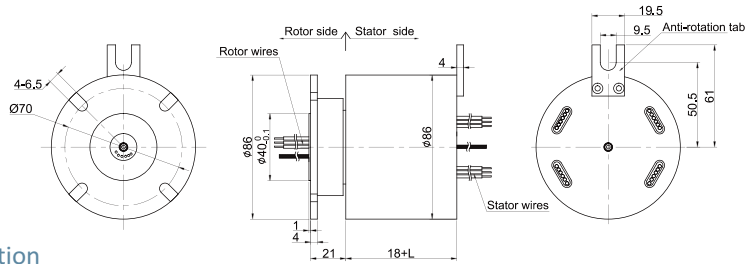


# MFO109 series

## 1 Channel Fiber Optic+electric Slip Rings

MFO109 can combine 1 channel optic fiber and electric(1~96wires). It adopt complete aluminum alloy structure, can support signal(5A).

Rotary joint of FORJ+Electric is also called photoelectrical slip ring, photoelectricity collector ring, which adopts fiber optic as data transmission media to solve the data transmission between system units. It can perfectly transmit data on 360° rotating. It is also especially suitable for occasion where it needs to transmit large volume data/signal from permanent position to rotation position on unlimited, continuous or discontinuous rotating, which can improve mechanical property, simplify system operation and avoid the rotating of turning joints destroy fiber optics. Fiber optic rotary joint can be combined with traditional electric slip ring to transmit power and high-speed data.



### Part # Explanation

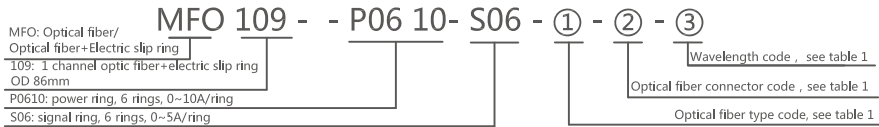


Table 1

Fiber Type Code	Fiber Connector Code	Wavelength Code
01 : 9/125um , Single-mode	FC : FC Connector    ST : ST Connector	01 : 1310/1550(Single-mode)
02 : 50/125um , Multiple-mode	SC : SC Connector    LC : LC Connector	02 : 850/1310(Multiple-mode)
03 : 62.5/125m , Multiple-mode	The connector face is PC by default , If APC is needed, APC should be added behind APC, such as FC/APC.	

### Part#List

MFO109 - 1 channel optic fiber+electric slip ring part list

Part#	Optic Fiber Channel	10A	Signal or 5A	Length L (mm)	Part#	Optic Fiber Channel	10A	Signal or 5A	Length L (mm)
MFO109-S02	1	0	2	31.6	MFO109-P1210-S12	1	12	12	106.4
MFO109-P0210	1	2	0	31.6	MFO109-P1810-S06	1	18	6	106.4
MFO109-S03	1	0	3	35	MFO109-P2410	1	24	0	106.4
MFO109-P0310	1	3	0	35	MFO109-S30	1	0	30	126.8
MFO109-S06	1	0	6	45.2	MFO109-P0610-S24	1	6	24	126.8
MFO109-P0210-S04	1	2	4	45.2	MFO109-P1210-S18	1	12	18	126.8
MFO109-P0410-S02	1	4	2	45.2	MFO109-P1810-S12	1	18	12	126.8
MFO109-P0610	1	6	0	45.2	MFO109-P2410-S06	1	24	6	126.8
MFO109-S12	1	0	12	65.6	MFO109-P3010	1	30	0	126.8
MFO109-P0210-S10	1	2	10	65.6	MFO109-S36	1	0	36	147.2
MFO109-P0310-S09	1	3	9	65.6	MFO109-P0610-S30	1	6	30	147.2
MFO109-P0610-S06	1	6	6	65.6	MFO109-P1210-S24	1	12	24	147.2
MFO109-P0810-S04	1	8	4	65.6	MFO109-P3610	1	36	0	147.2
MFO109-P1010-S02	1	10	2	65.6	MFO109-S42	1	0	42	167.6
MFO109-P1210	1	12	0	65.6	MFO109-P0610-S36	1	6	36	167.6
MFO109-S18	1	0	18	86	MFO109-P1210-S30	1	12	30	167.6
MFO109-P0210-S16	1	2	16	86	MFO109-S48	1	0	48	188
MFO109-P0410-S14	1	4	14	86	MFO109-P0610-S42	1	6	42	188
MFO109-P0610-S12	1	6	12	86	MFO109-P0910-S39	1	9	39	188
MFO109-P0810-S10	1	8	10	86	MFO109-P1210-S36	1	12	36	188
MFO109-P1010-S08	1	10	8	86	MFO109-P1810-S30	1	18	30	188
MFO109-P1210-S06	1	12	6	86	MFO109-P2410-S24	1	24	24	188
MFO109-P1410-S04	1	14	4	86	MFO109-S60	1	0	60	238.8
MFO109-P1610-S02	1	16	2	86	MFO109-P0610-S54	1	6	54	238.8
MFO109-S24	1	0	24	106.4	MFO109-P0910-S51	1	9	51	238.8
MFO109-P0410-S20	1	4	20	106.4	MFO109-P1210-S48	1	12	48	238.8
MFO109-P0610-S18	1	6	18	106.4	MFO109-S72	1	0	72	289.6

