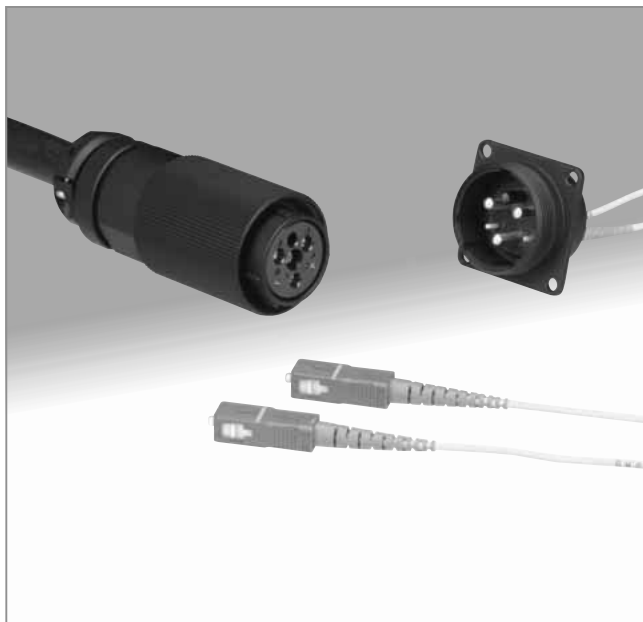


# Waterproof Connectors Combining Optical and Electrical Connections

## MF25 Series



### ■Features

#### 1. Fiber optic and electric hybrid connection

- 3 electrical contacts rated at 30A max. current
- 2 fiber optic connections (single or multi-mode fibers)

#### 2. Used in harsh outdoor environments

Construction, materials and components assure consistent performance when used outdoor. Tested 500 hours in salt fog without any affect on its performance. Rated IP67 - complete protection against dust, no water penetration when submerged in water at depth of 1.8m for 48 hours.

#### 3. Variety of cables

Up to 18 mm outside diameter cable can be used (electrical and optical combined).

Solder termination of electrical conductors having cross sectional area of 6mm<sup>2</sup> (equivalent of AWG#10) may be used.

#### 4. Low insertion loss

Ferrule can be tuned to guarantee insertion loss of less than 0.4dB.

#### 5. RoHS compliance

All materials and finishes comply with applicable RoHS directives.

### ■Applications

Outdoor optical transmission systems: Surveillance cameras and monitors, base stations, railway, transportation, survey, geological and exploration equipment.

### ■Product Specifications

Ratings	Operating temperature range:-40℃ to +75℃	Storage temperate range:-40℃ to +85℃
	Current rating: 30A	Voltage rating: 300V AC, 420V DC

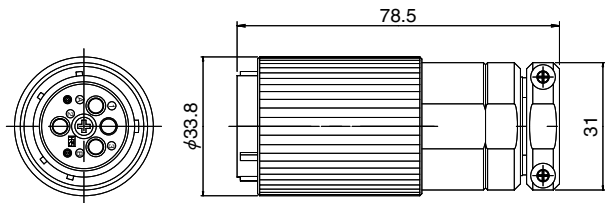
	Characteristic	Conditions (IEC 61300)	Specifications
Optical/ electrical characteristics	Insertion Loss	Wavelength 1310±20nm (LED)	0.4dB max. (SM) 0.3dB max. (MM) Note
	Return Loss	Wavelength 1310±20nm (LD)	40dB min. (SM)
	Insulation resistance	500V DC	1000 M ohms min.
	Withstanding voltage	1000V AC / one minute	No flashover or insulation breakdown
Mechanical characteristics	Durability (cycles, mating/un-mating)	500 times	Insertion loss after test: 0.4dB max. (SM) Insertion loss after test: 0.3dB max. (MM)
	Vibration	Frequency: 10 to 500MHz, single amplitude of 0.75mm, 3 hours in each of the 3 axis.	Return loss after test: 40dB max. (SM) No visible damage or dislocation of any component or cable.
	Shock	Acceleration of 490m/s <sup>2</sup> , 11ms duration, sin half-wave waveform, ration, sin half-wave waveform, 3 cycles in each of the 3 axis.	
Environmental characteristics	Humidity	-71±2℃, humidity: 95±5%, 336 hours	Insertion loss after test: 0.4dB max. (SM)
	Temperature cycle	-40℃ to +75℃ 42 cycles	Insertion loss after test: 0.3dB max. (MM)
	Dry heat	240 hours at 85℃	Return loss after test: 40dB max. (SM)
	Cold	240 hours at -40℃	No visible damage, dislocation of clamp or cable.
	Salt spray	5% salt solutions for 500 hours	No corrosions
	Air tight	Air pressure: 4.9 Pa, Submerged for one minute	No air foam leakage

Note: Multi-mode fiber, used 1.5dB mode scrambler

Materials

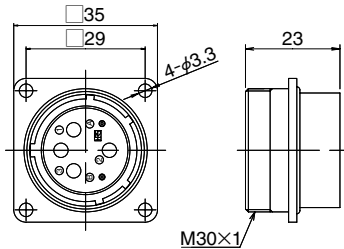
Component	Material	Finish	Remarks
Housing	Aluminum die-casting	Chrome plated (Black)	_____
	Brass	Chrome plated (Black)	_____
Electrical contacts	Brass	Silver plated	_____
Insulator, Retainer plate	Synthetic resin	_____	UL94V-0
O-ring, gasket, bushing	Synthetic rubber	_____	_____
Screw	Stainless steel	_____	_____
Screws	Iron	Nickel plated	_____
Spring	Steel	Zinc plated	_____
Split sleeve	Zirconia	_____	_____

Plug housing



Part number	CL No.	Number of positions	RoHS
MF25S-WP14S02-0203	CL709-0209-9	3 pos. (Electrical), 2 pos. (Optical)	YES

Receptacle housing



Part number	CL No.	Number of positions	RoHS
MF25S-WRF02-0203	CL709-0208-6	3 pos. (Electrical), 2 pos. (Optical)	YES

Recommended panel cut-out dimensions

