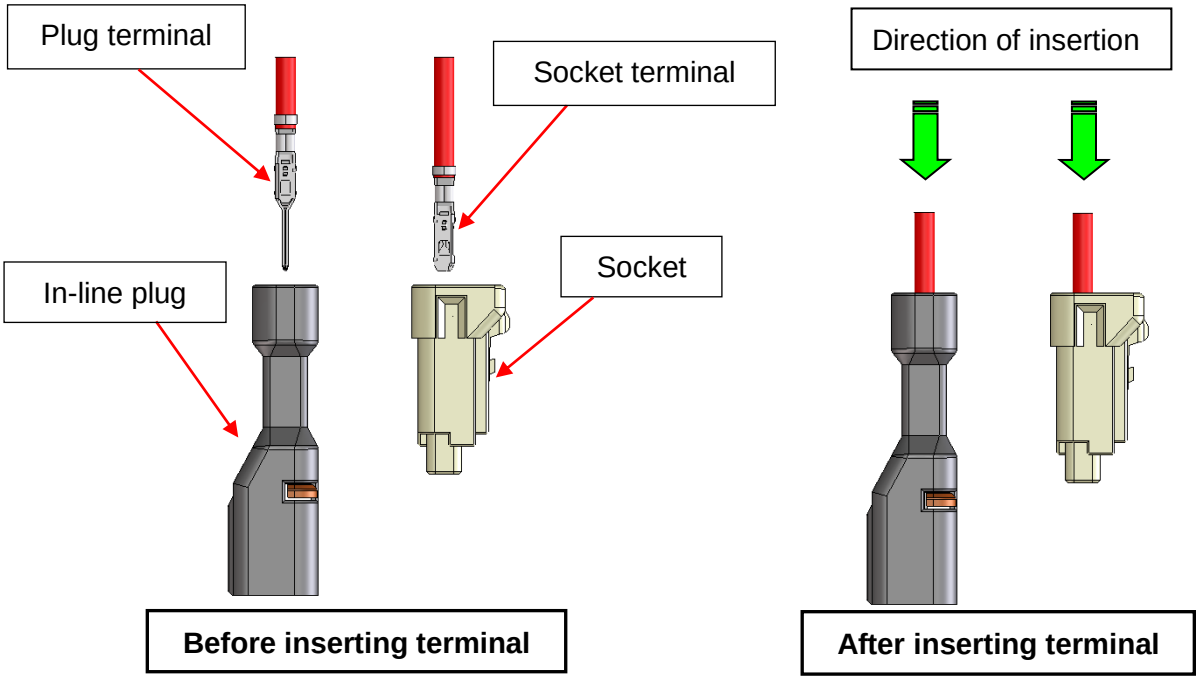
## 3.2. Crimping

Crimped terminals to cables using an applicator (AP105-DF62W-**), and check the crimping height and shape in accordance with the Table of crimping conditions and Crimping Quality Standards (ATAD-H0762/0763). (** = 2022, 2226, 2830)

## 3.3. Insertion to crimping terminal sockets

### Insertion to DF62W-＊EP-2.2C and DF62W-＊S-2.2C

Hold the cable of a crimped terminal, and insert it to each terminal hole of crimping sockets.
(Insert the terminal in the direction of arrows below.)
*The figures show insertion to DF62W-2poles connector.




For insertion, place the crimped terminal and crimping socket lock in the following direction.

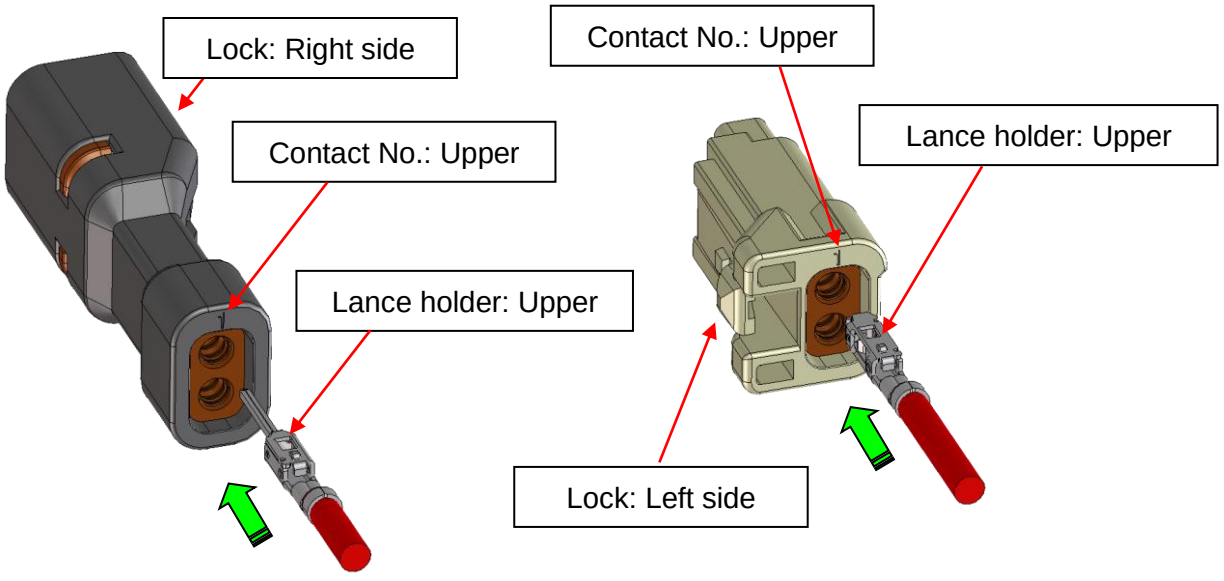



Figure 3-1. Terminal insertion

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Insert the crimped terminal to pass through the hole of wire seal.

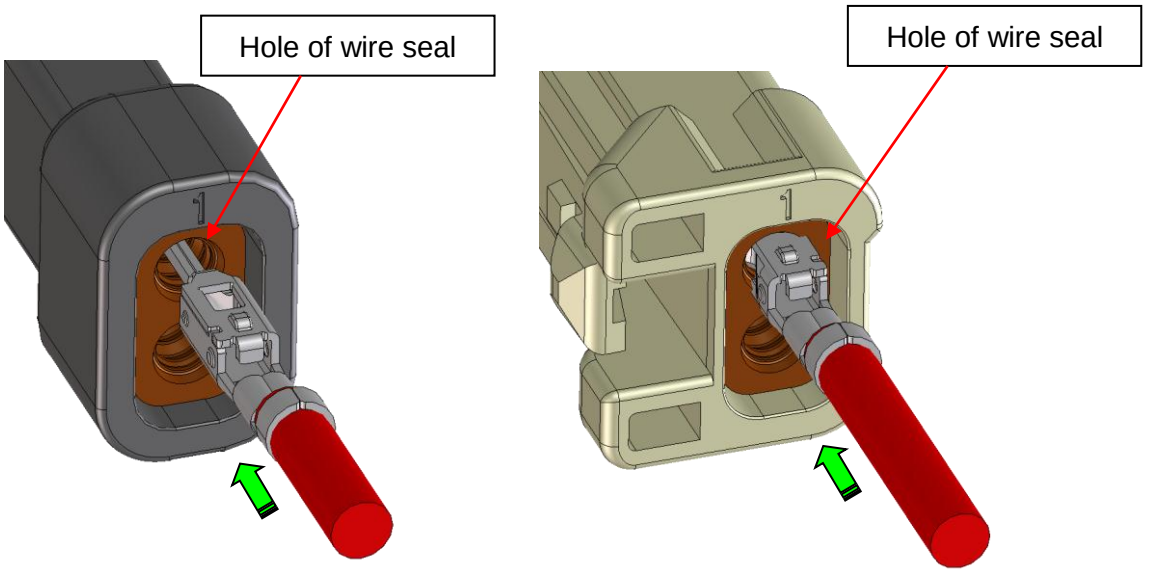
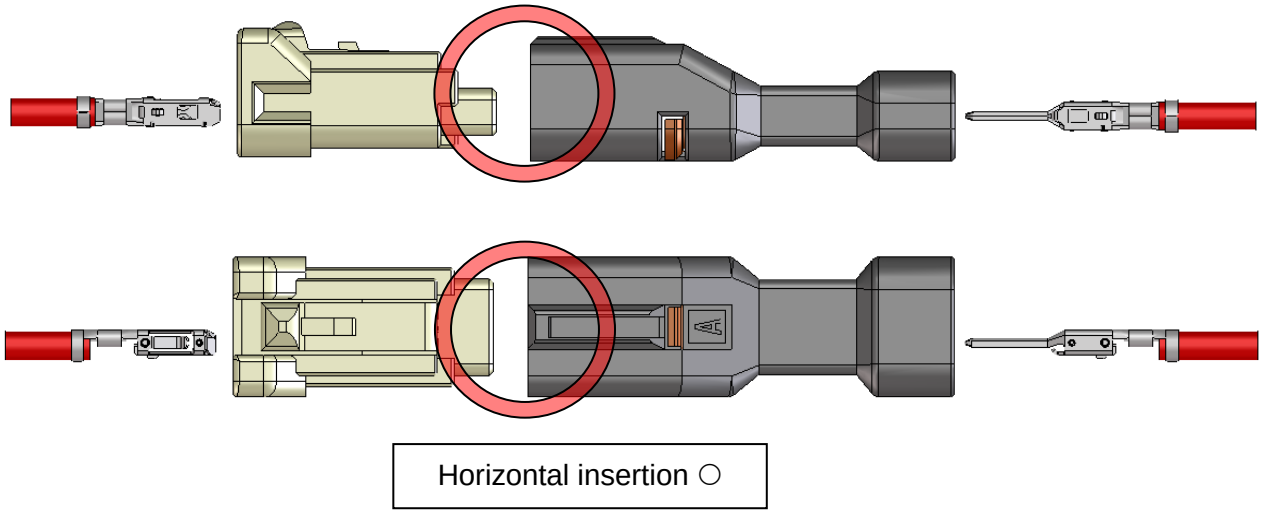



Figure 3-2. Terminal insertion

To maintain performance reliability,insert the crimp terminal straight.



