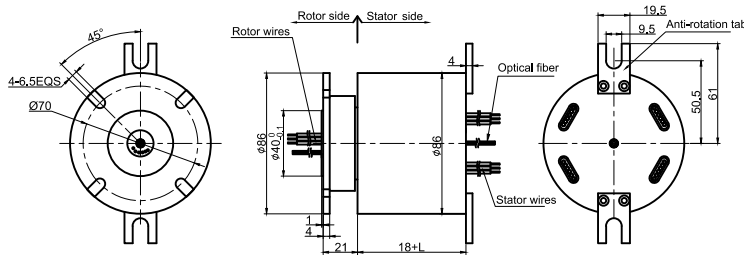


MFO109 series

1 Channel Fiber Optic+electric Slip Rings

MFO109 can combine 1 channel optical 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

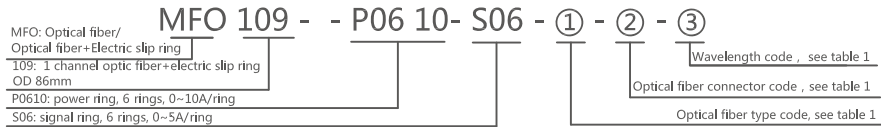


Table 1

| 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 | 36 | MFO109-P1210-S12 | 1 | 12 | 12 | 119.6 |
| MFO109-P0210 | 1 | 2 | 0 | 36 | MFO109-P1810-S06 | 1 | 18 | 6 | 119.6 |
| MFO109-S03 | 1 | 0 | 3 | 39.8 | MFO109-P2410 | 1 | 24 | 0 | 119.6 |
| MFO109-P0310 | 1 | 3 | 0 | 39.8 | MFO109-S30 | 1 | 0 | 30 | 142.4 |
| MFO109-S06 | 1 | 0 | 6 | 51.2 | MFO109-P0610-S24 | 1 | 6 | 24 | 142.4 |
| MFO109-P0210-S04 | 1 | 2 | 4 | 51.2 | MFO109-P1210-S18 | 1 | 12 | 18 | 142.4 |
| MFO109-P0410-S02 | 1 | 4 | 2 | 51.2 | MFO109-P1810-S12 | 1 | 18 | 12 | 142.4 |
| MFO109-P0610 | 1 | 6 | 0 | 51.2 | MFO109-P2410-S06 | 1 | 24 | 6 | 142.4 |
| MFO109-S12 | 1 | 0 | 12 | 74 | MFO109-P3010 | 1 | 30 | 0 | 142.4 |
| MFO109-P0210-S10 | 1 | 2 | 10 | 74 | MFO109-S36 | 1 | 0 | 36 | 169.2 |
| MFO109-P0310-S09 | 1 | 3 | 9 | 74 | MFO109-P0610-S30 | 1 | 6 | 30 | 169.2 |
| MFO109-P0610-S06 | 1 | 6 | 6 | 74 | MFO109-P1210-S24 | 1 | 12 | 24 | 169.2 |
| MFO109-P0810-S04 | 1 | 8 | 4 | 74 | MFO109-P3610 | 1 | 36 | 0 | 169.2 |
| MFO109-P1010-S02 | 1 | 10 | 2 | 74 | MFO109-S42 | 1 | 0 | 42 | 192 |
| MFO109-P1210 | 1 | 12 | 0 | 74 | MFO109-P0610-S36 | 1 | 6 | 36 | 192 |
| MFO109-S18 | 1 | 0 | 18 | 96.8 | MFO109-P1210-S30 | 1 | 12 | 30 | 192 |
| MFO109-P0210-S16 | 1 | 2 | 16 | 96.8 | MFO109-S48 | 1 | 0 | 48 | 214.8 |
| MFO109-P0410-S14 | 1 | 4 | 14 | 96.8 | MFO109-P0610-S42 | 1 | 6 | 42 | 214.8 |
| MFO109-P0610-S12 | 1 | 6 | 12 | 96.8 | MFO109-P0910-S39 | 1 | 9 | 39 | 214.8 |
| MFO109-P0810-S10 | 1 | 8 | 10 | 96.8 | MFO109-P1210-S36 | 1 | 12 | 36 | 214.8 |
| MFO109-P1010-S08 | 1 | 10 | 8 | 96.8 | MFO109-P1810-S30 | 1 | 18 | 30 | 214.8 |
| MFO109-P1210-S06 | 1 | 12 | 6 | 96.8 | MFO109-P2410-S24 | 1 | 24 | 24 | 214.8 |
| MFO109-P1410-S04 | 1 | 14 | 4 | 96.8 | MFO109-S60 | 1 | 0 | 60 | 260.4 |
| MFO109-P1610-S02 | 1 | 16 | 2 | 96.8 | MFO109-P0610-S54 | 1 | 6 | 54 | 260.4 |
| MFO109-S24 | 1 | 0 | 24 | 119.6 | MFO109-P0910-S51 | 1 | 9 | 51 | 260.4 |
| MFO109-P0410-S20 | 1 | 4 | 20 | 119.6 | MFO109-P1210-S48 | 1 | 12 | 48 | 260.4 |
| MFO109-P0610-S18 | 1 | 6 | 18 | 119.6 | MFO109-S72 | 1 | 0 | 72 | 310 |

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.

Technical support: technical@moflon.com