

Subminiature, Waterproof Duplex Fiber Optic Connectors

MF10B Series

Waterproof 2 Positions Bayonet Locking System



Reliable bayonet lock

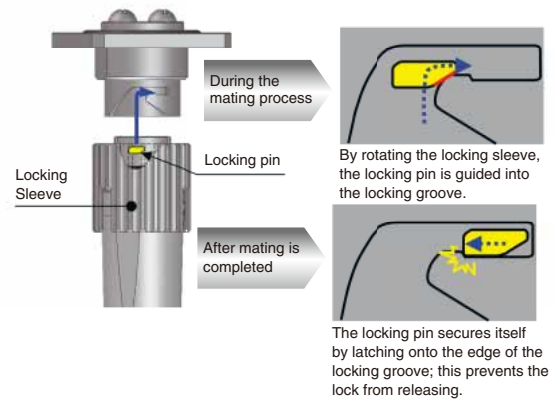


Fig.1

■ Features

1. Extremely small structure

This miniature twin-core waterproof connector utilizes a $\phi 1.25$ mm MU ferrule integrated in an internal housing and shell.

2. Integrated structure with excellent vibration and shock resistance

The bayonet lock assures that connectors can be mated easily and securely. In addition, the locking system prevents accidental disengagement, resulting in excellent resistance to vibration and shock, conforming to JIS E 4031 type 5 (vibration) and JIS E 4032 type 2 (shock) for railcar parts.

3. Compatible with hi-flex cables

For the plug side, a hi-flex optical fiber cable is available for Military Specification applications (external cable diameter $\phi 5$ or $\phi 6.5$ mm is the standard specification). This light and flexible cable is also suitable for in-line connection of long-distant transmission in outdoor events.

*Before using other types of cables, please contact your local Hirose sales representative.

4. Easy ferrule access

To access the plug ferrule for cleaning, remove the sleeve from the front of the connector to expose the front of the ferrule end face.

5. Multiple mounting options

A four-screw, square flange mount and hexagonal jam nut mount options are available. The four-screw flange type can accept any screw pitch from 18 to 20mm.