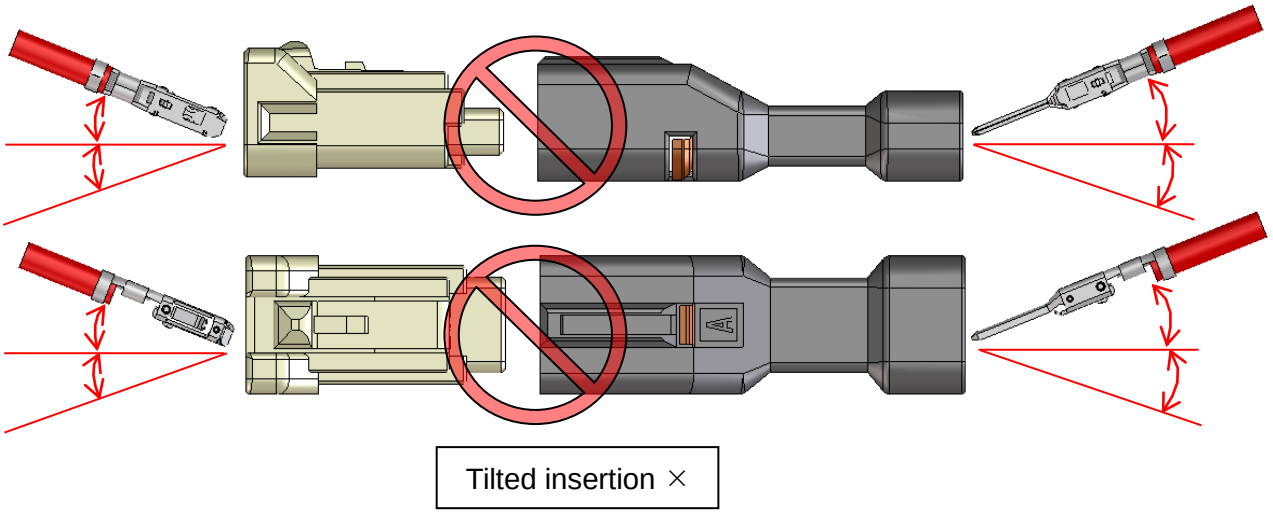
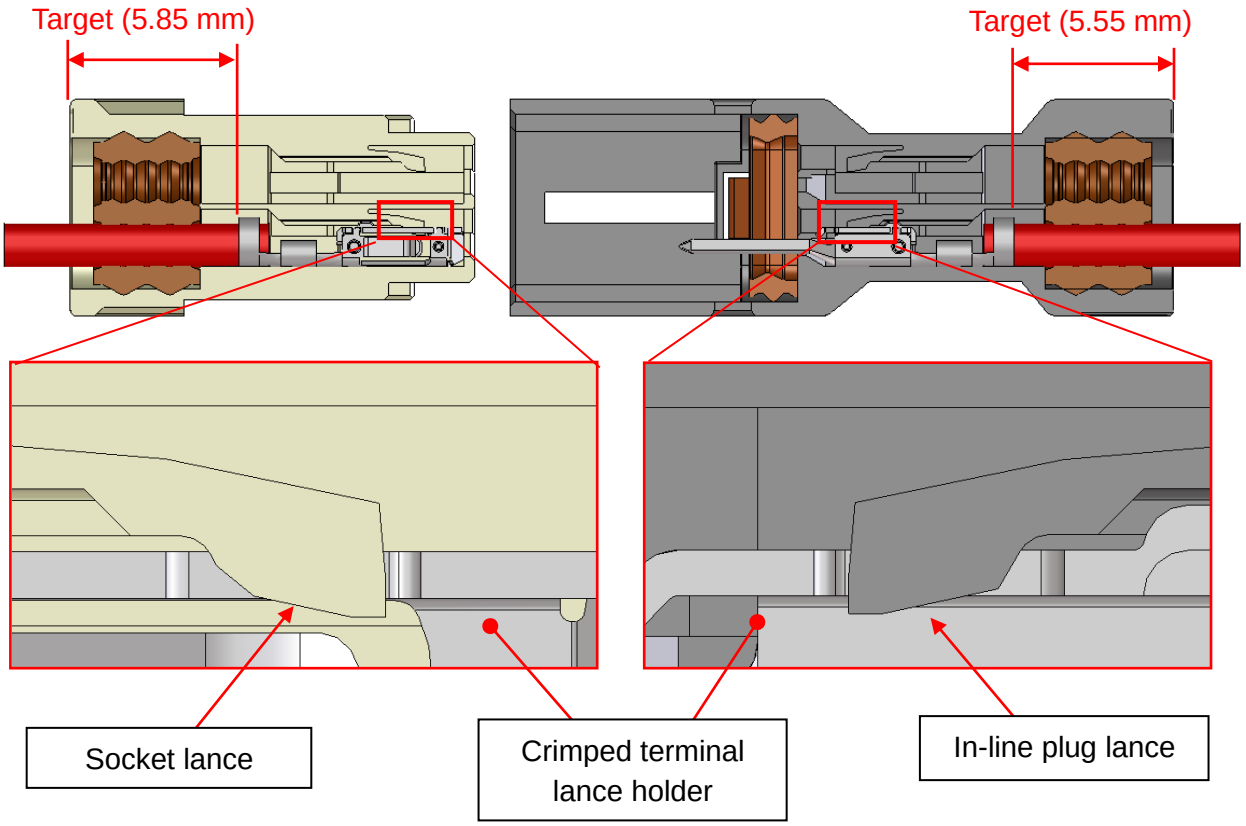




Figure 3-3. Prohibition of diagonal insertion

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Check that the lance of a crimping socket has been caught at the lance holder of a crimped terminal.
(Slightly pull the terminal to check.)
*To remove the crimped terminal halfway through insertion, pull the cable while pressing wire seal to prevent coming off.




△4

Figure 3-4. Checking the lance

**Insertion to DF62WP series**

*The figures show insertion to DF62WP-3/4/6/2EP-2.2C
Hold the cable of a crimped terminal, and insert it to each terminal hole of crimping sockets.
(Insert the terminal in the direction of arrows below.)

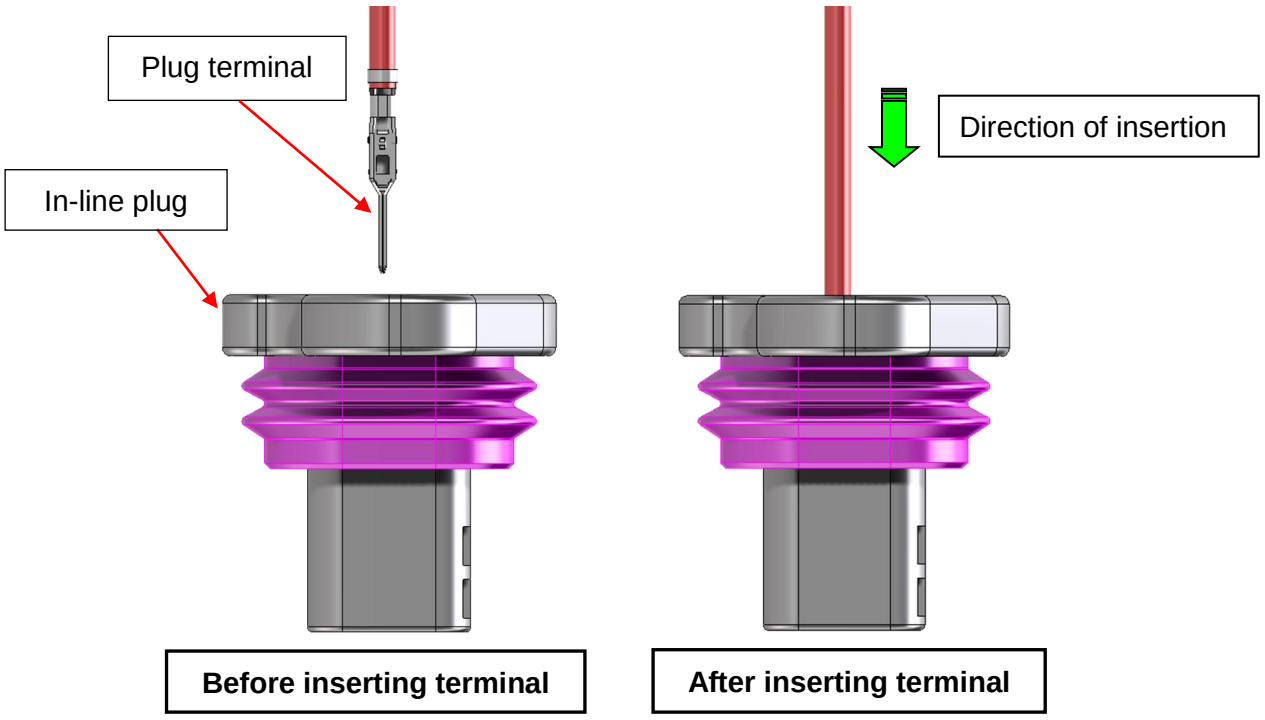



Figure 3-5. Terminal insertion (DF62WP)

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For insertion, place the crimped terminal and crimping socket lock in the following direction.

