JINPAT

Since 1996

Headquarters: JINPAT High-Tech Park, No. 153, Huaxing Road, Dalang Street, Longhua New District, Shenzhen China

Sales Center: 1503-1509, Block A, South International Plaza, Yitian Road, Futian District, Shenzhen China

Tel: 0755-29534903/29534759

Fax: 0755-21517849

Email：sales@slipring.cn

JINPAT Electronics

Fiber Optic Rotary Joints

High Frequency Rotary Joints

JINPAT Eletronics Co., Ltd

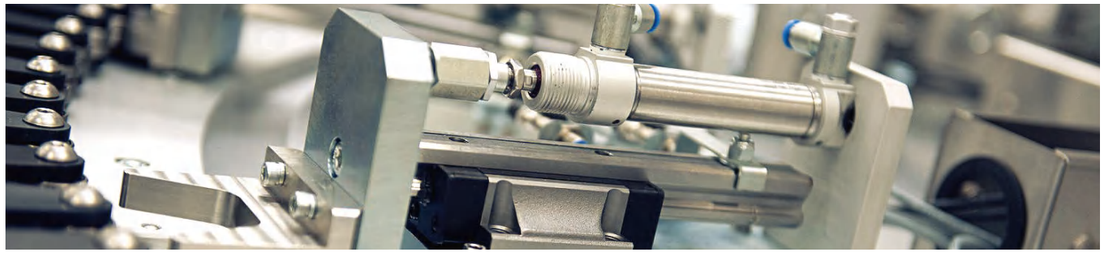
JINPAT

Since 1996

JINPAT Electronics entered into slip ring field in 1996. It is a national high-tech enterprise specializing in the research and development, manufacturing, and sales of slip rings. JINPAT has a senior R&D team that consists of numerous engineers who have ever worked in multinational companies or famous insititutes, which are committed to the development and manufacturing of high-quality slip rings that improve system performance and prevent damage to the wires as they rotate.

JINPAT Electronics has passed the ISO9001 quality management system certification, the ISO14001 environmental management system certification, the FCC, CE, RoHS, REACH, BV classification society's certification, the explosion-proof certification, and it has obtained 52 national patents.

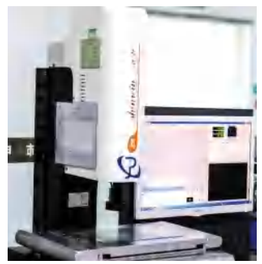
iPhone 11 Pro



Keeping improving and innovating, JINPAT slip rings are not only reliable in performnace, long in lifespan, free in maintenance, but also with the features of high protection grade, anti-explosion, anti-quake, anti-impact, high and low temperature resistant, high perssure resistant, low electrical noise and low loss of signal transmission.

JINPAT slip rings have been widely used in the navy, army, air force and police force. Our products are also used in the security, industrial automation, power, instrumentation, aviation, transportation, construction, wind power, robotics, medical and other cutting-edge fields.

JINPAT Electronics has a long-term relationship with many domestic and foreign industrial technology giants such as GE, Honeywell, CNOOC, BYD, Sany Heavy Industry, Zoomlion, SUZLON, AVIC, CASC, CASIC, CETC, CSIC, and South Surveying & Mapping. JINPAT is committed to a win-win outcome with its customers by providing quality products and services.



LPHF High Frequency Rotary Joints

Electrical & Electronics		Mechanical		Environmental	
Channels	1/2/3/4(optiongal)	Rotating speed	0-500rpm	Operating temperature	-40 ~ 80℃
Frequency range	1CH:≤50GHz 2CH:≤18GHz	Lifetime	10million revolutions	Storage ambient temperature	-50 ~ 85℃
Inserfaces	SMA/N/3.5/2.92/2.4/F	Interface loads ,max	±5N(axial) ±5N(radial)		
VSWR,max	1.2(Minimum)	Torque during rotation	1N.cm(Minimum)	Relative humidity	≤95% (condensation not allowed)
Insertion ioss,max	0.25dB(Minimum)	Contact material	Precious metal		
Peak power,max	10KW(Maximum)	Case material	Aluminum alloy/ stainless steel/brass	IP protection level	IP 40 (High protection optional)
Isolation,min	50dB	Surface material	Conductive oxidation/ passivation/ nickel plating/ piating termary alloy		

Brief Introduction

High Frequency Rotary Joint is applied in constant rotating devices. It transmits high frequency signal and high speed signal from stationary part to rotary part. This rotary joint is able to transfer analog signals and high-speed digital signals with frequencies up to 500MHz-50GHz. It is compact in structure, stable in performance with good shielding effect, and low interference. Besides, high frequency slip ring can be easily installed in other applications.

This series consists of high frequency slip ring and high frequency electric hybrid slip ring

Features:

- Up to 4 circuits (model with more circuits is customizable)
- Frequency up to 50GHz
- Compact structure with low interference
- Transmit multifarious signals simultaneously
- Ultra low insertion loss and transmission fluctuation
- Long service life and maintenance-free

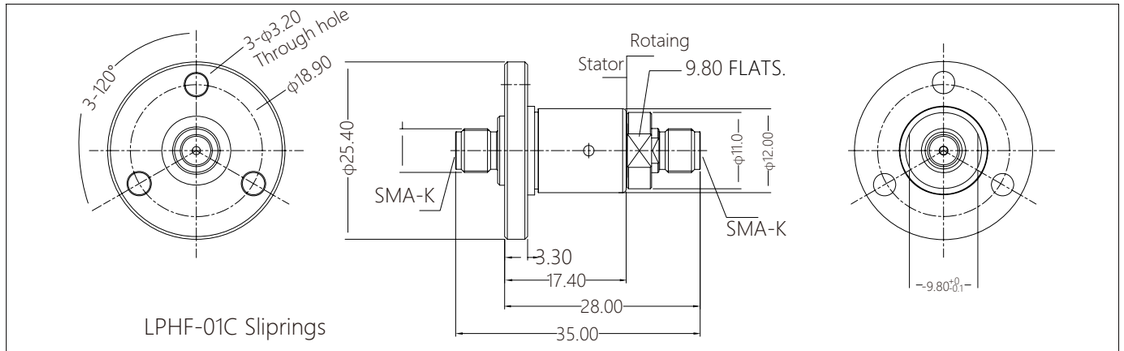
Options:

- Number of circuits
- High frequency range
- Voltage and current
- Integrated transmission of high frequency signal and power signal or other signals

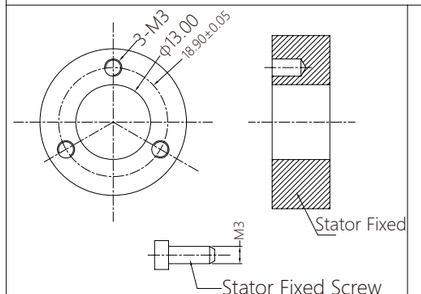
Applications:

- Radar antenna, military system devices
- HD network video surveillance system
- Satellite communication system
- Medical treatment instrument
- Air traffic control and missile defense system

