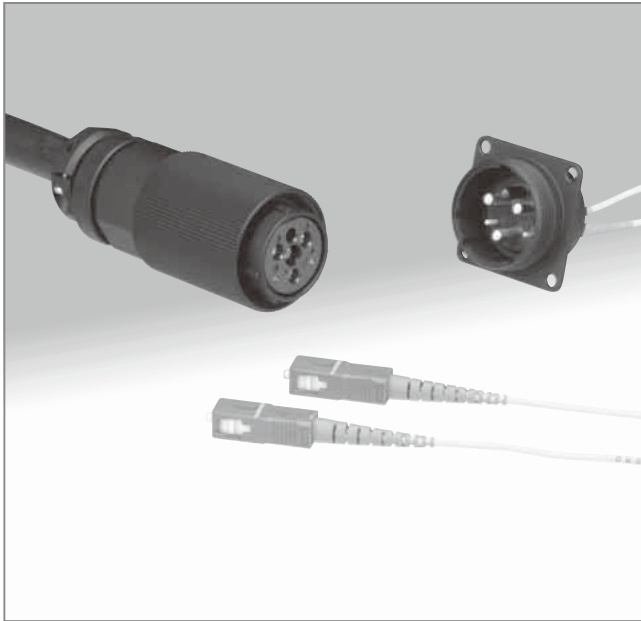


Waterproof Connectors Combining Optical and Electrical Connections

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 6mm² (equivalent of AWG#10) may be used.

4. Low insertion loss

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

■ 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°C to +75°C	Storage temperature range: -40°C to +85°C
	Current rating: 30A	Voltage rating: 300V AC, 420V DC

Item		Test Method (IEC 61300)		Specifications	
Optical/electrical Characteristics	Insertion Loss	SM	Wavelength 1310±30nm (LD)	0.4dB max.	
		MM(GI)	Wavelength 1310±30nm (LED)	0.3dB max. (Note)	
	Return Loss	SM	Wavelength 1310±30nm (LD)	40dB min.	
		MM(GI)		22dB min.	
	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:GI) Return loss after test: 40dB min. (SM) No visible damage or dislocation of any component or cable.
	Vibration		Frequency: 10 to 500MHz, single amplitude of 0.75mm, 3 hours in each of the 3 axis.		
	Shock		Acceleration of 490m/s ² , 11ms duration, sin half-wave waveform, ration, half sine shock pulse, 3 cycles in each of the 3 axis.		
Environmental Characteristics	Humidity		-71±2°C, humidity: 95±5%, 336 hours		Insertion loss after test: 0.4dB max. (SM) Insertion loss after test: 0.3dB max. (MM:GI) Return loss after test: 40dB min. (SM) No visible damage, dislocation of clamp or cable. No corrosions No air foam leakage
	Temperature cycle		-40°C to +75°C 42 cycles		
	Dry heat		240 hours at 85°C		
	Cold		240 hours at -40°C		
	Salt spray		5% salt solutions for 500 hours		
	Air tight		Air pressure: 4.9 kPa, Submerged for one minute		

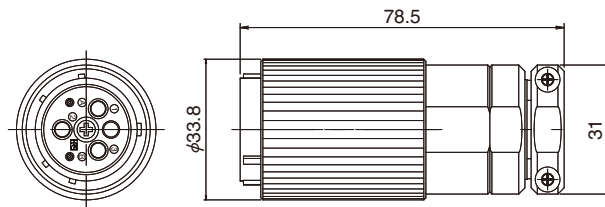
Note: Measured with a 1.5 dB Mode scrambler.

In cases where the application will demand a high level of reliability, such as automotive, please contact a company representative for further information.

Materials

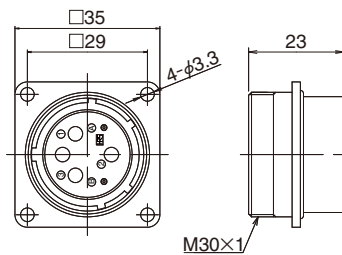
Part	Material	Finish	Remarks
Housing	Aluminum die-casting	Chrome plated (Black)	————
	Brass	Chrome plated (Black)	————
Electrical contacts	Brass	Silver plated	————
Insulator, Retainer plate	Synthetic resin	————	UL94V-0
O-ring, gasket, bushing	Synthetic rubber	————	————
Screw	Stainless steel	————	————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

Plug housing



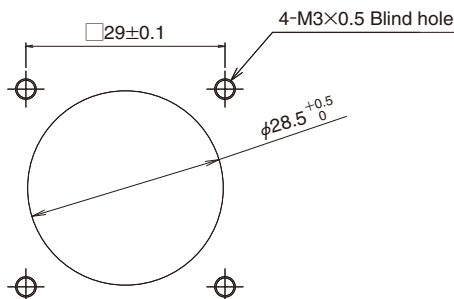
Part Number	CL No.	Number of positions
MF25S-WP14S02-0203	709-0209-9-00	3 pos. (Electrical), 2 pos. (Optical)

Receptacle housing



Part Number	CL No.	Number of positions
MF25S-WRF02-0203	709-0208-6-00	3 pos. (Electrical), 2 pos. (Optical)

Recommended panel cut-out dimensions



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