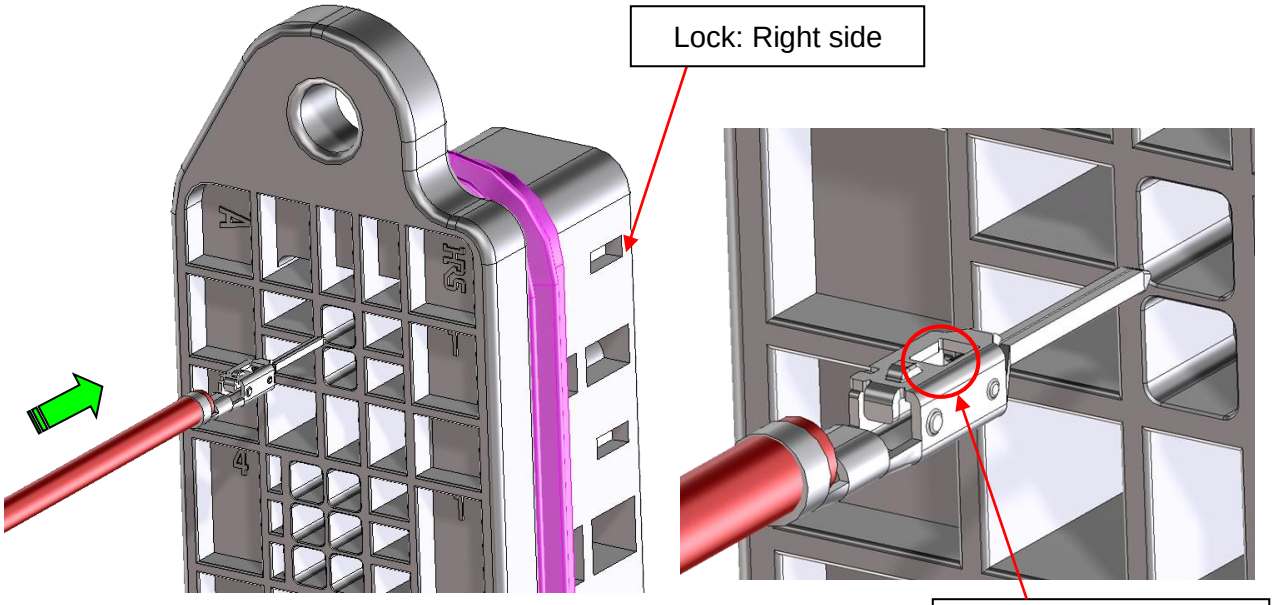



Figure 3-6. Terminal orientation (DF62WP)

To maintain performance reliability,insert the crimp terminal straight.

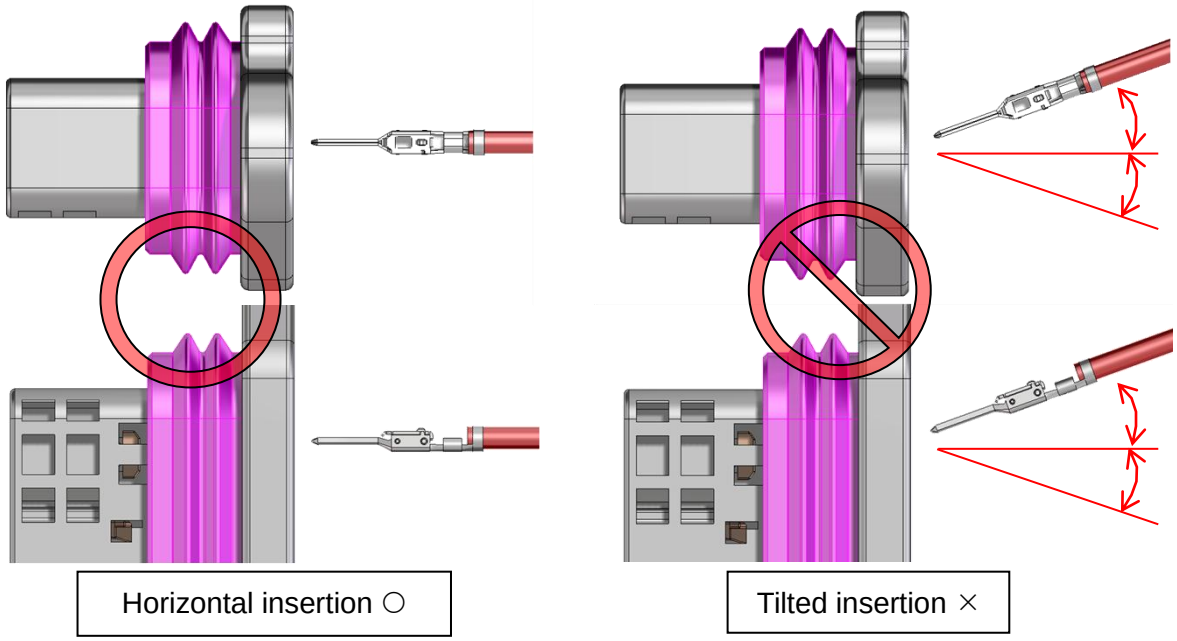



Figure 3-7. Prohibition of diagonal insertion (DF62WP)

Do not mistake the terminal hole. (Insert the terminal in the direction of arrows below.)

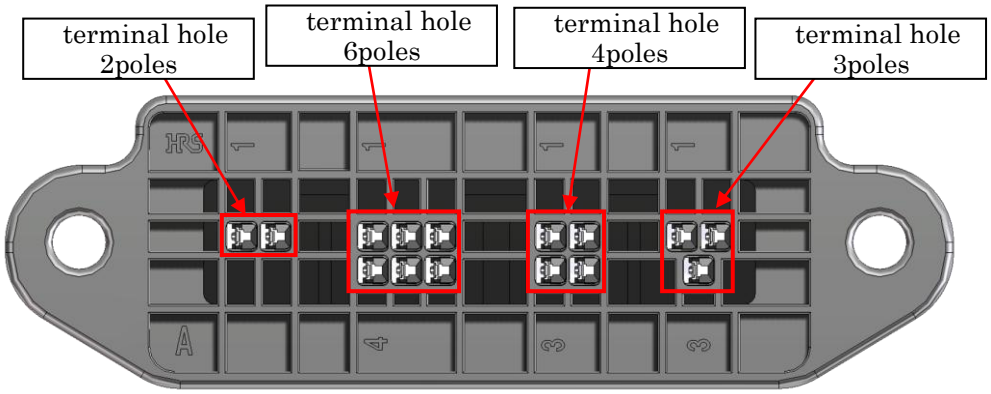



Figure 3-8. Terminal hole position (DF62WP)

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Check that the lance of a crimping socket has been caught at the lance holder of a crimped terminal.
(Slightly pull the terminal to check.)
*To remove the crimped terminal halfway through insertion, pull the cable while pressing wire seal to prevent coming off.

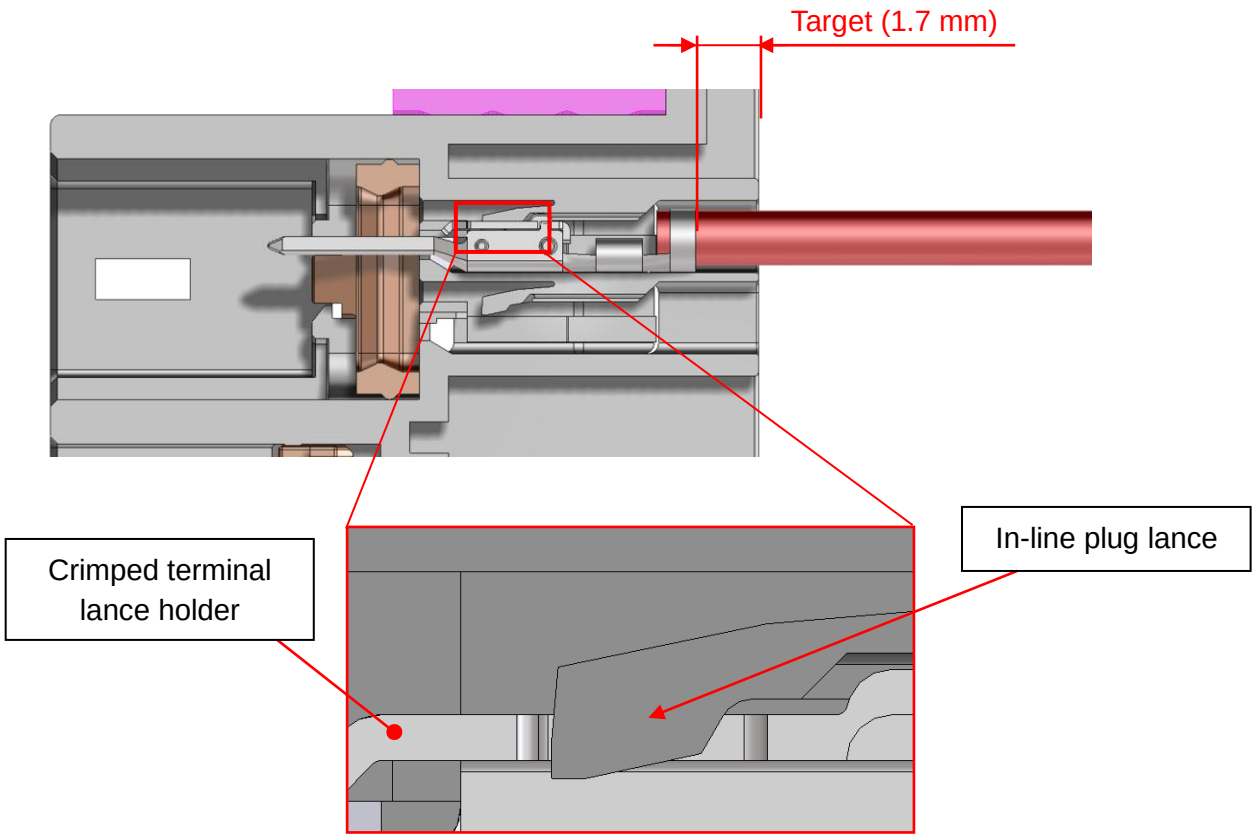



Figure 3-9. Checking the lance

### 3.4. Insertion of waterproof pin

△4 Compatible series : DF62W-＊EP-2.2C , DF62W-＊S-2.2C
If you use waterproof pins, insert them to each holes with designated terminal numbers.
(Insertion direction is shown by arrows in the figure below.)

