

BMHF109 SERIES

1 Channel Rf Rotary Joints+electric Slip Ring

MHF109 is 1 channel RF + electric combining high frequency rotary joint. High frequency + electric slip ring is specifically designed to support high-speed serial digital signals or analog signal transmission. It can support maximum rate 30GHz. This series product can support single channel high frequency transmissions, also high-frequency signal transmission combining with 24V control signal, communication signal, power supply and fluid media. Video signal adopt 50Ω characteristic impedance. High-frequency signal adopts 50Ω characteristic impedance RF coaxial connector. (other specified connectors are switchable, also Lead wire size are optional, such as RG178, RG316, RG174, etc.)

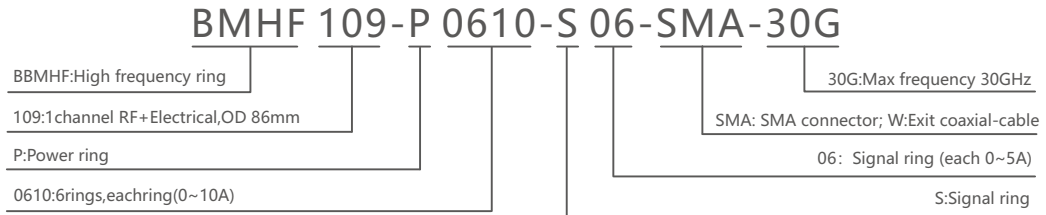
Product images



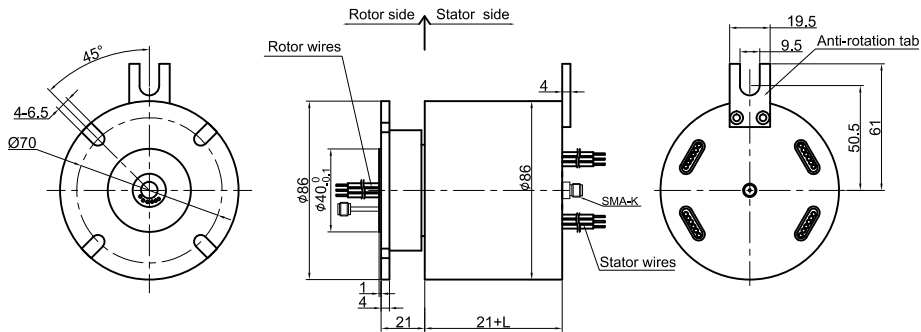
The pictures are for reference only

If there are changes in the appearance and size of the product, the actual product should prevail.

Part# Explanation



Dimensions



BMHF109 channel RF rotary joint part list

| Parts# | RF Channel | Frguency | 10A | Signal 5A | Length(mm) |
|-------------------|------------|----------|-----|-----------|------------|
| BMHF109-S02 | 1 | DC-30GHz | 0 | 2 | 31.6 |
| BMHF109-P0210 | 1 | DC-30GHz | 2 | 0 | 31.6 |
| BMHF109-S03 | 1 | DC-30GHz | 0 | 3 | 35 |
| BMHF109-P0310 | 1 | DC-30GHz | 3 | 0 | 35 |
| BMHF109-S06 | 1 | DC-30GHz | 0 | 6 | 45.2 |
| BMHF109-P0210-S04 | 1 | DC-30GHz | 2 | 4 | 45.2 |
| BMHF109-P0410-S02 | 1 | DC-30GHz | 4 | 2 | 45.2 |
| BMHF109-P0610 | 1 | DC-30GHz | 6 | 0 | 45.2 |
| BMHF109-S12 | 1 | DC-30GHz | 0 | 12 | 65.6 |
| BMHF109-P0210-S10 | 1 | DC-30GHz | 2 | 10 | 65.6 |
| BMHF109-P0310-S09 | 1 | DC-30GHz | 3 | 9 | 65.6 |
| BMHF109-P0610-S06 | 1 | DC-30GHz | 6 | 6 | 65.6 |
| BMHF109-P0810-S04 | 1 | DC-30GHz | 8 | 4 | 65.6 |
| BMHF109-P1010-S02 | 1 | DC-30GHz | 10 | 2 | 65.6 |
| BMHF109-P1210 | 1 | DC-30GHz | 12 | 0 | 65.6 |
| BMHF109-S18 | 1 | DC-30GHz | 0 | 18 | 86 |
| BMHF109-P0210-S16 | 1 | DC-30GHz | 2 | 16 | 86 |