Easy access to the ferrule for cleaning

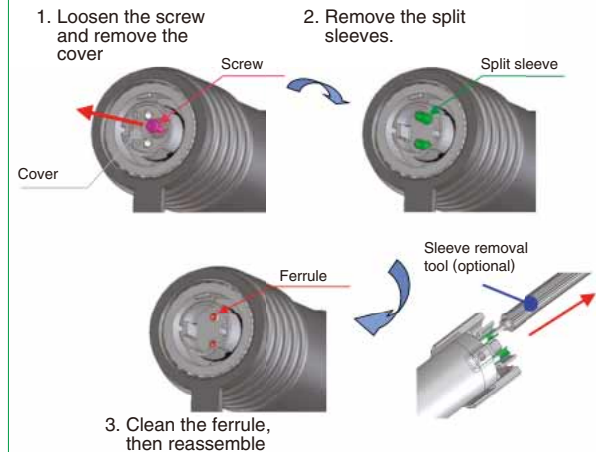


Fig.2

Panel mounting options

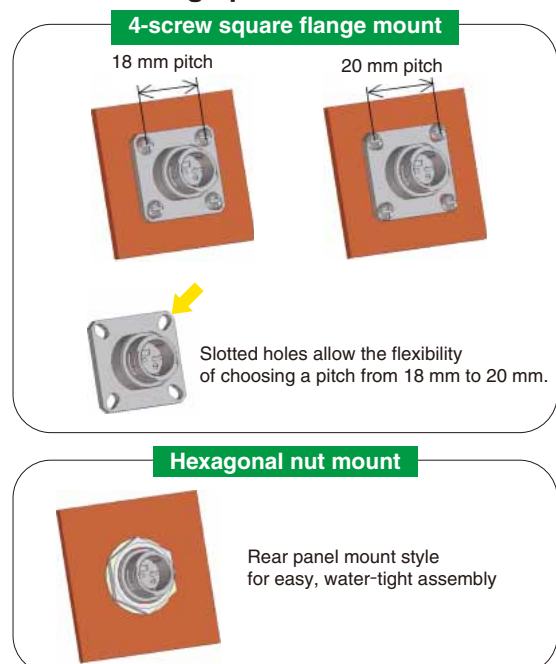


Fig.3

Product Specifications

| | | | | |
|--------|-----------------------------|----------------|---------------------------|--------------------------------|
| Rating | Operating temperature range | -40°C to +85°C | Storage temperature range | -25°C to +75°C (AT PACKING) |
|--------|-----------------------------|----------------|---------------------------|--------------------------------|

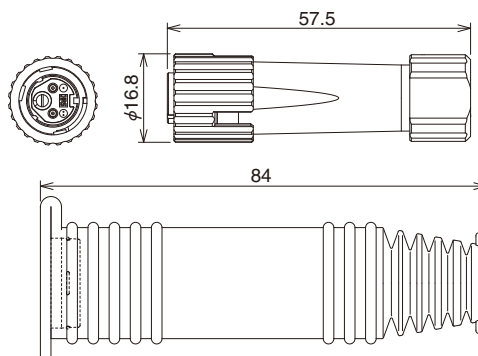
| Item | | Testing method | Specifications |
|-------------------------------|---------------------------------------|---|---|
| Optical characteristic | Insertion loss | Wavelength : 1310±20nm (LD) | SM : 1.0 dB max. (Typical : 0.2dB) GI : 0.5 dB max. (Typical 0.1dB max.) |
| | Durability | 5,000 mating cycles | Insertion loss fluctuation after test : 0.3 dB max. No visible damage or components dislocation. |
| Mechanical characteristics | Tensile strength (axial) | Axial tensile force: 100 N (φ5mm cable), 200 N (φ6.5mm cable), or 400 N (cable with tension member) | |
| | Flex resistant | Load of 500g, 10,000 times at 90 degrees, right and left direction | |
| | Vibration | Amplitude of 2.3mm, acceleration 14.8G, vertical direction for 4 hours and right and left for 2 hours Based on JIS E 4031 Type 5 | |
| | Shock | Impact of 6 G, duration of 0.025 s ±25%, 4 times Based on JIS E 4032 Type 2 | |
| Environmental characteristics | Humidity (Temperature/humidity-cycle) | Temperature : -10°C to +65°C Humidity : 90% to 96%, 10 cycles (240 hours) | Insertion loss fluctuation after test : 0.3 dB max. No loose, broken or cracked parts |
| | Temperature cycle | -40°C to +75°C, 42 cycles | |
| | Heat resistance | 240 hours at +85°C | |
| | Cold resistance | 240 hours at -40°C | |
| | Salt mist | 5% for 1,000 hours (with the connector hood installed) | No heavy corrosion ruin the function |
| | Water proof | 1 minute at internal air pressure of 4.9 kPa | No air leakage |

Materials / Finish

| Component | Material | Finish | Remarks |
|--------------|------------------|---------------------------------------|---------|
| Housing | Zinc die-casting | Nickel plated / Chrome plated (Black) | ————— |
| Stopper | Synthetic resin | ————— | UL94V-0 |
| Rubber hood | Synthetic rubber | ————— | ————— |
| Spring | Piano wire | Zinc plated | ————— |
| Split sleeve | Zirconia | ————— | ————— |

■ Plug

● Cable without strain relief (Cable diameter: 5 mm, 6.5 mm)