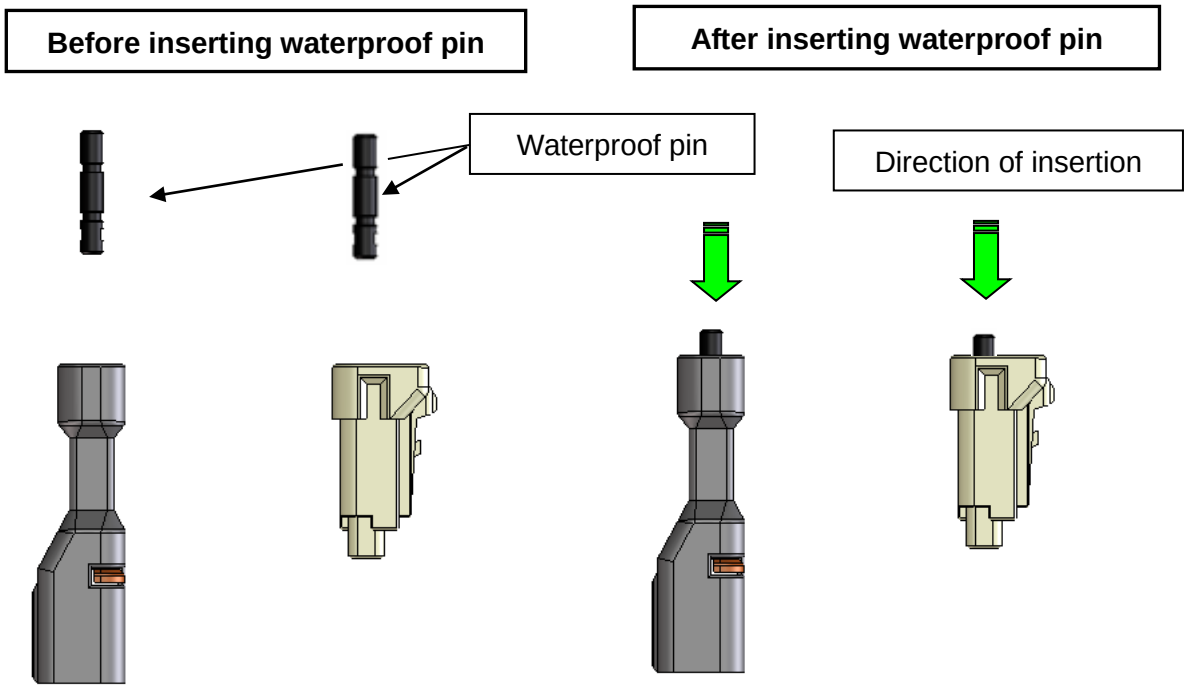
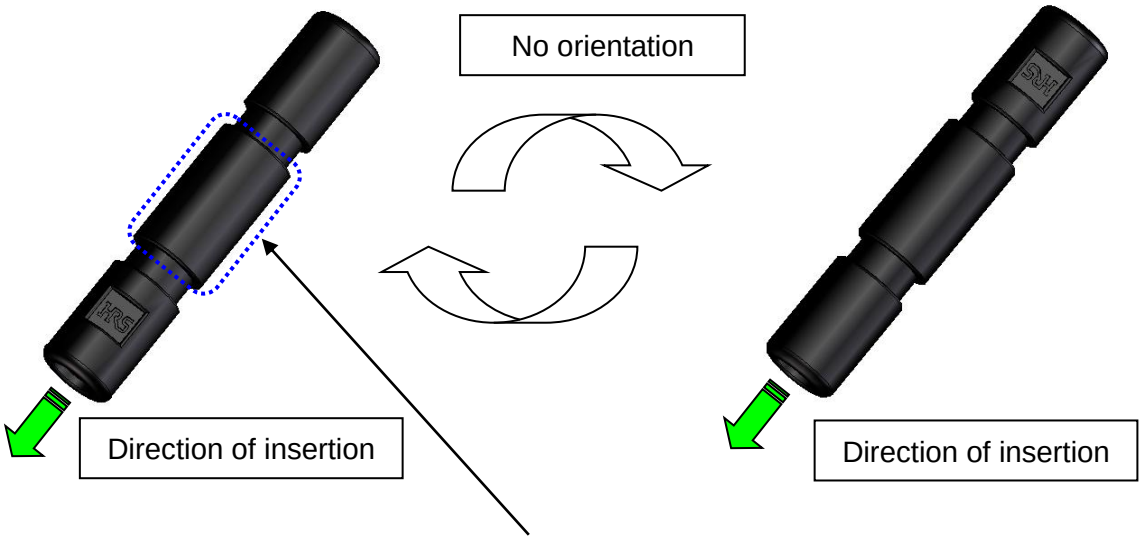



Figure 3-10. Insert waterproof pin

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This surface is waterproof surface, so take care not to damage the surface.

Figure 3-11. Orientation of waterproof pins

To maintain performance reliability, insertion insert the waterproof pin straight.

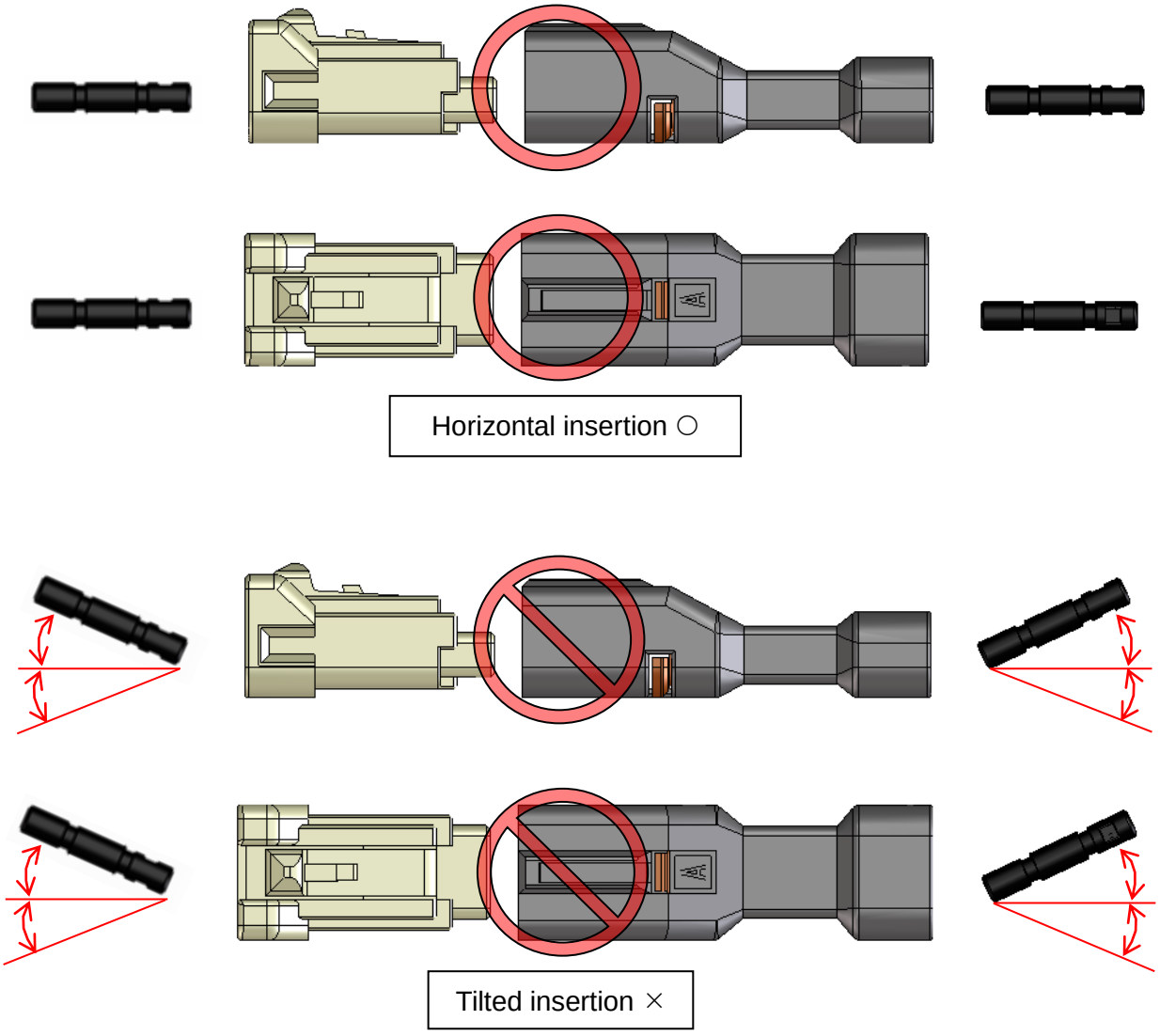



Figure 3-12. Prohibition of diagonal insertion of waterproof

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Insert a waterproof pin until it touches crimping socket.

*Insertion more than the target dimension could cause degradation of waterproof performance.

*To insert the waterproof pin over the target dimension, it has the possibility to fall to a low level of waterproof.

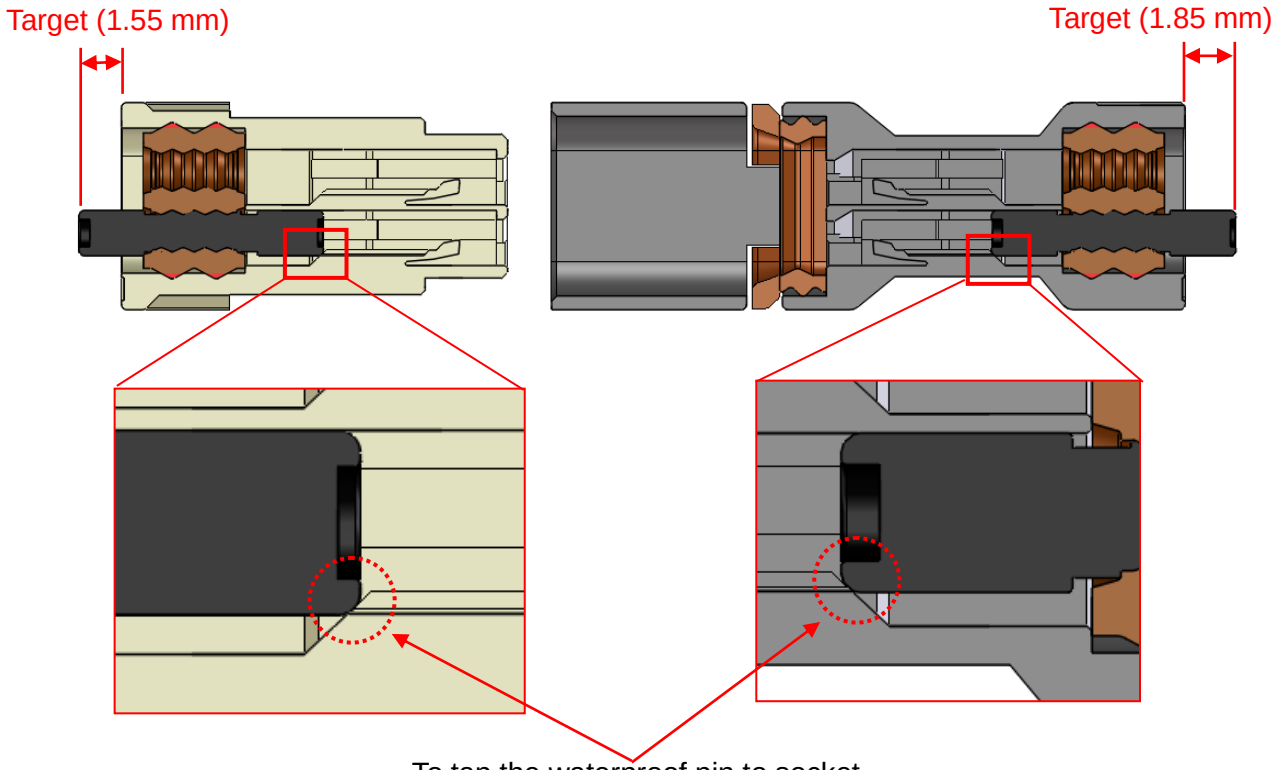



Figure 3-13. Depth of waterproof pin insertion pin

△4

## 3.5. Repair of crimped terminal

To remove crimped terminals that have been inserted, pull the cable using the dedicated Removing jig (DF62W/RE-MD) while pushing up the crimping socket lance.