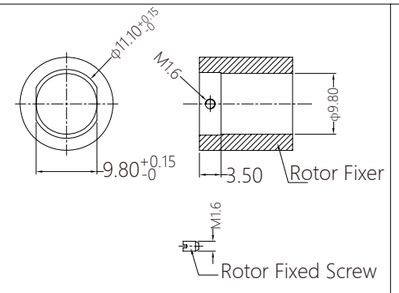
Installation Instructions



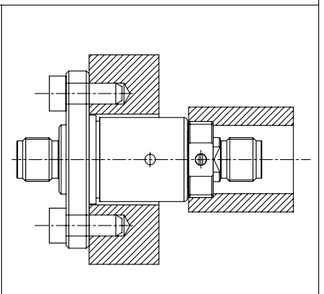
LPHF-01C Sliprings



Recommended mounting hole size for stator end

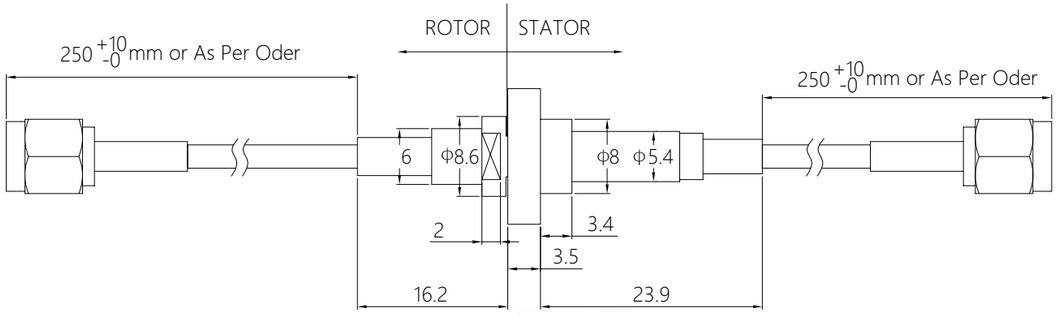


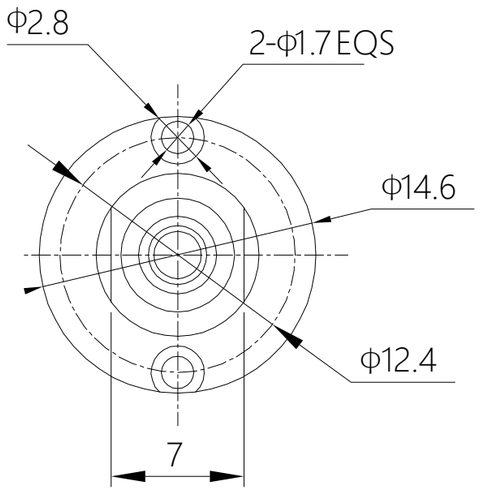
Recommended mounting hole size for the rotor end



Installation Instructions

LPCC-01A Outline Drawing





Specoifications

Interface Type	SMA/MCX/SMB/N/other	Axial Load On Interface, Max	±2N
Frequency Range	DC-3GHz	Radial Load On Interface, Max.	±2N
Impedance	50Ω	Body Material	Nickel-plated brass
Cable Length	250mm/250mm As Per Order	Insulator Material	PTFE
VSWR, Max.	1.5	Marking	Laser marking
VSWR WOW	0.1	Weight, approx	11.5g(Without Cable)
Insertion Loss, Max.	0.4dB(Without Cable) 1.4dB@250/250mm	IP Protection Level	IP40
Insertion Loss WOW	0.1dB	Operation Temperature	-45 ~ +80℃
Peak Power, Max.	1000W	Storage Temperature	-55 ~ +85℃
Average Power, Max.	20W	Humidity (Operation)	95%
Phase WOW	1°	Humidity (Storage)	95%
Rotating Speed, Max.	80rpm	Starting Torque	2Ncm Max
Life Time, Min.	2 Million Revolutions	Continuous Rotational Torque	2Ncm Max

Features

Independent Research and Development

Key Challenges

- Characteristic impedance transition matching design
- Contact material wear resistance technology
- Precision machining and assembly of miniature parts
- Off-axis channel RF rotation coupling technology
- Blind operation low temperature welding process
- High isolation design

Core Technology

- RF simulation optimization technology
- Self-lubricating contact material and lubricant process
- Multi-channel RF slip ring design ideas
- High power slip ring design technology

Slip Ring Performance and Quality

- Slip ring life is not lower than similar products
- Multi-channel slip ring insertion loss index is better than similar products
- Multi-channel slip ring size is smaller than similar products

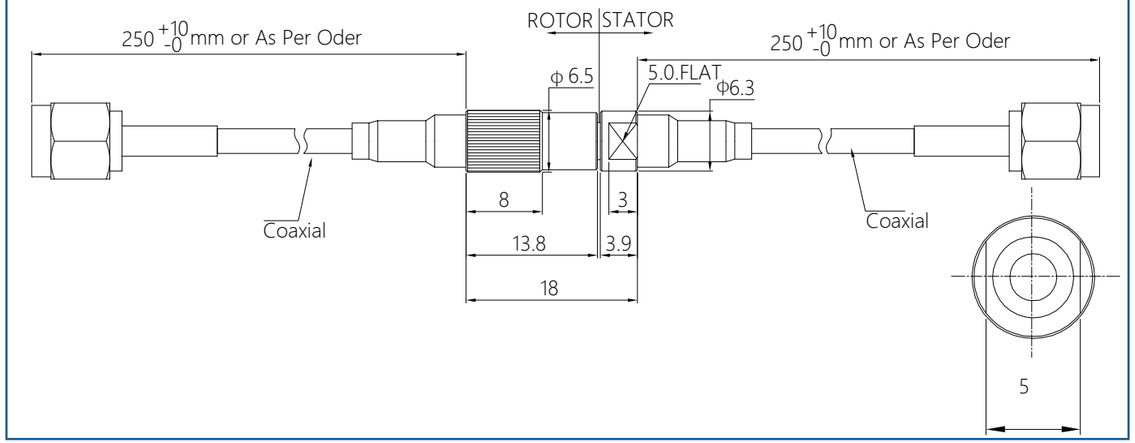
Product Delivery

- Significantly shorten the delivery period compared to imported products; General single-channel products are delivered for 1-2 weeks, multi-channel products are delivered for 2-4 weeks

Cost Performance

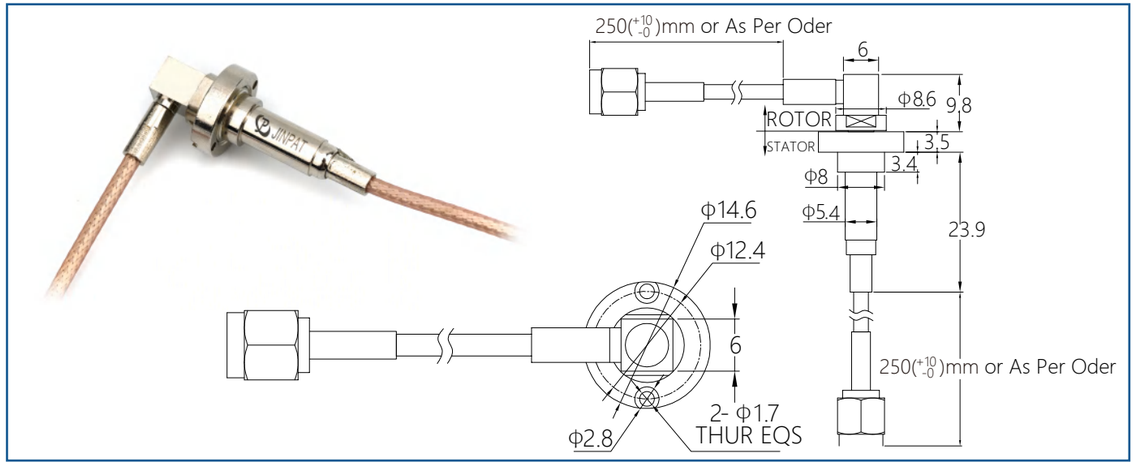
- Cost-effective compared to similar imported products

