

# Subminiature, Waterproof Duplex Fiber Optic Connectors

## MF10 Series



### ■ 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.

#### 5. Field installation

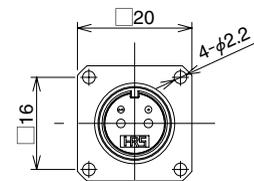
Portable tools and polishers are available; operating on 100 V AC or car cigarettes lighter's 12 V DC.

### ■ Applications

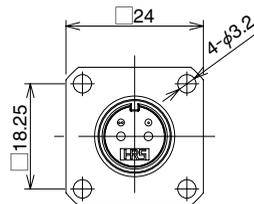
Variety of outdoor optical transmission systems including large LED controllers, surveillance cameras, base stations, railway monitoring, meteorological outdoor instrumentation and other harsh-environment outdoor applications requiring reliable FO connections.



### ● Flange variations



Normal flange



Wide flange

MU

SC

FC

Harsh Environment

Attenuators

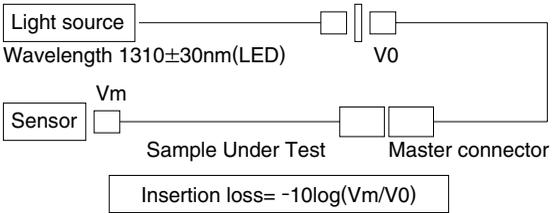
Terminators

Splitter

MM 10 Series Subminiature, Waterproof Duplex Fiber Optic Connectors

## Product Specifications

Ratings	Operating temperature range	-40°C to +85°C	Storage temperature range	-25°C to +75°C
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Item	Test method	Specifications
Optical characteristics	 <p>Light source Wavelength 1310±30nm(LED) V0 Vm Sensor Sample Under Test Master connector Insertion loss= -10log(Vm/V0)</p>	SM: 1.4dB max. (Average 0.3dB) MM: 0.7dB max. (Average 0.1dB) (Note)
Mechanical characteristics	Cable retention (Straight pull) Durability (mating/un-mating) Vibration Shock	200N tensile loads 200 times Frequency: 10 to 55Hz, single amplitude of 0.75mm, acceleration of 98.1 m/s <sup>2</sup> , 2 hours in each of the 2 axis. Acceleration of 981 m/s <sup>2</sup> , 6 ms duration, sine half-wave waveform, 3 cycles in each of the 2 axis.
Environmental characteristics	Humidity (Temperature/humidity-cycles) Temperature cycle Dry heat Cold Salt mist	-10°C to +65°C, humidity: 90% to 96% 10 cycles (240 hours) -40°C to +75°C, 42 cycles 240 hours at +85°C 240 hours at -40°C 500 hours (chrome plating), 240 hours (nickel plating) in a 5% concentration of salt mist

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 rubber	_____	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	_____

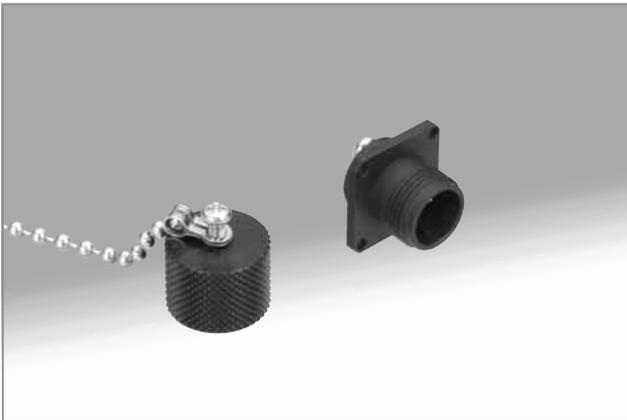
MU  
SC  
FC  
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Splitter

