

Common Precautions for XF Connectors

■ Safety Precautions

Precautions for Correct Use

For All Models

● For Operating

- Make sure that the FPC has been inserted correctly.
If the FPC is inserted incorrectly from the customer's design specification, the pin number will not match and it may damage the contacts or cause malfunction of the equipment.
- Insert the FPC fully to the back of the connector.
Not doing so may cause a loss of contact reliability.
- Do not lock or unlock the slider with excessive force.
The connector may be damaged, and cause contact failure.
- Do not use the connector of which the slider has once come off.
- When inserting and drawing out the FPC, make sure that the slider has been unlocked first.
Using the FPC in the following ways may damage the FPC, change the shape of the contacts, or result in contact failure.
 - (1) Drawing out the FPC when the slider is still locked.
 - (2) Drawing out the FPC by pulling it up and down or from left to right or twisting it sideways.

● For Designing

- When mounting the connector to the FPC, design the FPC so that extreme peel force should not be applied directly on to the connector.
If the FPC bends near the connector, or if the FPC is used with extreme peel force directly on to the connector, it may cause a contact loss.
- If the connector-mounted FPC is installed at a location or in any equipment that will subject the FPC to continuous shake or movement, secure the FPC or take any countermeasure against FPC disconnection from the connector.
- Use FPCs that conform to the appropriate specifications and size as stated by OMRON.
When using a different FPC, or an FFC, contact OMRON.
- Use the same metal for the FPC plating and the connector plating.
- "Whiskers" may protrude from the FPC film of some lead-free FPCs. Be careful when using these units.
- Ensure a metal mask thickness of $t = 0.12$ to 0.15 mm.
The recommended metal mask open area is 90% of the printed circuit board mating dimensions given in the dimensions diagrams.

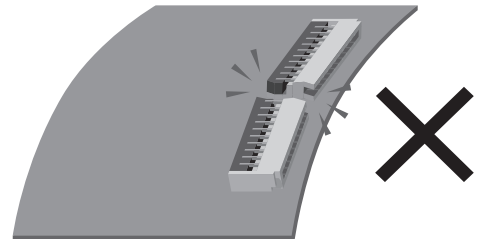
● For Mounting

- Do not mount (reflow or manual soldering) the connector to PCB with FPC inserted in the connector. Doing so may result in contact failure.
- The reflow conditions are as stated in OMRON's specifications and guidelines.
These conditions, however, depend on the type of solder, the manufacturer, the amount of solder, the size of the circuit board, and the other mounting materials.
- When mounting the connector by manual soldering, observe the following precautions to ensure contact reliability.
 - (1) Conditions for manual soldering: $350 \pm 10^\circ\text{C}$ 3 ± 1 sec
 - (2) Do not apply an excessive amount of solder. Excessive solder will cause the flux to rise.
 - (3) Do not apply the soldering iron to the mount attachments using force. Doing so may cause the connectors to change shape.

- (4) Do not apply the soldering iron to any parts of the connector other than the mount attachments. Doing so may cause the connector to change shape.

● For Board Mounting

- Be careful of board warping. The connector flatness is 0.1 mm max.
A large amount of warping, however, may result in soldering faults.
- Do not apply excessive force on the connector before mounting it.
The connector may be damaged, resulting in faulty contacts. Do not insert the FPC and lock the slider before mounting the connector.
- Be careful not to apply an excessive load on the board when performing the following actions. The connector may be damaged, resulting in faulty contacts.
 - (1) Dividing multi-cavity boards.
 - (2) Securing a board with screws.



● Storage

- (1) Do not store the connectors in locations subject to dust or high humidity.
- (2) Do not store the connectors in locations close to sources of gasses such ammonia gas or sulfide gas.

For Slidelocking Models

● For Operating

- When locking the slider, apply pressure to both sides or the entire slider, then push the slider all the way in.
Not doing so may result in contact failure.

● For Designing

- When designing the board, be sure to allow unlocking and operating space for the slider.
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- XF2M & XF2W series are available to use FPC/FFC cable. Please check any condition of each cable in spec sheet, or contact with our Sales side.

- Application examples provided in this document are for reference only. In actual applications, confirm equipment functions and safety before using the product.
- Consult your OMRON representative before using the product under conditions which are not described in the manual or applying the product to nuclear control systems, railroad systems, aviation systems, vehicles, combustion systems, medical equipment, amusement machines, safety equipment, and other systems or equipment that may have a serious influence on lives and property if used improperly. Make sure that the ratings and performance characteristics of the product provide a margin of safety for the system or equipment, and be sure to provide the system or equipment with double safety mechanisms.

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

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