# **Subminiature, Waterproof Duplex Fiber Optic Connectors**

#### MF10 Series



#### **■**Features

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#### 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.

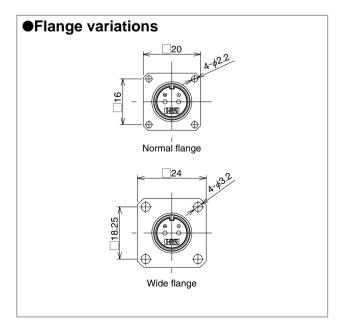
#### 5. Field installation

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.





# **■**Product Specifications

Ratings	Operating temperature range	-40℃ to +85℃	Storage temperature range	-25℃ to +75℃

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

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
	Zinc alloy	Chrome plated (Black) or nickel plated	
Plug and receptacle housing	Brass	Chrome plated (Black) or nickel plated	<del></del>
	Aluminum alloy	Alumite (Black)	
Retainer plate	Synthetic rubber		UL94V-0
Hole cap	Aluminum alloy	Alumite (Black)	<del></del>
Screws, ball chain	Stainless steel		
Spring	Steel alloy	Zinc plated	
Split sleeve	Zirconia		
Coupling wrench (Optional)	Plastic	Blue	<del></del>

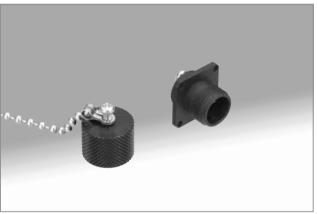
## **■**Plug housings



Part number	CL No.	Plating	RoHS
MF10S-WP7C01-0200(40)*	CL709-0203-2-40	Cr	YES
MF10S-WPN7C01-0200*	CL709-0544-3-00	Ni	123

# **■**Receptacle housings

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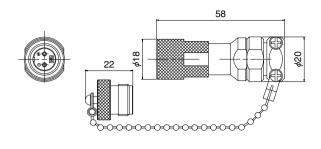
Part number	CL No.	Plating	Flange	RoHS
MF10S-WDRF01-0200(40)	CL709-0204-5-40	Cr	N	
MF10S-WDRFN01-0200	CL709-0548-4-00	Ni	N	YES
MF10S-WDRFNG01-0200	CL709-0549-7-00	Ni	W	123
MF10S-WDRFG01-0200	CL709-0578-5-00	Cr	W	

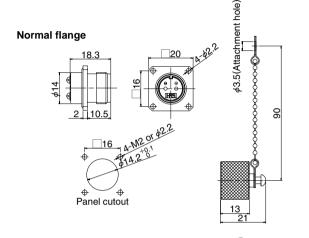
## **■**Coupling wrench (Optional)

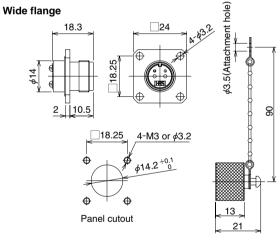


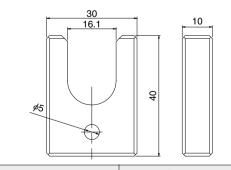
Cr : Chrome plating (Black), Ni : Nickel plating

N: Normal flange, W: Wide flange









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