Using crimping socket after repair could induce decrease of lance strength and / or wire seal damage. Use new socket to avoid such failures.

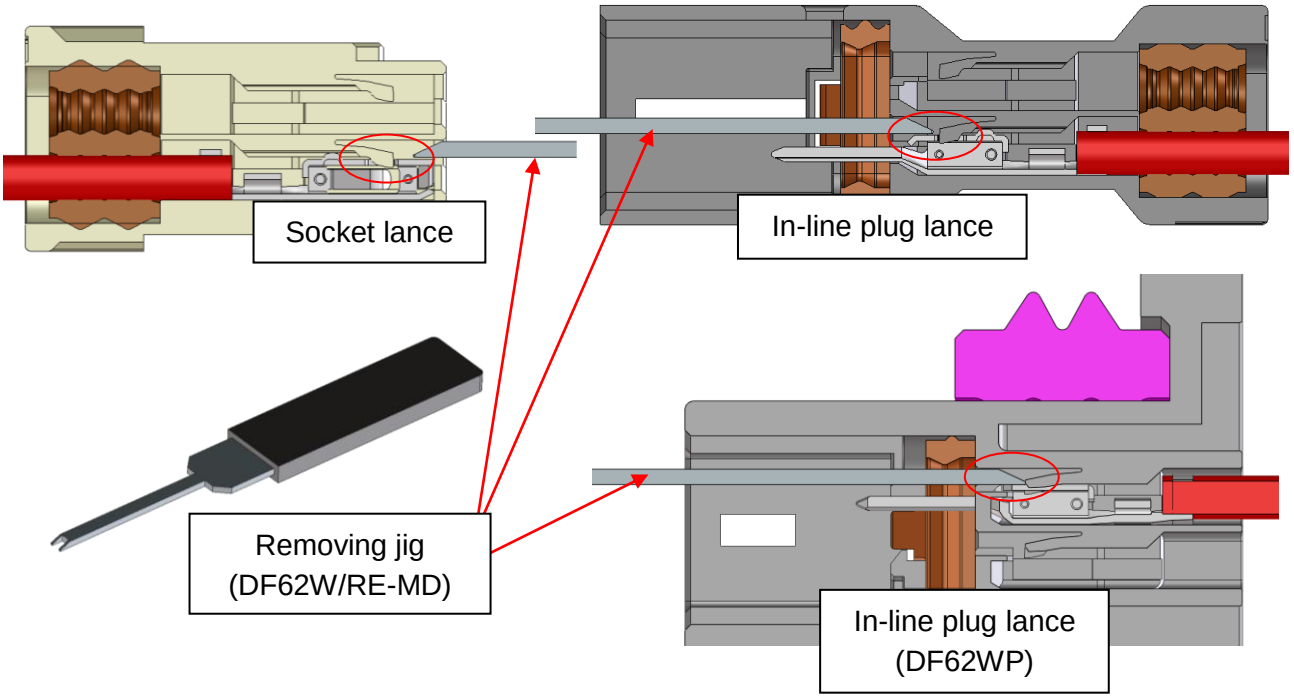



Figure 3-14. Repair of crimp terminals ①

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Insert the removing jig along the lance of crimping socket.
(Check the appearance with the hand lens.)

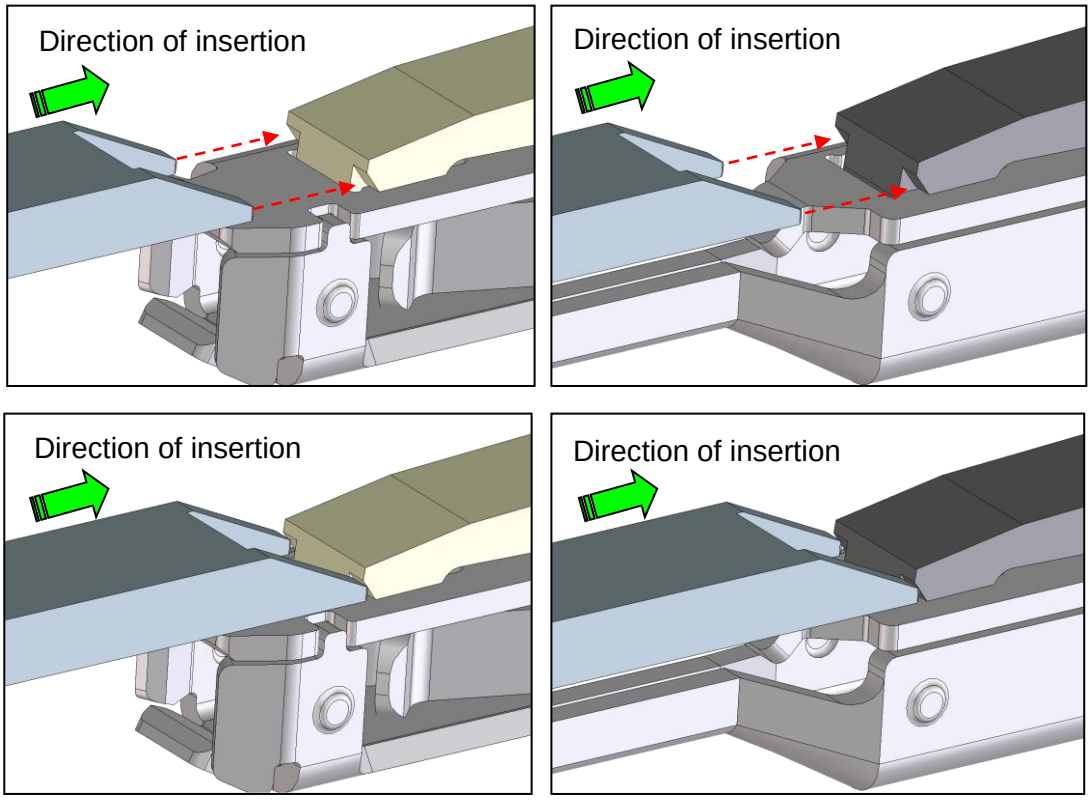



Figure 3-15. Repair of crimp terminals ②

Additionally insert the removing jig to push up the socket lance.
Keep the lance position and pull the cable.

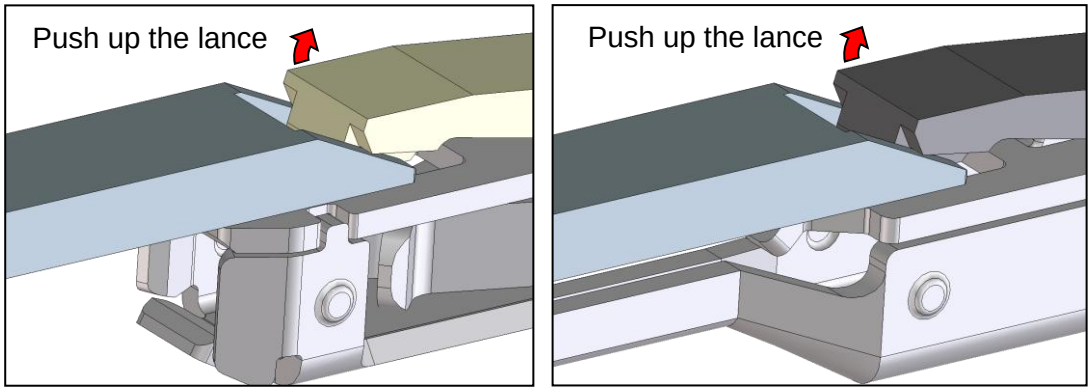



Figure 3-16. Repair of crimp terminals ③

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△4

## 4. Steps for mounting the panel of the DF62WP series.

### 4.1. Mounting the panel

4.1-a. Panel insertion

Align the connector using the screw holes on the panel side as a guide.
Insert the connector as far as it will go while maintaining the aligned position.
* The shape of the panel is an example.

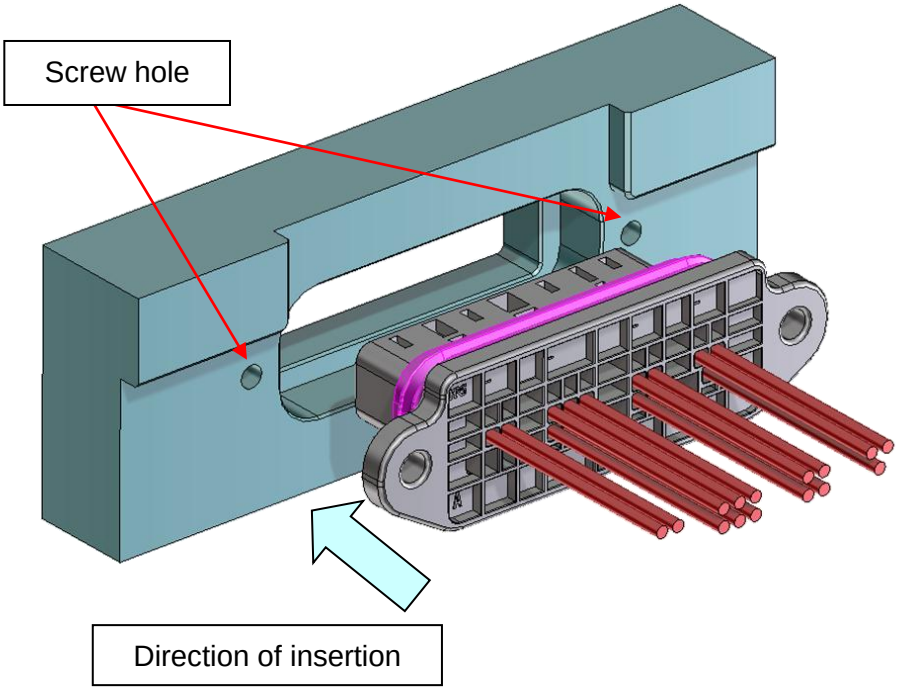



Figure 4-1. Insertion into the panel

If the panel has a shape to prevent reverse mounting, align the orientation with the protrusion shape before inserting.