## Specifications

Item	Type	Single-Mode	Multiple-Mode
WaveWidth(nm)			±50
Max insert Loss , 23°C(dB)		1.2	0.7
Insert Loss Ripple(dB)		0.6	0.4
Return Loss(dB)		≥55(No connector)	≥40(No connector)
Max Power(W)		0.5	
Weight(g)		50	
Max Rotating Speed(rpm)		1000	
Working Life		>5 billion turn	
Working Temperature(°C)		-45~85	
Storage Temperature(°C)		-50~85	
Parameter		Value	
		Power	Signal
Rated Voltage		0~440VAC/VDC	0~440VAC/VDC
Insulation Resistance		≥1000MΩ/500VDC	≥1000MΩ/500VDC
Lead Wires		AWG22#Teflon	AWG22#Teflon
Lead Length		Standard 300mm(can be extend)	
Dielectric Strength		500VAC@50Hz , 60s	
Electrical Noise		<0.01Ω	
		Mechanical Data	
Parameter		Value	
Working Life		20 million turn	
Rotating Speed		250 RPM	
Working Temperature		-30°C~80°C	
Operating Humidity		0~85% RH	
Contact Material		gold-gold	
Housing Materia		aluminium alloy	
Torque		0.1N.m ; +0.03N.m/6ring	
Protection Grade		IP51	

## Options for custom slip ring

Note: Below special demands can be customized. According, the delivery date will be extended 3 to 15 days; also the cost will be increased 30% to 50%. Most of our basic parts are standard and modular, which can save the cost and lead time.

- ① Cable exit way and cable length can be customized for both rotor and stator.
- ② Because of the structure limitation, length/height/OD can be customized on your request.
- ③ Support current or signal up to 200 rings.
- ④ Aviation plug, terminal and heat-shrink tube are optional.
- ⑤ Hybrid slip ring for Yaskawa/Panasonic/Siemens servo control signal, power line and encoder line.
- ⑥ Support mixed high speed data transmission (including Ethernet, USB, RS232, RS485, Profibus, CanBUS, CANOPEN, DeviceNET, CC-LINK, ProfiNET, EtherCAT, etc.)
- ⑦ Can combine temperature control signal with thermocouple signal.
- ⑧ Special environment can be customized, such as quakeproof, high temperature, etc.
- ⑨ Hybrid Pneumatic/hydraulic and electric slip ring can be mixed.
- ⑩ Optical fiber connector, optical fiber type and fiber pigtail length can be customized.
- ⑪ Optic fiber channels can be customized.
- ⑫ Optic fiber wavelength can be customized.
- ⑬ Maximum current can up to 5000 amperes.
- ⑭ Military grade.
- ⑮ Optional for underwater IP65, IP68.
- ⑯ Optional for stainless steel housing.

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