## ■ Plug housings



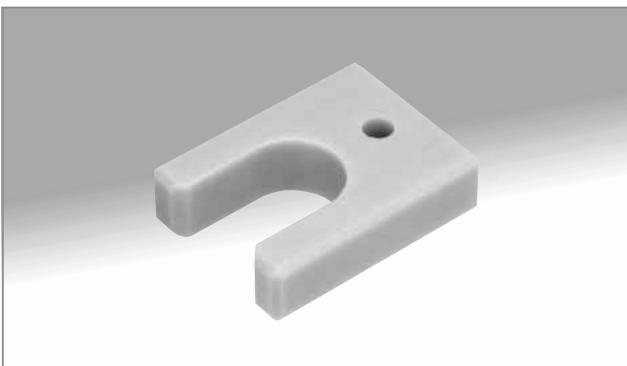
Part number	CL No.	Plating	RoHS
MF10S-WP7C01-0200(40)*	CL709-0203-2-40	Cr	YES
MF10S-WPN7C01-0200*	CL709-0544-3-00	Ni	

## ■ Receptacle housings

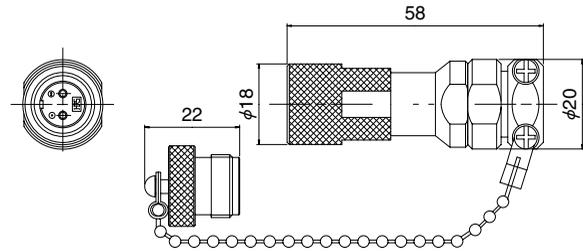


Part number	CL No.	Plating	Flange	RoHS
MF10S-WDRF01-0200(40)	CL709-0204-5-40	Cr	N	YES
MF10S-WDRFN01-0200	CL709-0548-4-00	Ni	N	
MF10S-WDRFNG01-0200	CL709-0549-7-00	Ni	W	
MF10S-WDRFG01-0200	CL709-0578-5-00	Cr	W	

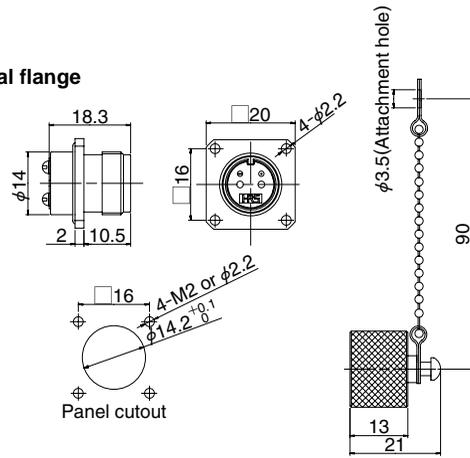
## ■ Coupling wrench (Optional)



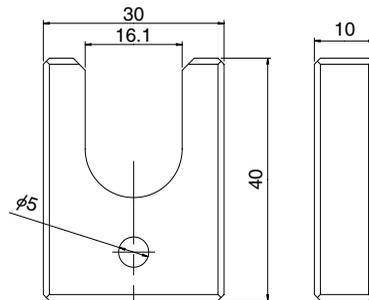
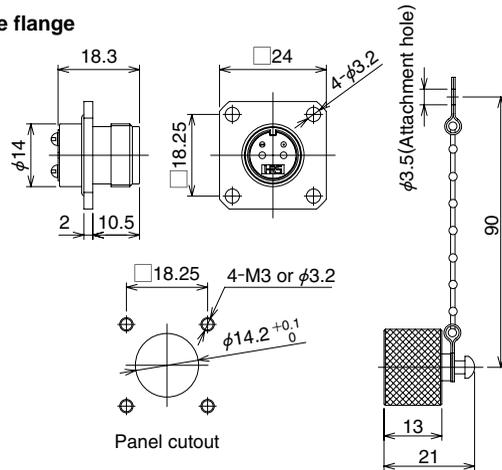
\*  
 Cr : Chrome plating (Black), Ni : Nickel plating  
 N : Normal flange, W : Wide flange



### Normal flange



### Wide flange



Part number	CL No.
MF10-T1	CL709-0205-8-00

MU

SC

FC

Harsco  
Environment

Attenuators

Terminators

Splitter