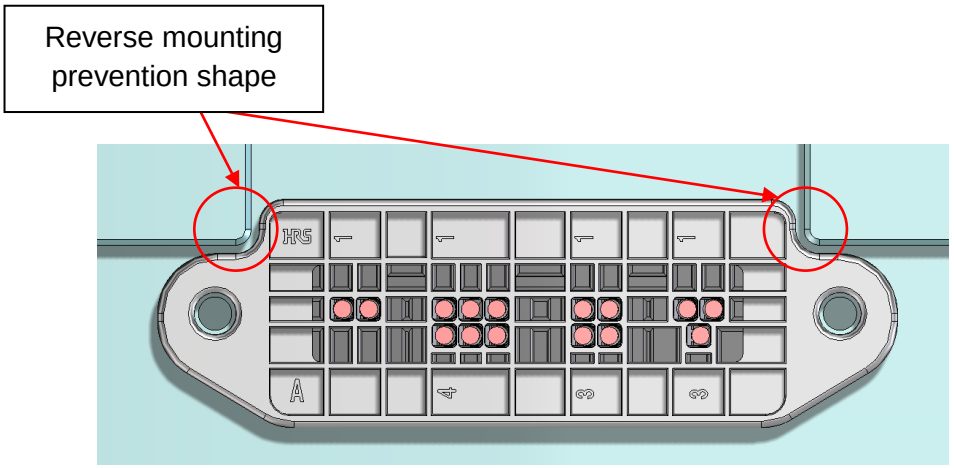



Figure 4-2. Reverse mounting prevention shape

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Since the connector may be damaged or the waterproof seal may be broken, insert the connector straight into the panel and attach it.

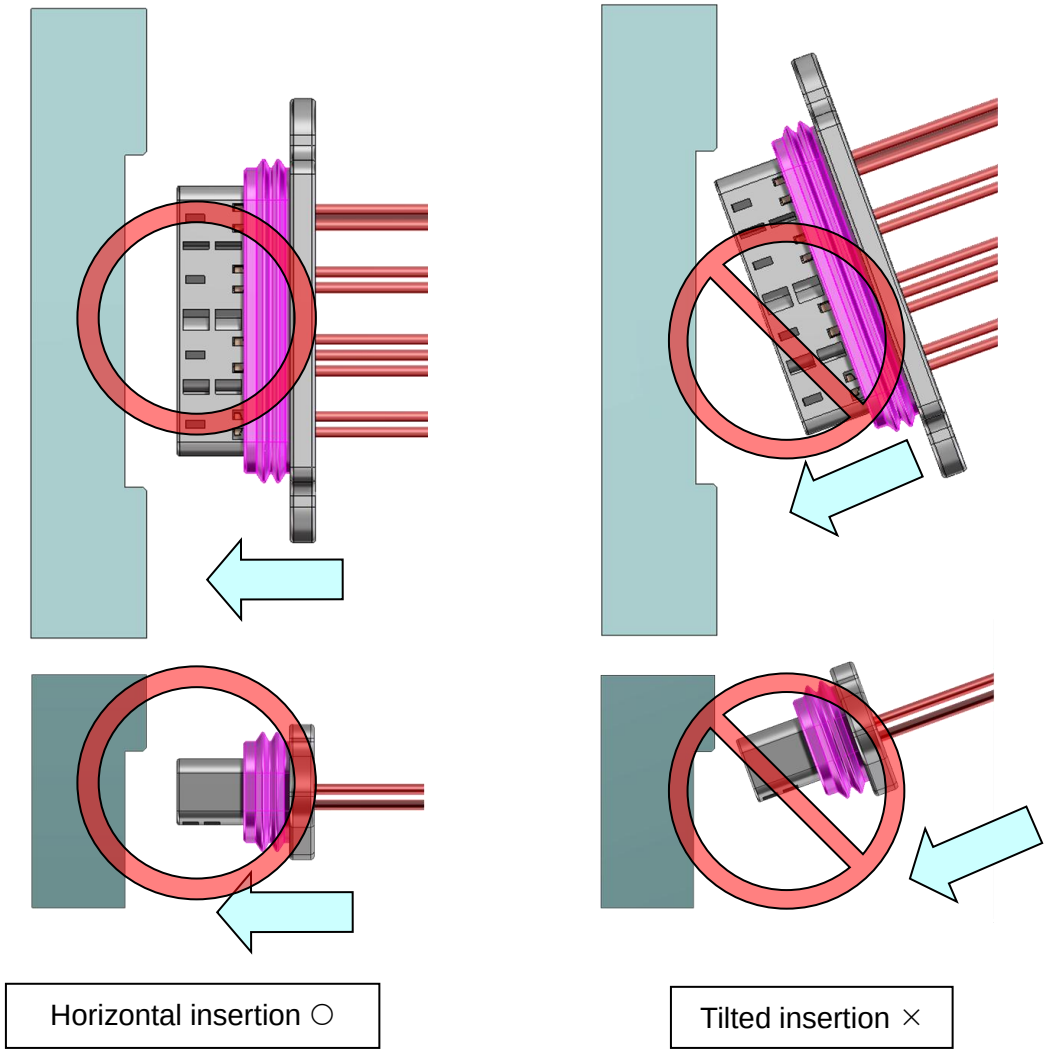



Figure 4-3. Prohibition of diagonal insertion

4.1-b. Fixed with screws

Install the screws with the connector fully inserted. At this time, do not fix the screws when the connector is biased in either the vertical or horizontal direction or when an excessive load is applied.

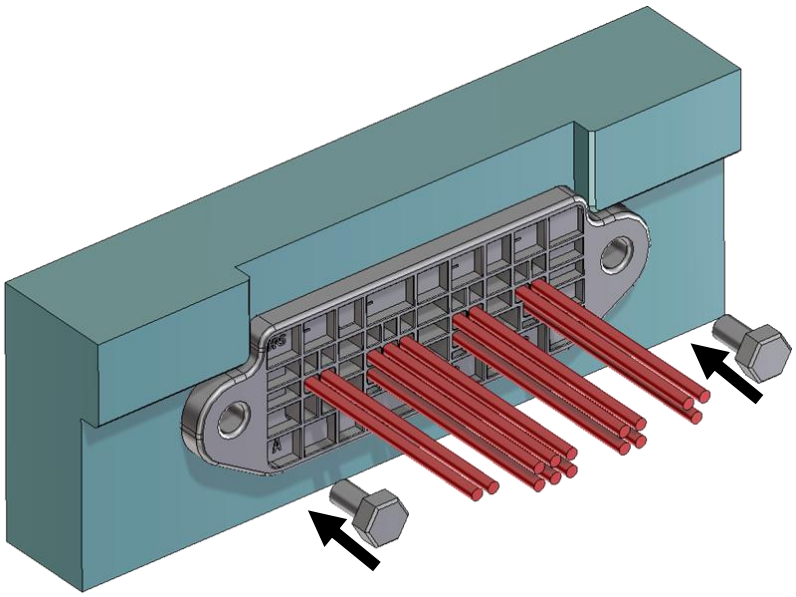


Figure 4-4. Screw fixing

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## 4.2. Remove from panel

4.2-a. Removing screws

Remove screws.

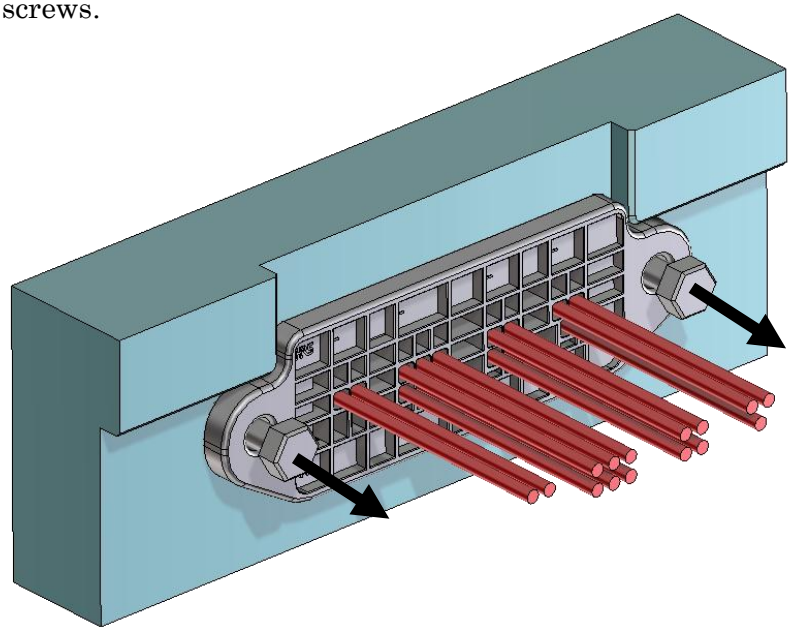


Figure 4-5. Removing Screw

4.2-b. Removing the connector

Remove the connector from the panel. At this time, push the connector mating surface side to remove it. Do not pull the cable to remove it as it may cause the terminal to come off.