LPCC-01B Outline Drawing



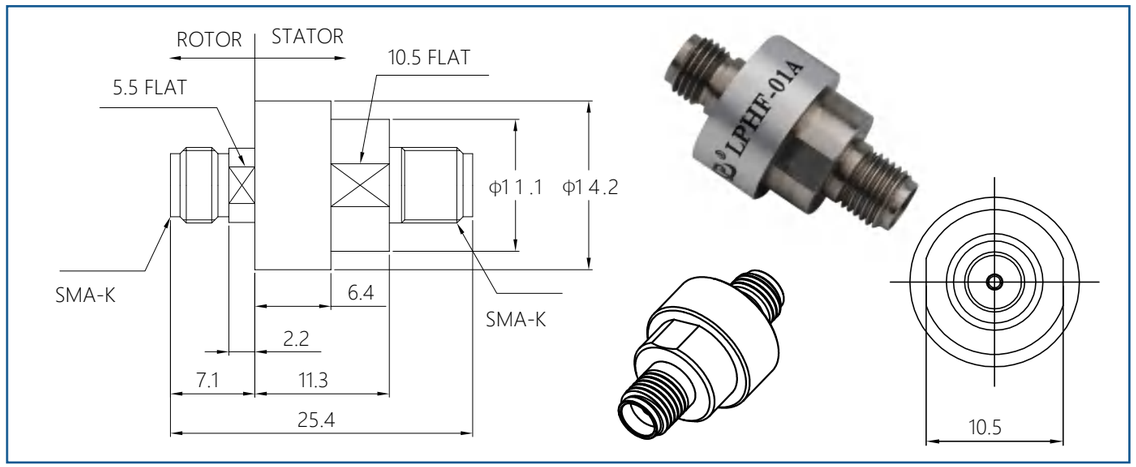
Specoifications			
Interface Type	SMA/MCX/SMB/other	Axial Load on Interface,Max	±2N
Frequency Range	DC-6GHz	Radial Load on Interface,Max	±2N
VSWR，Max	1.5	Body Material	Brass
VSWR，WOW	0.1	Insulator Material	PTFE
Impedance	50 Ohm	Marking	Laser marking
Insertion Loss,Max	0.3dB(Without Cable) 1.8dB@250/250mm	Weight	11.5g(Without Cable)
Insertion Loss,wow	0.1dB	IP Protection Level	IP40
Peak Power,Max	800W	Operation Temperature	-45 ~ +80℃
Average Power Max	5W	Storage Temperature	-55 ~ +85℃
Phase WOW,Max	1°	Humidity(Operation)	95%
Rotating Speed,Max	100rpm	Humidity (Storage)	95%
Life Time,Min	2Million Revolutions	Starting Torque	0.5Ncm Max
Cable Length	250mm/250mm (or Asper Order)	Continuous Rotational Torque	0.5Ncm Max

LPCC-02A Outline Drawing



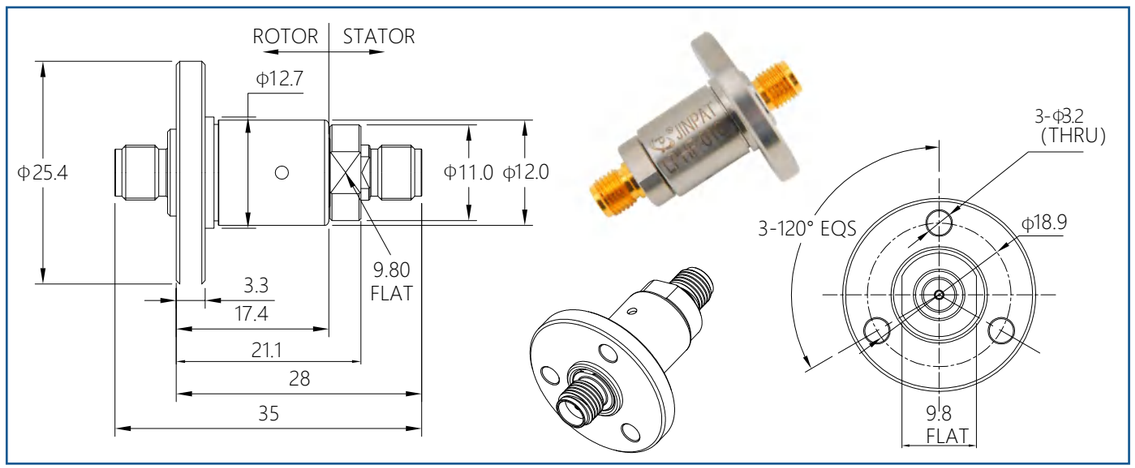
Specoifications			
Interface Type	SMA/MCX/SMB/N/other	Axial Load on Interface,Max	±2N
Frequency Range	DC-3GHz	Radial Load on Interface,Max	±2N
VSWR，Max	1.6	Body Material	Nickel-plated brass
VSWR，WOW	0.1	Insulator Material	PTFE
Impedance	50 Ohm	Marking	Adhesive Label
Insertion Loss,Max	0.4dB(Without Cable) 1.4dB@250/250mm	Weight	11.5g(Without Cable)
Insertion Loss,wow	0.1dB	IP Protection Level	IP40
Peak Power,Max	1000W	Operation Temperature	-45 ~ +80℃
Average Power Max	20W	Storage Temperature	-55 ~ +85℃
Phase WOW,Max	1°	Humidity(Operation)	95%
Rotating Speed,Max	80rpm	Humidity (Storage)	95%
Life Time,Min	2Million Revolutions	Starting Torque	2Ncm Max
Cable Length	250mm/250mm (or Asper Order)	Continuous Rotational Torque	2Ncm Max

LPHF-01A Outline Drawing

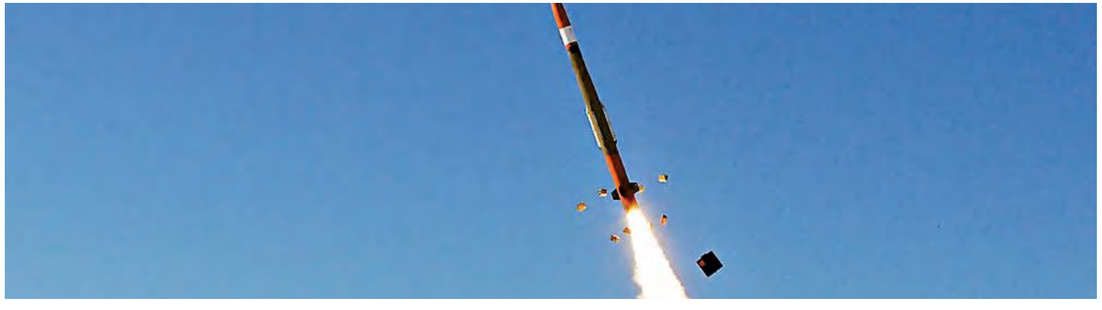


Specoifications			
Interface Type	SMA-F(50Ω)	Axial Load on Interface,Max	±2N
Frequency Range	DC-18Hz	Radial Load on Interface,Max	±2N
VSWR，Max	1.3@DC-10Ghz 1.4@10-18GHz	Body Material	Stainless Steel
VSWR，WOW	0.05	Insulator Material	PTFE
Insertion Loss,Max	0.3dB@DC-10GHz 0.4dB@10-18GHz	Marking	Laser marking
Insertion Loss,wow	0.05dB	Weight	10g
Peak Power,Max	1500KW	IP Protection Level	IP40
Average Power Max	200W@1GHz/30w@18GHz	Operation Temperature	-45 ~ +80℃
Phase WOW,Max	1°	Storage Temperature	-55 ~ +85℃
Rotating Speed,Max	100rpm	Humidity(Operation)	95%
Life Time,Min	1Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	2Ncm Max	Starting Torque	2Ncm Max

