

Subminiature, Waterproof Duplex Fiber Optic Connectors

MF10S Series

Waterproof (IP67)

2 Positions

Screw Locking System



■Features

1. Compact size

Using the widely accepted MU connector ferrule (1.25 mm dia.), assembled in a one-piece shell and internal housing, the waterproof connectors can be used in space-restricted applications.

2. Used in harsh outdoor environments

Tested for 500 hour in salt-fog the connectors are IP67 rated, fully mated or with protective caps.

3. High intensity fiber optic cable

Typical FO cable is the light weight and flexible 6.5 mm outside diameter military type.

Other types of cables can be also accommodated (consult Hirose).

4. Coupling wrench

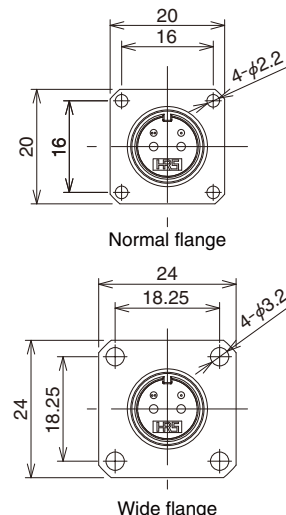
Optional coupling wrench can be provided to assure that the mated connectors are securely tightened to a specified torque range of 1.5 to 3 N·m.



■Applications

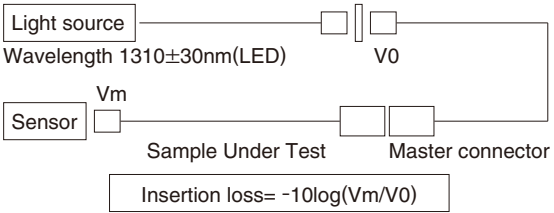
Variety of outdoor optical transmission systems including large LED controllers, surveillance cameras, base stations, railway monitoring, meteorological outdoor instrumentation and other harsh-environment outdoor applications requiring reliable FO connections.

●Flange variations



Product Specifications

Ratings	Operating temperature range	-40℃ to +85℃	Storage temperature range	-25℃ to +75℃ (At packing)
---------	-----------------------------	--------------	---------------------------	---------------------------

Item	Test method	Specifications
Optical characteristics	 Light source Wavelength 1310±30nm(LED) V0 Sensor Vm Sample Under Test Master connector Insertion loss= $-10\log(V_m/V_0)$	SM : 1.4dB max. (Average 0.3dB) MM : 0.7dB max. (Average 0.1dB) (Note)
Mechanical characteristics	Cable retention (Straight pull) 200N tensile loads Durability (mating/un-mating) 200 times Vibration Frequency : 10 to 55Hz, single amplitude of 0.75mm, acceleration of 98.1 m/s², 2 hours in each of the 2 axis. Shock Acceleration of 981m/s², 6ms duration, sine half-wave waveform, 3 cycles in each of the 2 axis.	1) Insertion loss fluctuation after test: 0.3dB max. 2) No visible damage or components dislocation.
Environmental characteristics	Humidity (Temperature/humidity-cycles) -10℃ to +65℃, humidity : 90% to 96% 10 cycles (240 hours) Temperature cycle -40℃ to +75℃, 42 cycles Dry heat 240 hours at +85℃ Cold 240 hours at -40℃ Salt mist 500 hours (chrome plating), 240 hours (nickel plating) in a 5% concentration of salt mist Water proof 1 minute at internal air pressure of 4.9 kPa	1) Insertion loss fluctuation after test: 0.3dB max. 2) No visible damage or components dislocation. No corrosion. No air leakage

Note : Total insertion loss of connection (plug, receptacle and master cord). (Multi-Mode : Used 1.5dB mode scrambler)

Materials / Finish

Part	Material	Finish/Color	Remarks
Plug and receptacle housing	Zinc alloy	Chrome plated (Black) or nickel plated	_____
	Brass	Chrome plated (Black) or nickel plated	_____
	Aluminum alloy	Alumite (Black)	_____
Retainer plate	Synthetic resin	_____	UL94V-0
Hole cap	Aluminum alloy	Alumite (Black)	_____
Screws, ball chain	Stainless steel	_____	_____
Spring	Steel alloy	Zinc plated	_____
Split sleeve	Zirconia	_____	_____
Coupling wrench (Optional)	Plastic	Blue	_____

[illegible]

Technical drawing of a panel cutout with dimensions and labels:

- Top View:** Shows a square panel with a central circular cutout. The overall width is 24. The distance from the center to the top edge is 18.25. The distance from the center to the right edge is 18.25. The distance from the center to the top-left corner is 18.3. The distance from the center to the bottom-left corner is 2. The distance from the center to the bottom-right corner is 10.5. The central cutout has a diameter of $\phi 14$. There are four mounting holes, each with a diameter of $\phi 3.2$, located at the corners of the panel.
- Side View:** Shows the panel's profile. The total height is 90. The distance from the top edge to the bottom edge of the panel is 13. The distance from the bottom edge to the bottom edge of the panel is 21. The panel has a thickness of 2. The central cutout has a diameter of $\phi 14.2^{+0.1}_0$. There are four mounting holes, each with a diameter of $\phi 3.5$, located at the corners of the panel.
- Bottom View:** Shows the panel's base. The overall width is 24. The distance from the center to the top edge is 18.25. The distance from the center to the right edge is 18.25. The distance from the center to the top-left corner is 18.3. The distance from the center to the bottom-left corner is 2. The distance from the center to the bottom-right corner is 10.5. The central cutout has a diameter of $\phi 14.2^{+0.1}_0$. There are four mounting holes, each with a diameter of $\phi 3.2$, located at the corners of the panel.
- Labels:**
 - Panel cutout:** Label for the central circular cutout.
 - 4-M3 Blind hole:** Label for the four mounting holes.
 - 4- $\phi 3.2$:** Label for the four mounting holes.
 - $\phi 3.5$ (Attachment hole):** Label for the four attachment holes.

Cr : Chrome plating (Black), Ni : Nickel plating
N : Normal flange, W : Wide flange