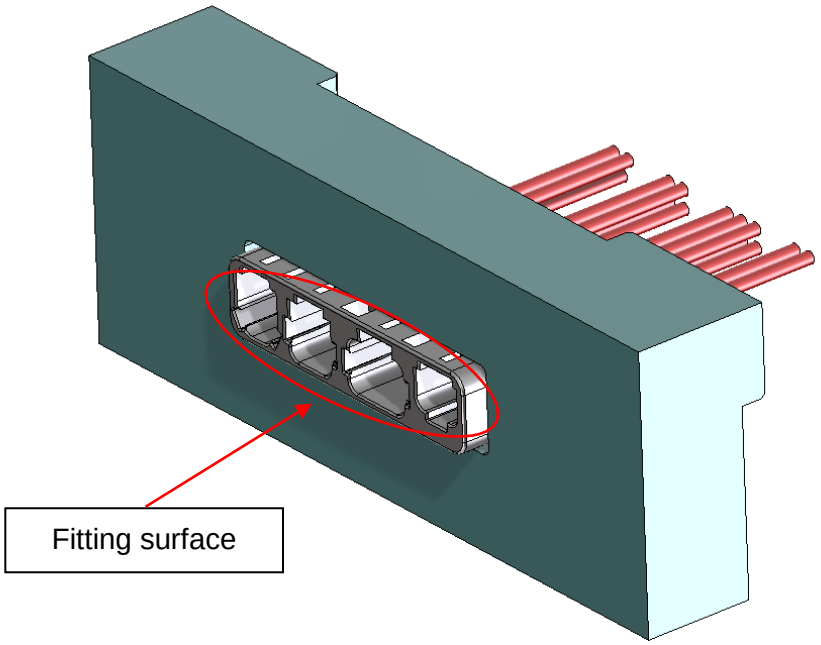



Figure 4-6. Removing from the panel

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## 5. Notes

*Packing and storage

To pack or store assemblies, make sure overlapped connectors will not apply extreme load to the lack section.

If load is applied to the lock section under high temperature and humidity for a long period of time, the lock section will be deformed which could lead poor fitting.

*Excessive external force applied to connectors could cause failure or damage. Therefore, avoid forced insertion or removal, dropping impact, cable wiring (pull, twist) and such.

Note) Breaking strength of lock is approx. 30 N when connector is pulled in straight direction. Please avoid excessive force is applied to the connector.

Note) Retention force is approx. 7 N / Pin. Please avoid excessive force is applied to particular cable.

△4 *When wiring the cable inside the device, make sure that the cable is routed with a margin so that it will not be in a stretched state or in a state where excessive tension is applied.

△4 *Check with the cable manufacturer for cable flexibility.

*If the rubber seal is damaged, the connector is deteriorated water resistant performance. Therefore, do not use the connector whose rubber seal is damaged.

△4 *When using the DF62WP series, use the screws shown in the drawing for the fixing screws.

△4

### ●Cable bending

When bending the cable, provide a straight part from the end face of the connector as shown in the figure below and bend it.

(It depends on the flexibility of the cable, but please bend it at the position of 30 mm as a guide.)

Do not bend sharply from the end face of the connector or stretch the base of the cable because it will put a load on the terminal contact part and the terminal crimping part and cause contact failure and waterproof failure.

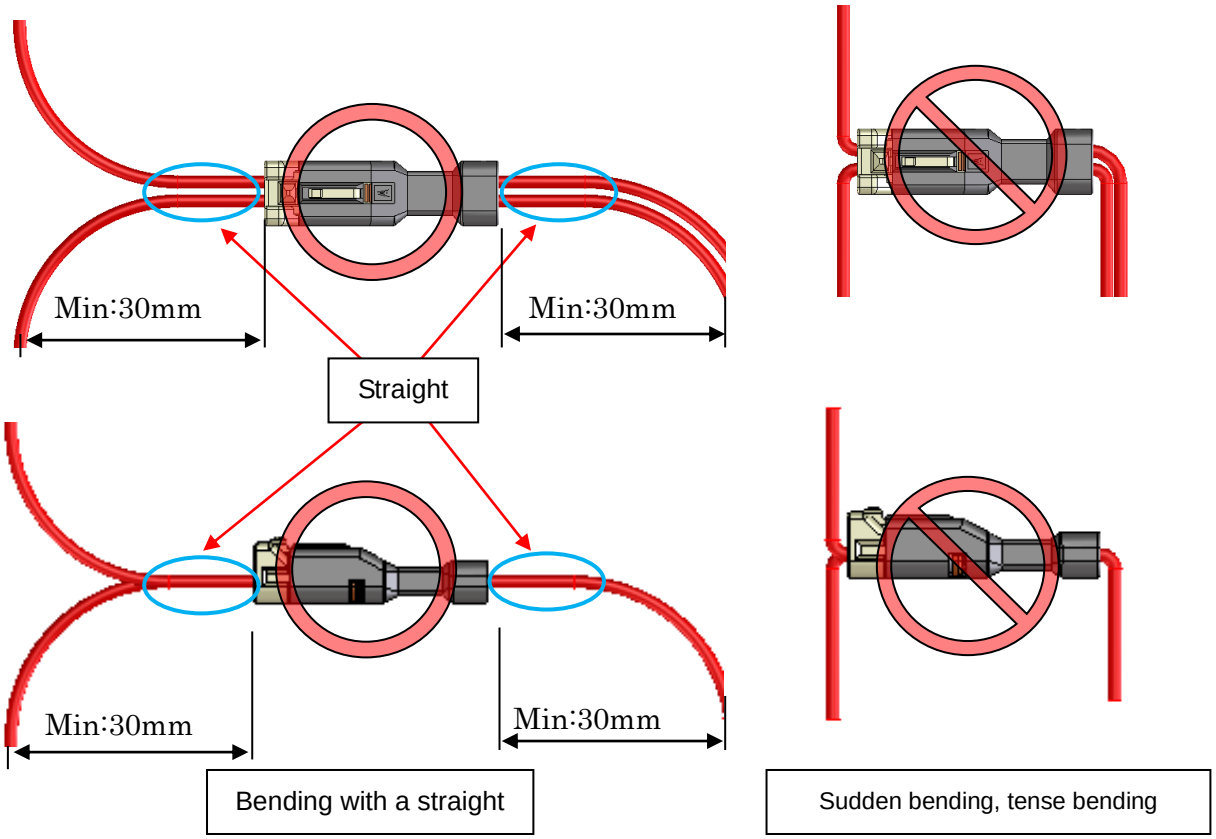



Figure 5-1. Cable bending

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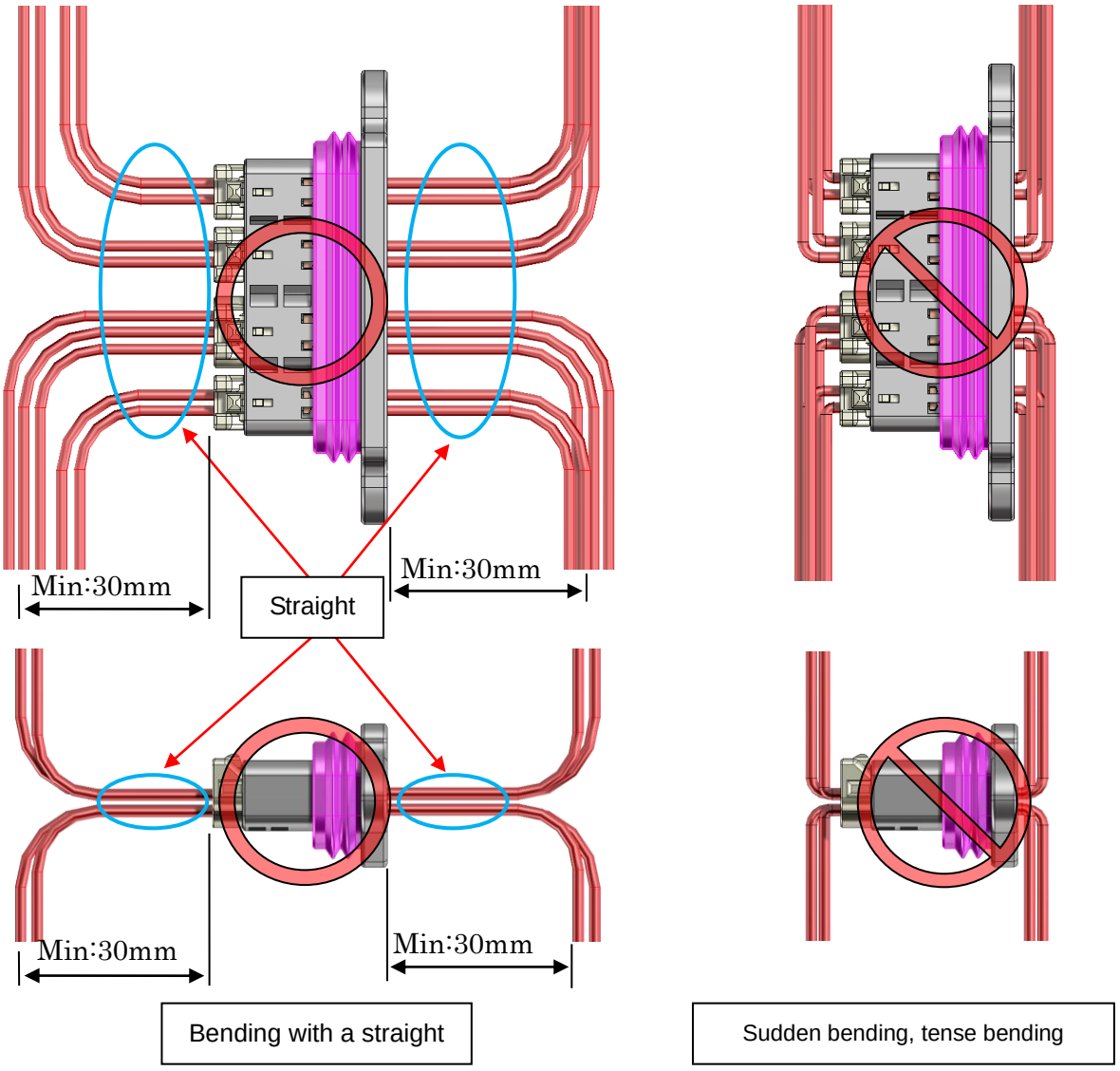



Figure 5-2. Cable bending (DF62WP)