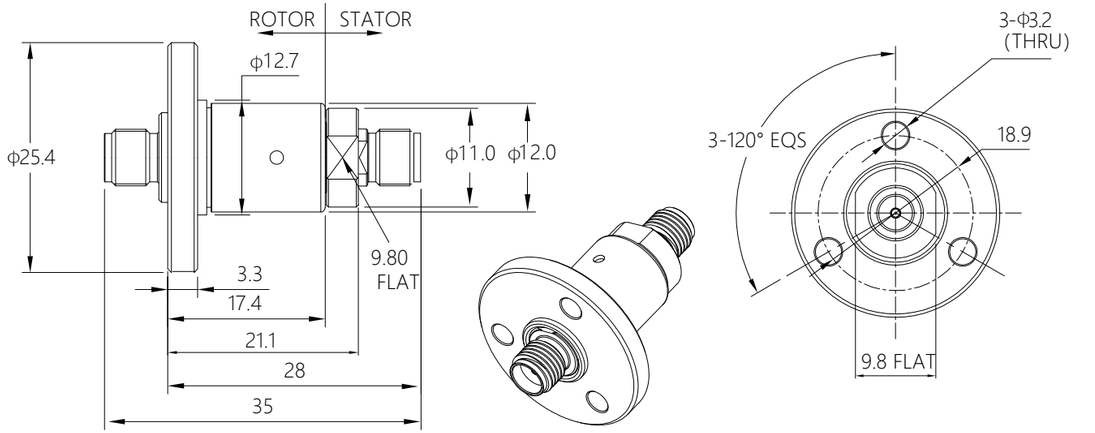
LPHF-01C Outline Drawing



Specoifications			
Interface Type	SMA-F(50Ω)	Axial Load on Interface,Max	±2N
Frequency Range	DC-18Hz	Radial Load on Interface,Max	±2N
VSWR，Max	1.3@DC-10Ghz 1.4@10-18GHz	Body Material	Stainless Steel
VSWR，WOW	0.05	Insulator Material	PTFE
Insertion Loss,Max	0.3dB@DC-10GHz 0.4dB@10-18GHz	Marking	Laser marking
Insertion Loss,wow	0.05dB	Weight	30g
Peak Power,Max	3KW	IP Protection Level	IP40
Average Power Max	200W@1GHz/30w@18GHz	Operation Temperature	-45 ~ +80℃
Phase WOW,Max	1°	Storage Temperature	-55 ~ +85℃
Rotating Speed,Max	300rpm	Humidity(Operation)	95%
Life Time,Min	10Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	2Ncm Max	Starting Torque	2Ncm Max

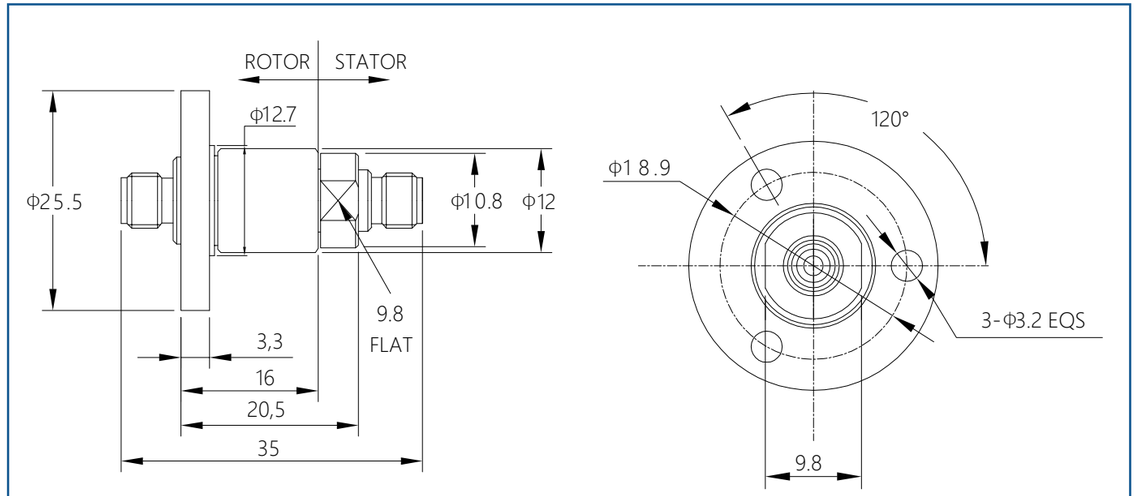


LPHF-01E Outline Drawing



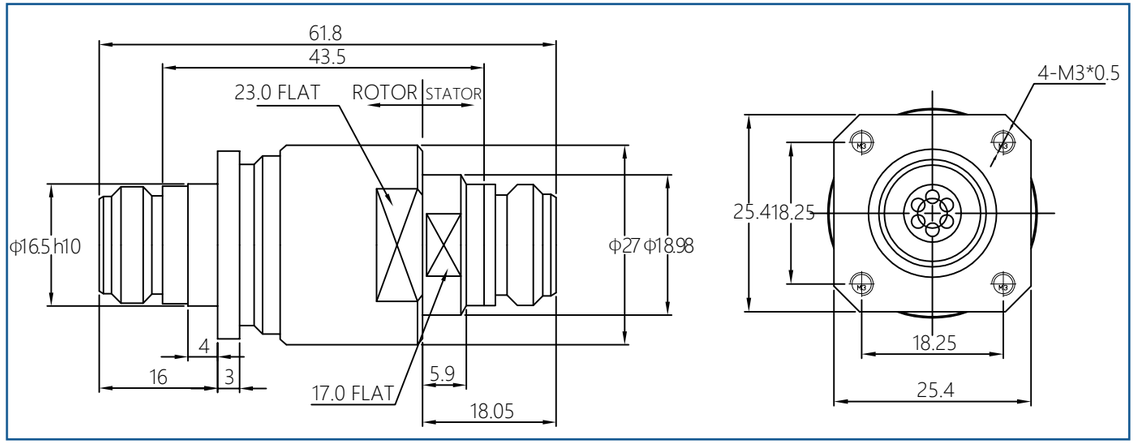
Specoifications			
Interface Type	3.5mm-F(50Ω)	Axial Load on Interface,Max	±2N
Frequency Range	DC-26.5Hz	Radial Load on Interface,Max	±2N
VSWR，Max	1.4@DC-18Ghz 1.7@18-26.5GHz	Body Material	Stainless Steel
VSWR，WOW	0.1	Insulator Material	PTFE
Insertion Loss,Max	0.4dB@DC-18GHz 0.7dB@18-26.5GHz	Marking	Adhesive Label
Insertion Loss,wow	0.1dB	Weight	30g
Peak Power,Max	3KW	IP Protection Level	IP40
Average Power Max	200W@1GHz/25w@26.5GHz	Operation Temperature	-40 ~ +70℃
Phase WOW,Max	2°	Storage Temperature	-55 ~ +85℃
Rotating Speed,Max	200rpm	Humidity(Operation)	95%
Life Time,Min	5Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	2Ncm Max	Starting Torque	2Ncm Max

LPHF-01F Outline Drawing



Specoifications			
Interface Type	2.92mm-F(50Ω)	Axial Load on Interface,Max	±2N
Frequency Range	DC-40GHz	Radial Load on Interface,Max	±2N
VSWR，Max	1.4@DC-18Ghz 2.0@18-40GHz	Body Material	Stainless Steel
VSWR，WOW	0.1	Insulator Material	PTFE
Insertion Loss,Max	0.5dB@DC-18GHz 1.2dB@18-40GHz	Marking	Adhesive Label
Insertion Loss,wow	0.1dB	Weight	30g
Peak Power,Max	500KW	IP Protection Level	IP40
Average Power Max	20W@DC-4GHz；5W@10GHz 2W@10-18GHz；1W@18-40GHz	Operation Temperature	-40 ~ +70℃
Phase WOW,Max	3°	Storage Temperature	-55 ~ +85℃
Rotating Speed,Max	100rpm	Humidity(Operation)	95%
Life Time,Min	5Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	2Ncm Max	Starting Torque	2Ncm Max