BMHF108 channel RF rotary joint part list

| Parts# | RF Channel | Frquency | 10A | Signal 5A | Length(mm) |
|-------------------|------------|----------|-----|-----------|------------|
| BMHF109-P0410-S14 | 1 | DC-30GHz | 4 | 14 | 86 |
| BMHF109-P0610-S12 | 1 | DC-30GHz | 6 | 12 | 86 |
| BMHF109-P0810-S10 | 1 | DC-30GHz | 8 | 10 | 86 |
| BMHF109-P1010-S08 | 1 | DC-30GHz | 10 | 8 | 86 |
| BMHF109-P1210-S06 | 1 | DC-30GHz | 12 | 6 | 86 |
| BMHF109-P1410-S04 | 1 | DC-30GHz | 14 | 4 | 86 |
| BMHF109-P1610-S02 | 1 | DC-30GHz | 16 | 2 | 86 |
| BMHF109-S24 | 1 | DC-30GHz | 0 | 24 | 106.4 |
| BMHF109-P0410-S20 | 1 | DC-30GHz | 4 | 20 | 106.4 |
| BMHF109-P0610-S18 | 1 | DC-30GHz | 6 | 18 | 106.4 |
| BMHF109-P1210-S12 | 1 | DC-30GHz | 12 | 12 | 106.4 |
| BMHF109-P1810-S06 | 1 | DC-30GHz | 18 | 6 | 106.4 |
| BMHF109-P2410 | 1 | DC-30GHz | 24 | 0 | 106.4 |
| BMHF109-S30 | 1 | DC-30GHz | 0 | 30 | 126.8 |
| BMHF109-P0610-S24 | 1 | DC-30GHz | 6 | 24 | 126.8 |
| BMHF109-P1210-S18 | 1 | DC-30GHz | 12 | 18 | 126.8 |
| BMHF109-P1810-S12 | 1 | DC-30GHz | 18 | 12 | 126.8 |
| BMHF109-P2410-S06 | 1 | DC-30GHz | 24 | 6 | 126.8 |
| BMHF109-P3010 | 1 | DC-30GHz | 30 | 0 | 126.8 |
| BMHF109-S36 | 1 | DC-30GHz | 0 | 36 | 150.2 |
| BMHF109-P0610-S30 | 1 | DC-30GHz | 6 | 30 | 150.2 |
| BMHF109-P1210-S24 | 1 | DC-30GHz | 12 | 24 | 150.2 |
| BMHF109-P3610 | 1 | DC-30GHz | 36 | 0 | 150.2 |
| BMHF109-S42 | 1 | DC-30GHz | 0 | 42 | 170.6 |
| BMHF109-P0610-S36 | 1 | DC-30GHz | 6 | 36 | 170.6 |
| BMHF109-P1210-S30 | 1 | DC-30GHz | 12 | 30 | 170.6 |
| BMHF109-S48 | 1 | DC-30GHz | 0 | 48 | 193.2 |
| BMHF109-P0610-S42 | 1 | DC-30GHz | 6 | 42 | 193.2 |
| BMHF109-P0910-S39 | 1 | DC-30GHz | 9 | 39 | 193.2 |
| BMHF109-P1210-S36 | 1 | DC-30GHz | 12 | 36 | 193.2 |
| BMHF109-P1810-S30 | 1 | DC-30GHz | 18 | 30 | 193.2 |
| BMHF109-P2410-S24 | 1 | DC-30GHz | 24 | 24 | 193.2 |
| BMHF109-S60 | 1 | DC-30GHz | 0 | 60 | 234 |
| BMHF109-P0610-S54 | 1 | DC-30GHz | 6 | 54 | 234 |
| BMHF109-P0910-S51 | 1 | DC-30GHz | 9 | 51 | 234 |
| BMHF109-P1210-S48 | 1 | DC-30GHz | 12 | 48 | 234 |
| BMHF109-S72 | 1 | DC-30GHz | 0 | 72 | 277.8 |

Note: 1) N channels 10A rings parallel can be used as 1 channel N*10A current. For example: 2 rings 10A parallel could be used as 1 wires 20A
2) circuit number and current strength can be customized, please contact customer service for more details.

RF Rotary joints Specifications

| Parameter | Numerical value |
|--------------------------|-----------------|
| Frequency | 0~30GHz |
| VSWR | < 1.4 |
| Insertion Loss | 0.45db |
| VSWR Ripple | < 0.05 |
| Insertion Loss Ripple | 0.05db |
| Connector Types | SMA-F |
| Characteristic Impedance | 50Ω |

Mechanical Data

| Parameter | Numerical value |
|---------------------|--------------------------|
| Working Life | 50 million revs |
| Rotating Speed | 150RPM |
| Working Temperature | -30°C-80°C |
| Operating Humidity | 0-85%RH |
| Contact Material | Gold-Gold |
| Housing Material | Aluminum alloy |
| Torque | 0.1N.m; +0.03N.m/6 rings |
| Protection Grade | IP51 |

Electrical Data

| Project | Power | Signal |
|-----------------------|-----------------------------------|----------------|
| Rated Voltage | 0~440VAC/VDC | 0~440VAC/VDC |
| Insulation Resistance | ≥1000MΩ/500VDC | ≥1000MΩ/500VDC |
| Lead Wires | AWG16#Teflon | AWG22#Teflon |
| Lead Length | Standard length 300mm(adjustable) | |
| Insulating Strength | 500VAC@50Hz,60s | |
| Electrical Noise | <0.01Ω | |

Options for custom slip ring

Note: Below special demands can be customized According , the delivery date will be extended 3 to15 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. High temperature can up to 500 degrees.
11. High pressure can up to 110KV

12. Rotating speed can up to 10000RPM
 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 : Info@orbinexus.com