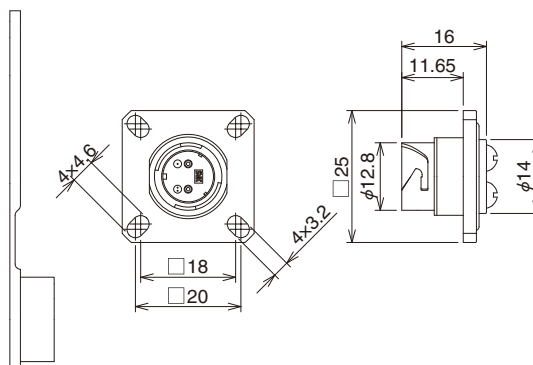
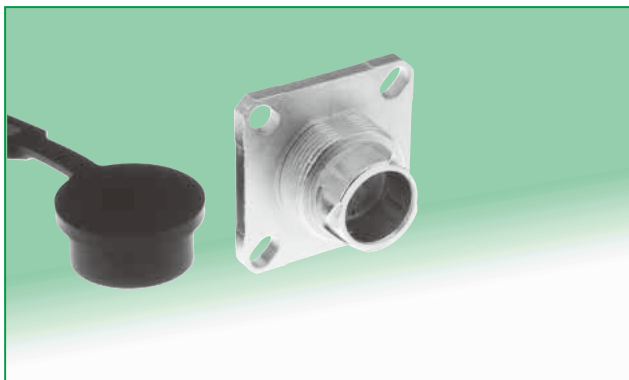
| Part No. | HRS No. | Plating |
|--------------------------|---------------|----------------|
| MF10B-WP5C01-0200(31) | 709-1020-8 31 | Nickel |
| MF10B-WP5CH01-0200(31) | 709-1015-8 31 | Chrome (black) |
| MF10B-WP6.5C01-0200(31) | 709-1004-1 31 | Nickel |
| MF10B-WP6.5CH01-0200(31) | 709-1007-0 31 | Chrome (black) |

● Cable with strain relief (Cable diameter : 7mm)

| Part No. | HRS No. | Plating |
|-------------------------|---------------|----------------|
| MF10B-WPS7CH01-0200(31) | 709-1024-9 31 | Chrome (black) |

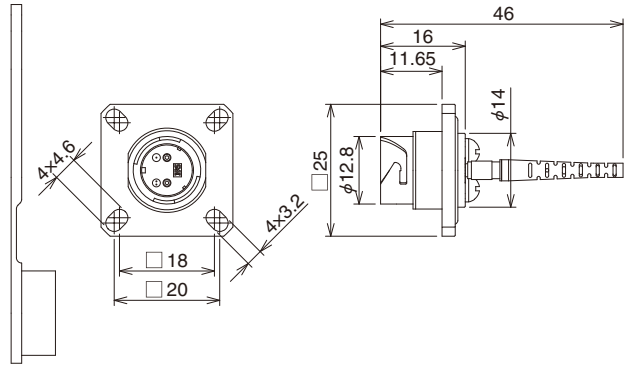
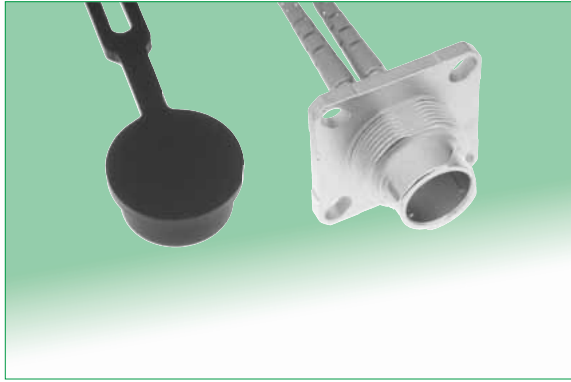
■ Receptacle