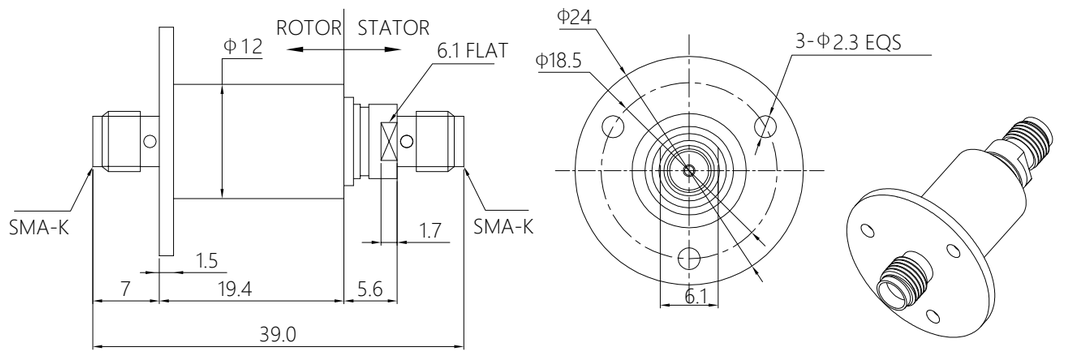
LPHF-01H Outline Drawing



Specoifications

Interface Type	N-F(50Ω)	Axial Load on Interface,Max	±8N
Frequency Range	DC-18GHz	Radial Load on Interface,Max	±8N
VSWR，Max	1.2@DC-10Ghz 1.3@10-18GHz	Body Material	Stainless Steel
VSWR，WOW	0.05	Insulator Material	PTFE
Insertion Loss,Max	0.2dB@DC-10GHz 0.3dB@10-18GHz	Marking	Adhesive Label
Insertion Loss,wow	0.05dB	Weight	150g
Peak Power,Max	10000KW	IP Protection Level	IP54
Average Power Max	200W@1GHz 70W@18GHz	Operation Temperature	-40 ~ +70℃
Phase WOW,Max	2°	Storage Temperature	-55 ~ +80℃
Rotating Speed,Max	300rpm	Humidity(Operation)	95%
Life Time,Min	5Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	30Ncm Max	Starting Torque	30Ncm Max

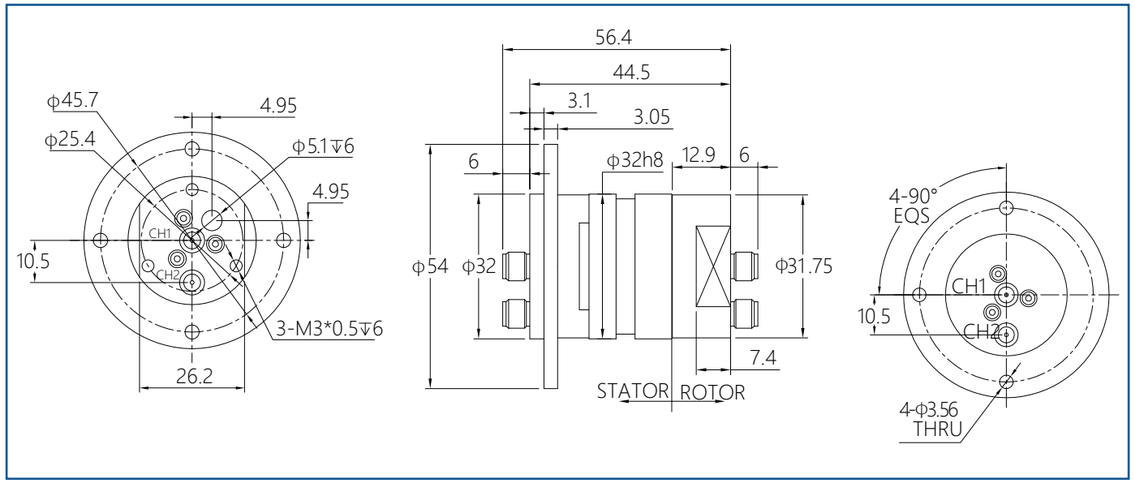
LPHF-01M Outline Drawing



Specoifications

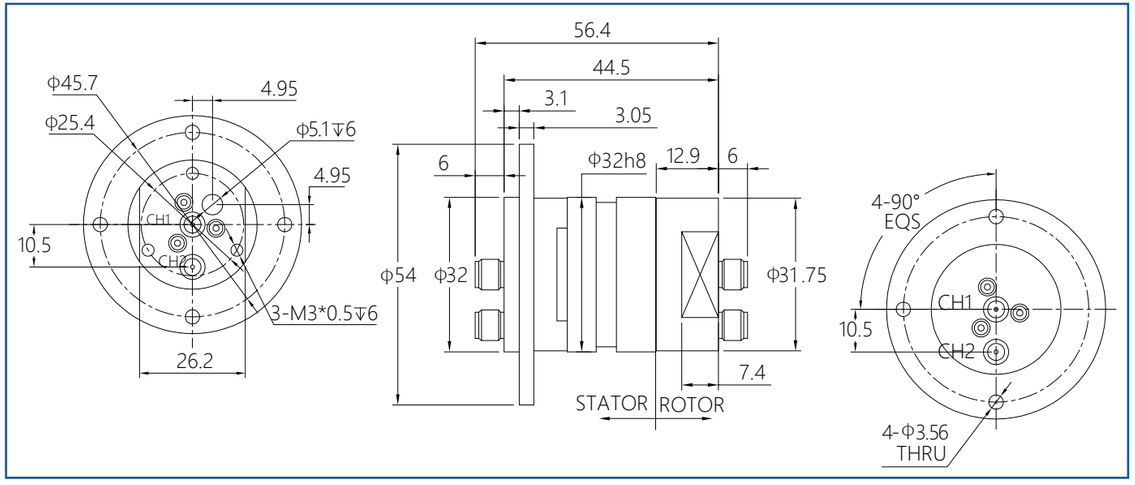
Interface Type	SMA-F(50Ω)	Axial Load on Interface,Max	±2N
Frequency Range	DC-18GHz	Radial Load on Interface,Max	±2N
VSWR，Max	1.35@DC-10Ghz 1.5@10-18GHz	Body Material	Stainless Steel
VSWR，WOW	0.05	Insulator Material	PTFE
Insertion Loss,Max	0.3dB@DC-10GHz 0.4dB@10-18GHz	Marking	Laser marking
Insertion Loss,wow	0.05dB	Weight	21.5g
Peak Power,Max	3KW	IP Protection Level	IP40
Average Power Max	200W@1GHz 30W@18GHz	Operation Temperature	-45 ~ +80℃
Phase WOW,Max	1°	Storage Temperature	-55 ~ +85℃
Rotating Speed,Max	300rpm	Humidity(Operation)	95%
Life Time,Min	10Million Revolutions	Humidity (Storage)	95%
Continuous Rotational Torque	2Ncm Max	Starting Torque	2Ncm Max