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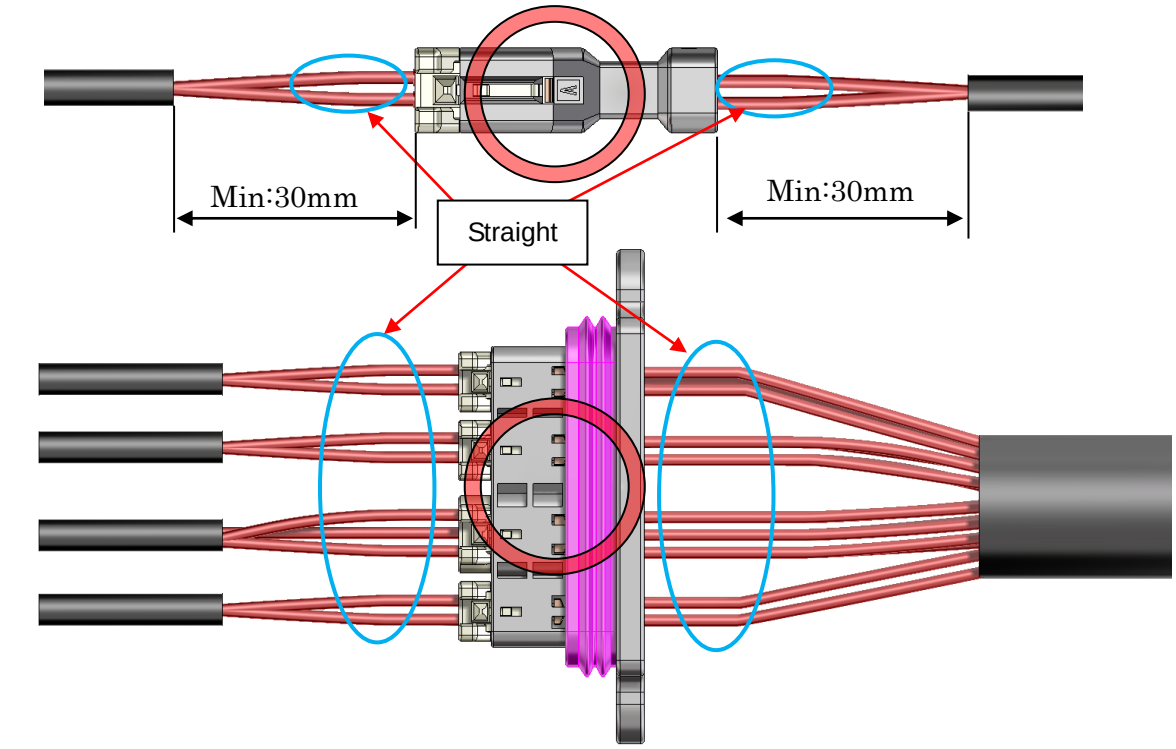
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△4

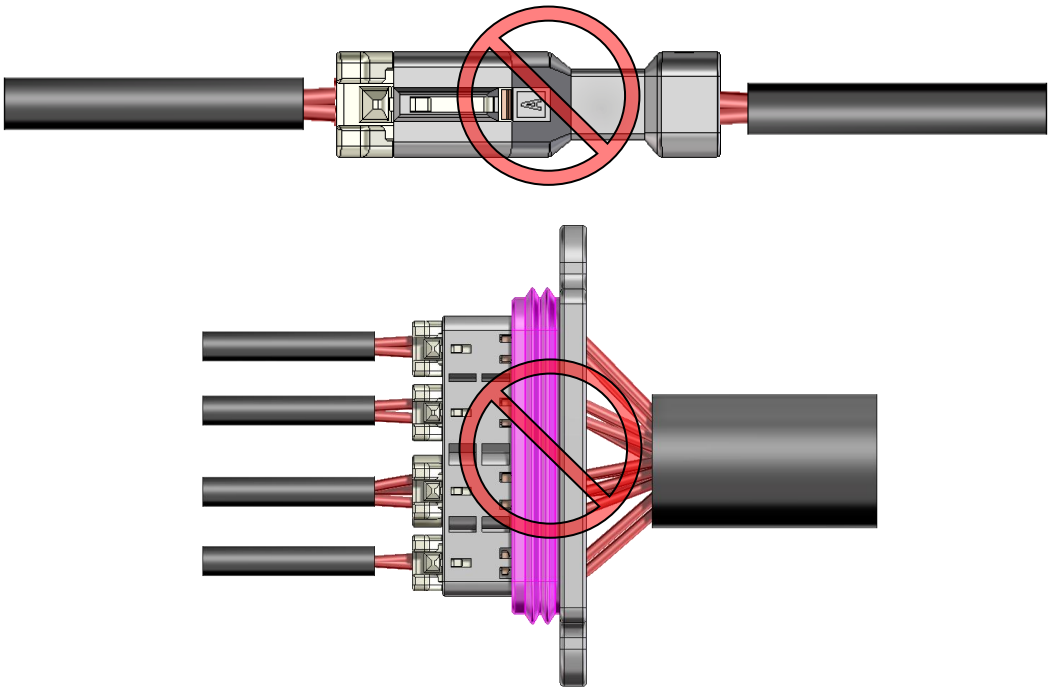
**●Cable bunding**

When bundling cables, prepare a part that is straight from the end face of the connector as shown in the figure below, and tie it at least 30 mm away from the end face of the connector.

Do not bind near the end face of the connector because it will put a load on the terminal contact part and the terminal crimping part and cause contact failure and waterproof failure.




Bunding with a straight



Bundling near the end face

Figure 5-3. Cable bundling

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Please crimp with the terminal direction aligned.
If the terminal direction is not allinged, it is necessary to rocate the terminal and insert into the crimping case. It could cause loosing the contact by stress

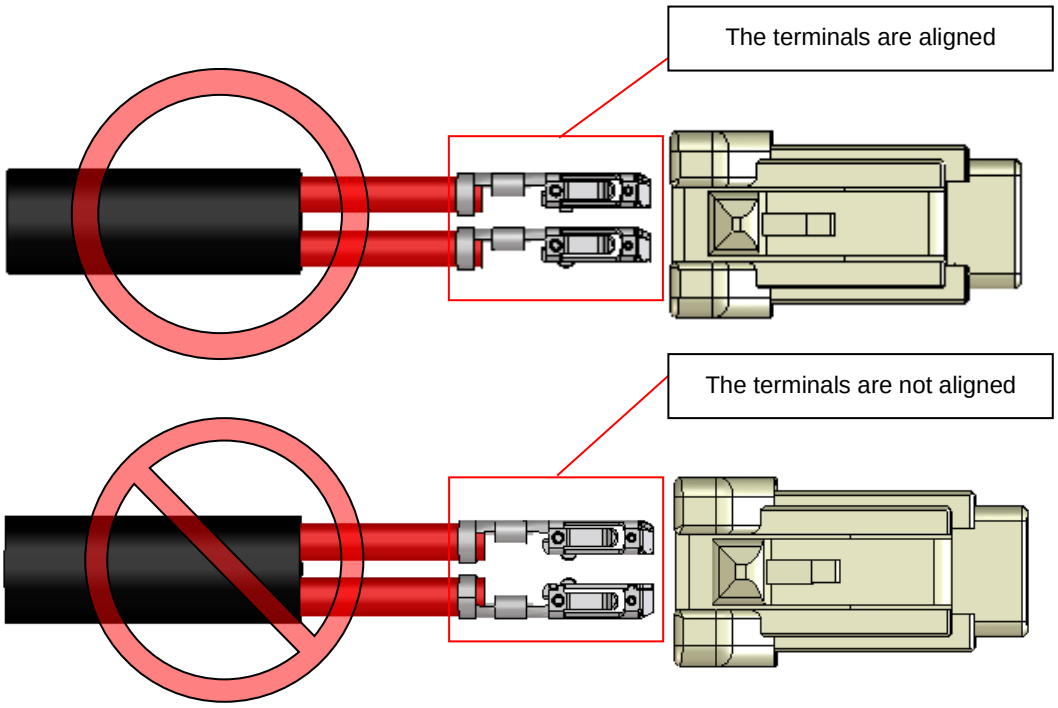



Figure 5-4. Terminal binding direction

△4

**●Repair of waterproof seal (DF62WP series)**

The waterproof seal may shift by inserting or removing the connector from the panel. In that case, please use it after returning the waterproof seal to the normal position.

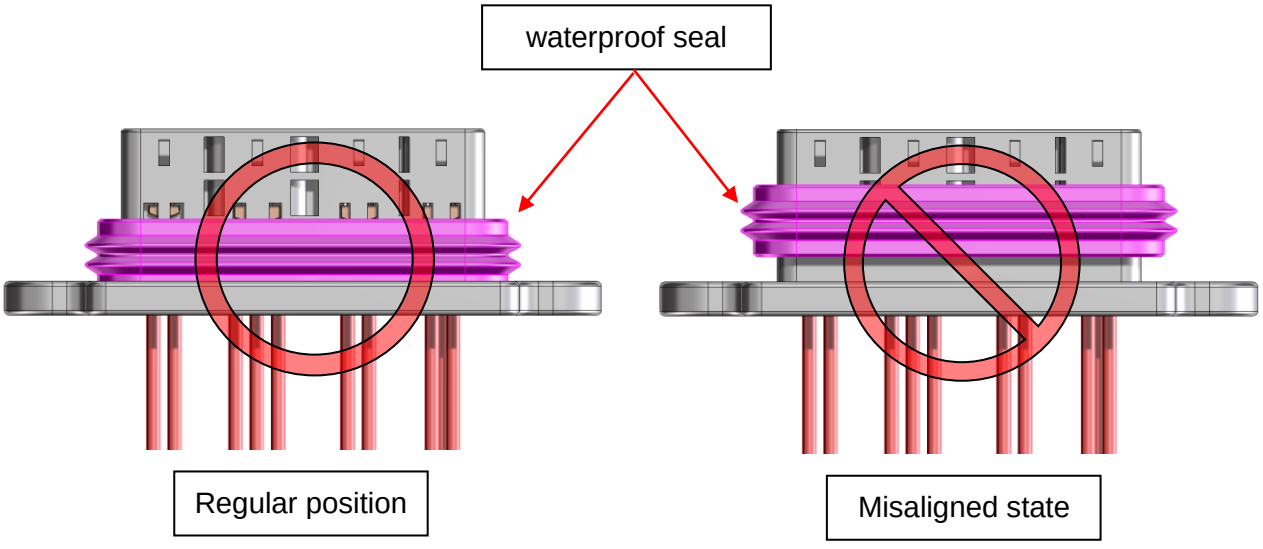



Figure 5-5. Repairing the waterproof seal