● φ0.9 fiber, M3 screw type



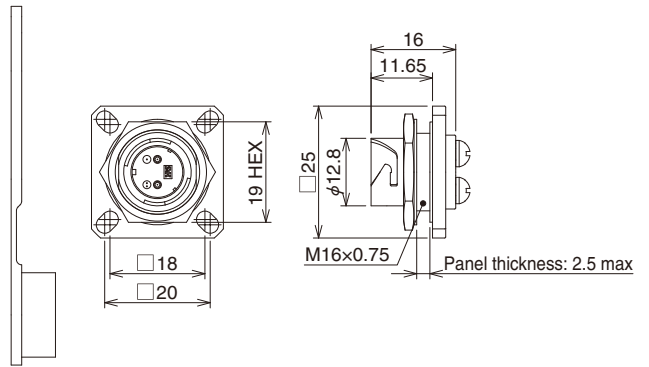
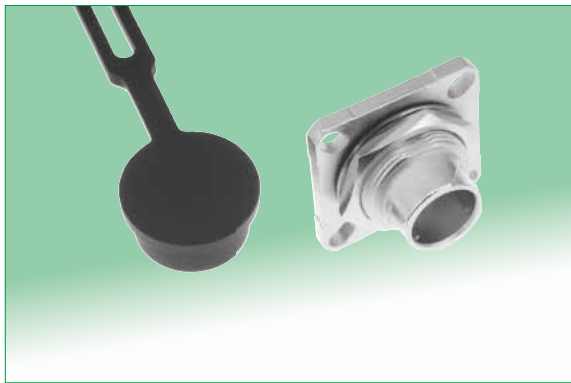
| Part No. | HRS No. | Plating |
|-----------------------|---------------|----------------|
| MF10B-WRF01-0200(31) | 709-1005-4 31 | Nickel |
| MF10B-WRFH01-0200(31) | 709-1008-2 31 | Chrome (black) |

● $\phi 2$ mm cable, M3 screw type



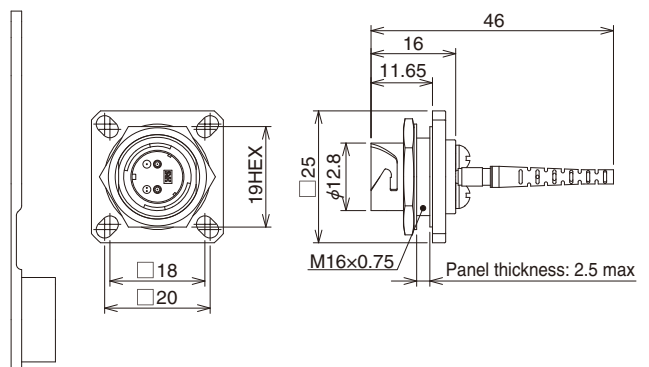
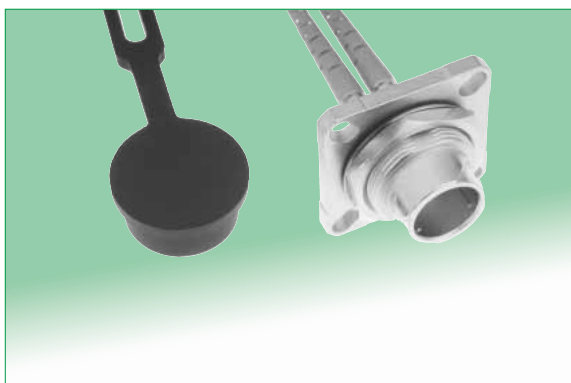
| Part No. | HRS No. | Plating |
|------------------------|---------------|----------------|
| MF10B-WRFC01-0200(31) | 709-1014-5 31 | Nickel |
| MF10B-WRFCH01-0200(31) | 709-1032-7 31 | Chrome (black) |