LPHF-02A Outline Drawing



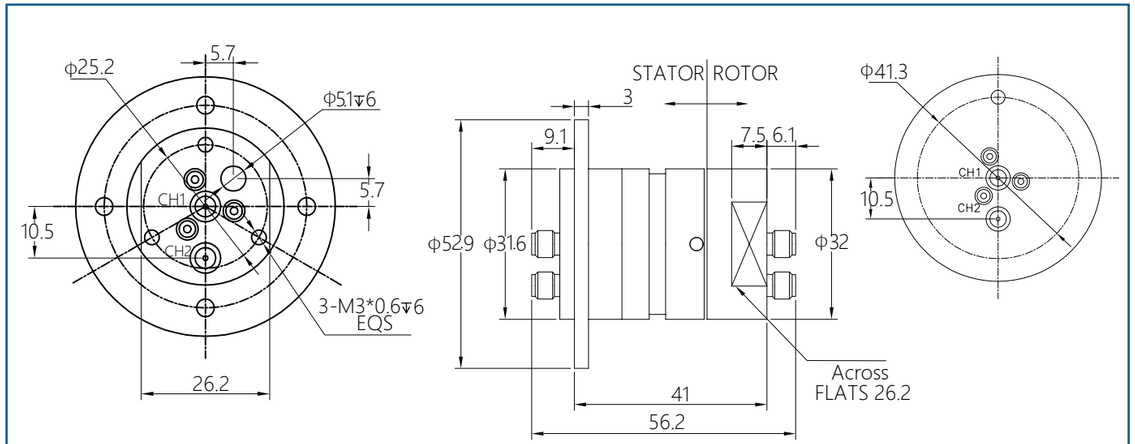
Specoifications				
Chanal	CH 1	CH2	Starting Torque	0.05Nm@ room temperature
Interface Type	SMA-F(50ohm)	SMA-F(50ohm)	Continuous Rotational Torque	0.05Nm@ room temperature
Type	I	I	Rotating Speed, Max.	60rpm
Frequency Fange	DC-4.5GHz	DC-4.5GHz	Life Time, Min.	10million Revolutions
Peak Power,Max	1000W	1000W	Body Material	Aluminum alloy
Average Power,Max	60W@ 1 GHz	10W	Case surface finish	Chromate conversion coat
VSWR, Max	1. 2	1.5	Weight	0.13Kg
WSWR,wow	0.05	0.2	IP Protection Level	IP60
Insertion Loss,Max	0. 2 dB	0.3dB	Operation Temperature	-45~+80°C
Insertion Loss,wow	0.05dB	0.15dB	Storage Temperature	-55~+85°C
DC capabilitu,Max (one channel only)	0.5A, 48VDC@full RF avg.power	0.5A, 24VDC@full RF avg.power	Humidity （Operation ）	95%
Phase wow	0.5deg	4.0deg	Humidity （Storage ）	95%
Isolation,min		50dB		

LPHF-02B Outline Drawing



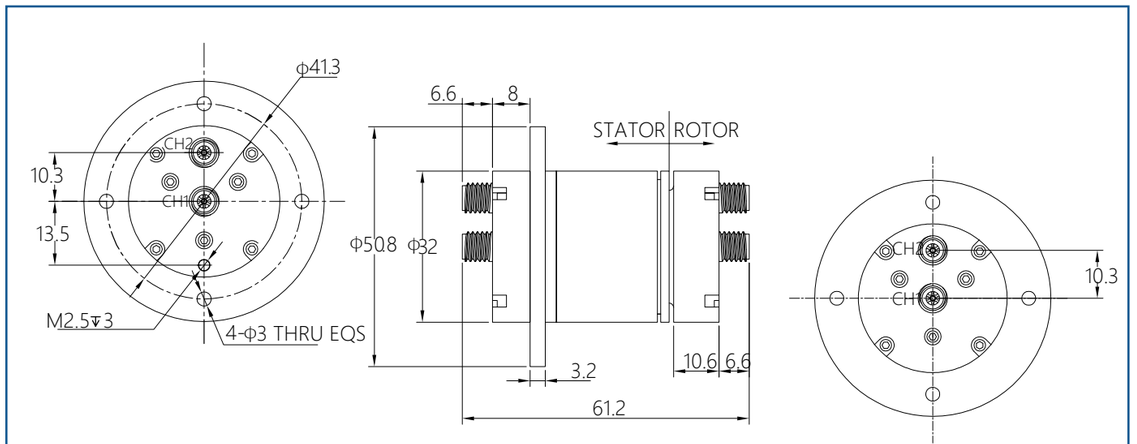
Specoifications				
Chanal	CH 1	CH2	Starting Torque	0.05Nm@ room temperature
Interface Type	SMA-F(50ohm)	SMA-F(50ohm)	Continuous Rotational Torque	5Nm@ room temperature
Type	I	I	Rotating Speed, Max.	60rpm
Frequency Fange	DC-18GHz	DC-4GHz	Life Time, Min.	5million Revolutions
Peak Power,Max	1000W	1000W	Body Material	Aluminum alloy
Average Power,Max	200W@ 1 GHz	10W	Case surface finish	Chromate conversion coat
VSWR, Max	1.3@DC-8GHz 1.5@8-18GHz	1.2@DC-2GHz 1.5@2-4GHz	Weight	0.13Kg
WSWR,wow	0.05	0.2	IP Protection Level	IP60
Insertion Loss,Max	0.4dB@DC-4GHz 0.9dB@4-18GHz	0.5dB	Operation Temperature	-45~+80°C
Insertion Loss,wow	0.05dB	0.15dB	Storage Temperature	-55~+85°C
DC capabilitu,Max (one channel only)	0.5A, 48VDC@full RF avg.power	0.5A, 24VDC@full RF avg.power	Humidity （Operation ）	95%
Phase wow	1.0deg	4.0deg	Humidity （Storage ）	95%
Isolation,min		50dB		

LPHF-02C Outline Drawing



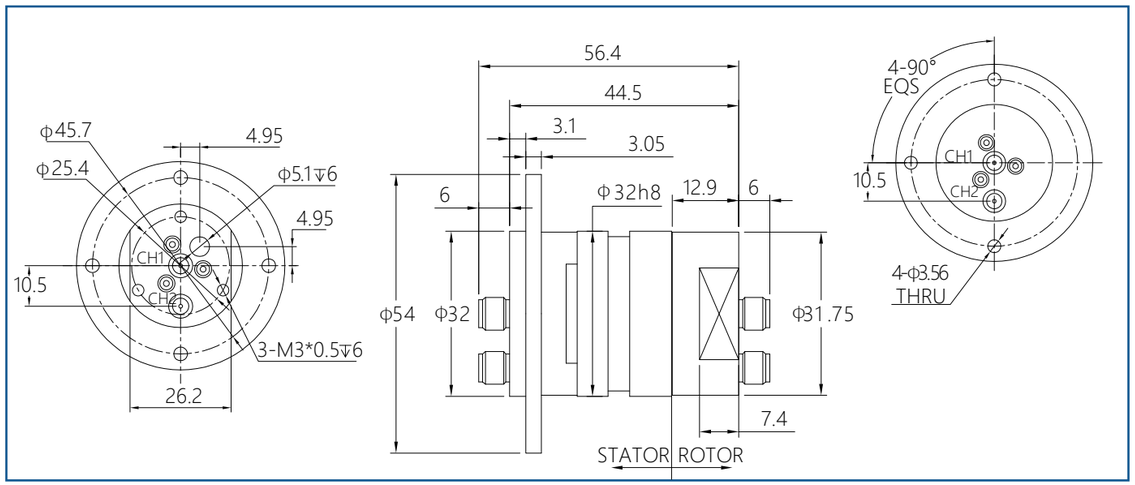
Specoifications				
Channel	CH1	CH 2	Starting Torque	0.5Ncm@
Interface Type	SMA-F(50ohm)	SMA-F(50ohm)	Continuous Rotational Torque	0.5Ncm@
Type	I	I	Rotating Speed, Max.	60rpm
Frequency Range	DC-18GHz	DC-13GHz	Life Time, Min.	5 million revolutions
Peak Power, Max.	1KW	1KW	Body Material	Aluminum alloy
Average Power, Max.	100W@DC-2GHz 60W@2-8GHz 10W@8-18GHz	10W	Case surface finish	Chromate conversion coat
VSWR, Max.	1.3@DC-8GHz 1.5@8-18GHz	1.6@DC-4GHz 1.8@4-8GHz 2.0@8-13GHz	Weight,approx	0.13Kg
VSWR WOW	0.1	0.3@DC-8GHz 0.5@8-13GHz	IP Protection Level	IP60
Insertion Loss, Max.	0.4dB@DC-8GHz 1.0dB@8-18GHz	0.5dB@DC-4GHz 0.9dB@4-8GHz 1.5dB@8-13GHz	Operation Temperature	-40~+70°C
Insertion Loss WOW	0.1dB	0.3dB@DC-8GHz 0.5dB@8-13GHz	Storage Temperature	-55~+85°C
Phase WOW	0.5 deg@DC-8GHz 1.0 deg@8-18GHz	4 deg@DC-8GHz 10 deg@8-13GHz	Humidity (Operation)	95%
Isolation，min.	50dB		Humidity (Storage)	95%

LPHF-02D Outline Drawing



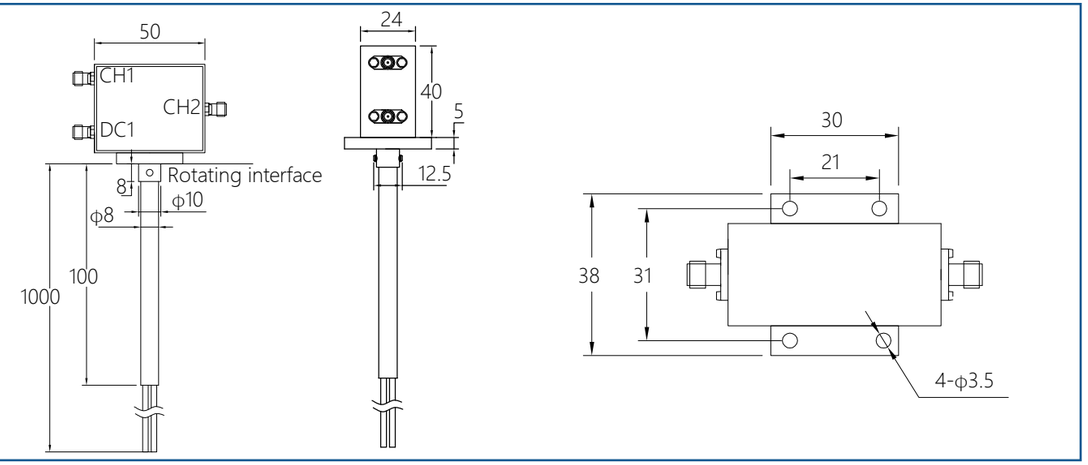
Specoifications				
Channel	CH1	CH 2	Starting Torque	0.5Ncm@
Interface Type	2.92mm-F	2.92mm-F	Continuous Rotational Torque	0.5Ncm@
Type	I	I	Rotating Speed, Max.	50rpm
Frequency Range	DC-18GHz	DC-18GHz	Life Time, Min.	5 million revolutions
Peak Power, Max.	2KW	2KW	Body Material	Aluminum alloy
Average Power, Max.	50W@1GHz	50W@1GHz	Case surface finish	Chromate conversion coat
VSWR, Max.	1.35@DC-8GHz 1.75@8-18GHz	2.0@DC-4GHz; 3.0@4-8GHz 3.5@8-12GHz; 4.5@12-18GHz	Weight,approx	0.284Kg
VSWR WOW	0.05	0.1@DC-4GHz; 0.35@4-8GHz 0.8@8-12GHz; 2.0@12-18GHz	IP Protection Level	IP40
Insertion Loss, Max.	0.4dB@DC-8GHz 1.0dB@8-18GHz	0.75dB@DC-4GHz; 1.5dB@4-8GHz 2.5dB@8-12GHz; 3.0dB@18GHz	Operation Temperature	-40~+70°C
Insertion Loss WOW	0.05dB	0.1dB@DC-4GHz; 0.3dB@4-8GHz 0.75dB@8-12GHz; 1.5dB@12-18GHz	Storage Temperature	-55~+85°C
Phase WOW	0.5 deg@DC-8GHz 1.5deg@8-18GHz	4 deg@DC-8GHz 8 deg@8-12GHz 25 deg@8-18GHz	Humidity (Operation)	95%
Isolation，min.	50dB		Humidity (Storage)	95%

LPHF-02G Outline Drawing



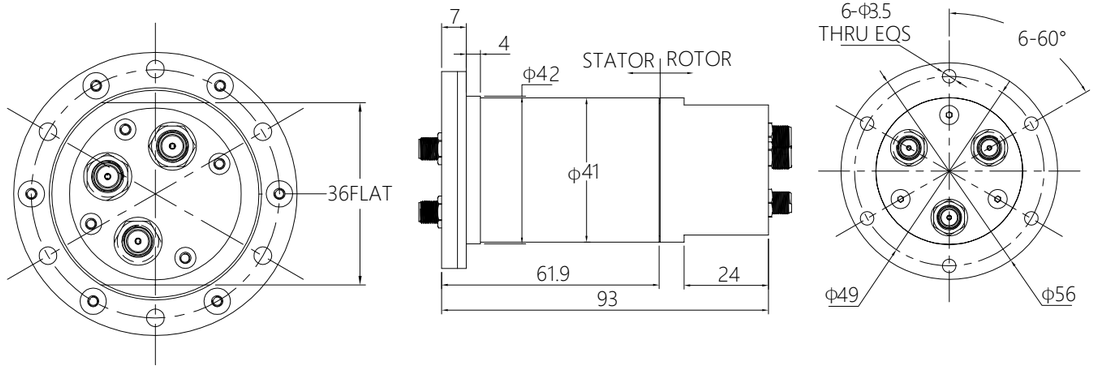
Specoifications				
Channel	CH1	CH 2	Starting Torque	0.5Ncm@
Interface Type	SMA-F（50ohm）	SMA-F（50ohm）	Continuous Rotational Torque	0.5Ncm@
Type	I	I	Rotating Speed, Max.	60rpm
Frequency Range	DC-8GHz	DC-8GHz	Life Time, Min.	5 million revolutions
Peak Power, Max.	1000W	1000W	Body Material	Aluminum alloy
Average Power, Max.	200W@1GHz	10W	Case surface finish	Chromate conversion coat
VSWR, Max.	1.2@DC-4GHz 1.3@4-8GHz	1.8@DC-4GHz 2.2@4-8GHz	Weight,approx	0.134Kg
VSWR WOW	0.1	0.4	IP Protection Level	IP60
Insertion Loss, Max.	0.2dB@DC-4GHz 0.4dB@4-8GHz	0.5dB@DC-4GHz 0.8dB@4-8GHz	Operation Temperature	-45~+80°C
Insertion Loss WOW	0.05dB	0.35dB	Storage Temperature	-55~+85°C
DC capability, max. (one channel only)	0.5 A, 48 VDC @ full RF avg. power	0.5 A, 24 VDC @ full RF avg. power	Humidity (Operation)	95%
Phase WOW	0.5°	4°	Humidity (Storage)	95%
Isolation，min.	50dB			