● $\phi 0.9$ mm fiber, hexagon nut type



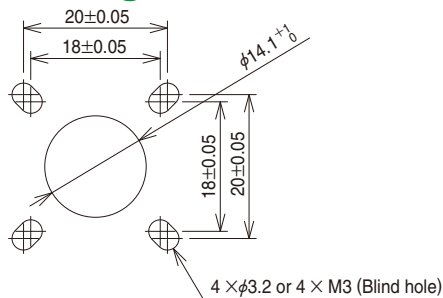
| Part No. | HRS No. | Plating |
|-----------------------|---------------|----------------|
| MF10B-WRB01-0200(31) | 709-1010-4 31 | Nickel |
| MF10B-WRBH01-0200(31) | 709-1025-1 31 | Chrome (black) |

● $\phi 2$ mm cable, hexagon nut type

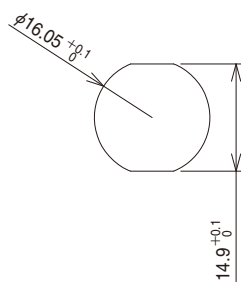


| Part No. | HRS No. | Plating |
|------------------------|---------------|----------------|
| MF10B-WRBC01-0200(31) | 709-1013-2 31 | Nickel |
| MF10B-WRBCH01-0200(31) | 709-1033-0 31 | Chrome (black) |

◆ Panel Mounting Dimensions



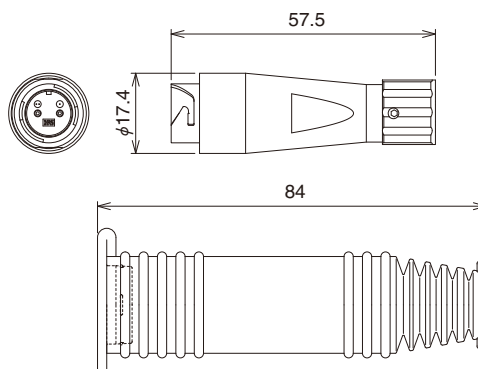
M3 screw type



For hexagon nut type

■ In-Line Jack

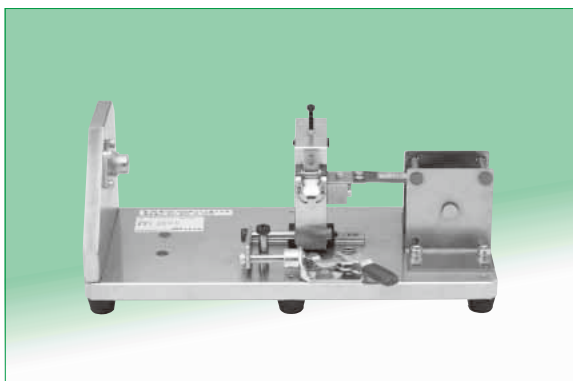
● Cable without strain relief (Cable diameter: 6.5 mm)



| Part No. | HRS No. | Plating |
|--------------------------|---------------|----------------|
| MF10B-WJ6.5C01-0200(31) | 709-1011-7 31 | Nickel |
| MF10B-WJ6.5CH01-0200(31) | 709-1035-5 31 | Chrome (black) |

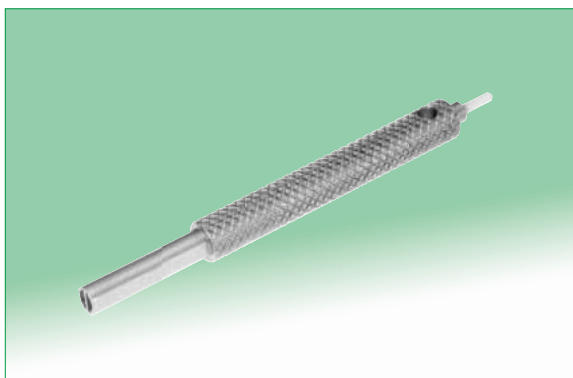
◆ Tools

● Plug assembly tool



| Part No. | HRS No. |
|------------------------|------------|
| MF10B-WP7C01-0200/CVMD | 902-6063-0 |

● Split sleeve removal tool



| Part No. | HRS No. |
|----------|------------|
| MF10B-T1 | 709-1034-2 |

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