LPHF-02P50-DC Outline Drawing



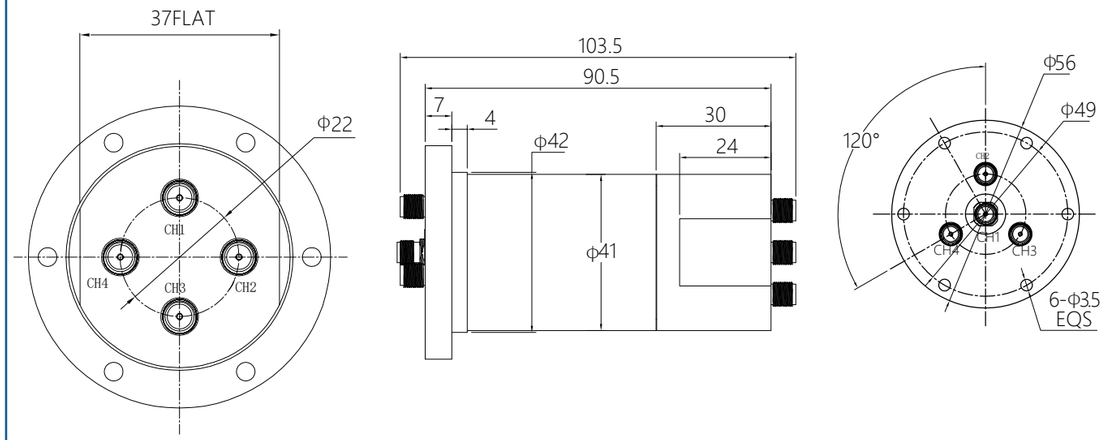
Specoifications			
Channel	CH1	CH2	DC1
Frequency Range	DC-2.2GHz	DC-2.2GHz	DC
Interface Type	SMA-F(50Ohm)	SMA-F(50Ohm)	SMA-F
VSWR, Max	1.8	1.8	/
VSWR WOW	0.25	0.25	/
Insertion Loss,Max	1.8dB@1000mm Cable length	1.8dB@1000mm Cable length	/
Insertion Loss WOW	0.25dB	0.25dB	/
Peak Power, Max	500W	500W	/
Average Power, Max	5W	5W	/
Isolation，min.	40dB		/
Voltage	12-24VDC@Full Power		48VDC
Current Capacity	1.0A		3.0A
Rotation Speed, Max	80rpm		
Life Time, Min.	2 Million Revolutions		

LPHF-03C Outline Drawing



Specoifications					
Channel	CH1	CH 2	CH3	Starting Torque	0.6Ncm@
Interface Type	SMA-F（50ohm）	SMA-F（50ohm）	SMA-F（50ohm）	Continuous Rotational Torque	0.6Ncm@
Type	I	I	I	Rotating Speed, Max.	30rpm
Frequency Range	DC-3GHz	DC-3GHz	DC-3GHz	Life Time, Min.	5 million revolutions
Peak Power, Max.	1000W	1000W	1000W	Body Material	Aluminum alloy
Average Power, Max.	30W@1GHz	30W@1GHz	30W@1GHz	Case surface finish	Chromate conversion coat
VSWR, Max.	1.5	1.5	1.5	Weight,approx	400g
VSWR WOW	0.1	0.1	0.1	IP Protection Level	IP63
Insertion Loss, Max.	0.8dB	0.8dB	0.8dB	Operation Temperature	-40~+70°C
Insertion Loss WOW	0.15dB	0.15dB	0.15dB	Storage Temperature	-55~+85°C
Phase WOW	±4°	±4°	±4°	Humidity (Operation)	95%
Isolation，min.	50dB			Humidity (Storage)	95%

LPHF-04A Outline Drawing



Specoifications						
Channel	CH1	CH2	CH3	CH4	Starting Torque	0.8Nm@room temperature
Interface Type	SMA-K(50Ω)	SMA-F(50Ω)	SMA-F(50Ω)	SMA-F(50Ω)	Continuous Rotational Torque	0.8Nm@room temperature
Type	I	I	I	I	Rotating Speed, Max.	30rpm
Frequency Range	DC-4GHz	DC-4GHz	DC-4GHz	DC-4GHz	Life Time, Min.	5 million Revolutions
Peak Power, Max.	1000W	1000W	1000W	1000W	Body Material	Aluminum alloy
Average Power, Max.	30W@1GHz	30W@1GHz	30W@1GHz	30W@1GHz	Case surface finish	Chromate conversion
VSWR, Max.	1.3	1.5	1.5	1.5	Weight, approx	400g
VSWR WOW	0.1	0.1	0.1	0.1	IP Protection Level	IP63
Insertion Loss, Max.	1.0dB	1.0dB	1.0dB	1.0dB	Operation Temperature	-40~+70°C
Insertion Loss WOW	0.15dB	0.15dB	0.15dB	0.15dB	Storage Temperature	-55~+85°C
Phase WOW	1°	4°	4°	4°	Humidity (Operation)	95%
Isolation，min.	55dB				Humidity (Storage)	95%

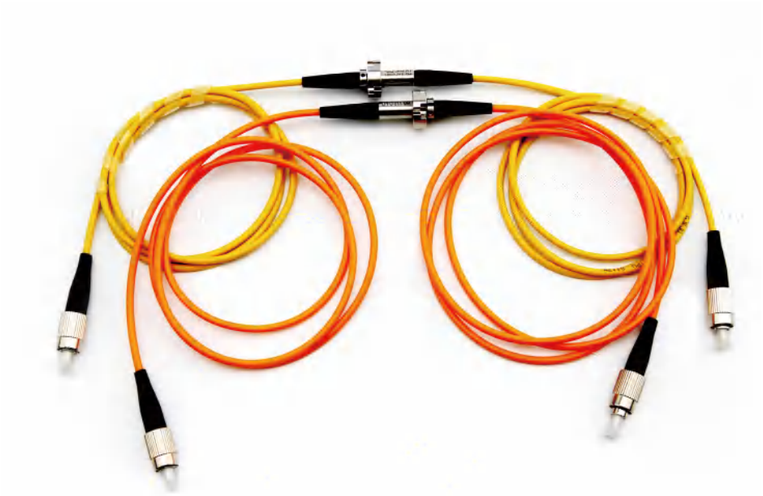
LPHF High Frequency Rotary Joints

	Model	Channel	Interface	Frequency range	Peak power,max	Average power,max	VSWR, max	Insertion loss, max	Isolation, min
Single-Channel	LPCC-01A	1	Optional	DC-3GHz	1000W	20W@3GHz	1.5@0-3GHz	1.4dB@3GHz (250mm/250mm)	/
	LPCC-02A	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.4dB@3GHz (250mm/250mm)	/
	LPCC-01B	1	Optional	DC-6GHz	800W	10W@6GHz	1.5@6GHz	1.8dB@0-6G (250mm/250mm)	/
	LPHF-01A	1	SMA-f(50Ω)	DC-18GHz	1500W	200W@1GHz 30W@18GHz	1.3@DC-10GHz 1.4@10-18GHz	0.25dB@0-6GHz 0.3dB@6-12GHz 0.5dB@12-18GHz	/
	LPHF-01C	1	SMA-f(50Ω)	DC-18GHz	3000W	200W@1GHz 30W@18GHz	1.2@0-6GHz 1.3@6-12GHz 1.4@12-18GHz	0.25dB@0-6GHz 0.3dB@6-12GHz 0.4dB@12-18GHz	/
	LPHF-01E	1	3.5mm-f(50Ω)	DC-26.5GHz	3000W	200W@1GHz 50W@18GHz 30W@26.5GHz	1.30@0-12GHz 1.35@12-18GHz 1.7@18-26.5GHz	0.3dB@0-12GHz 0.35dB@12-18GHz 0.7dB@18-26.5GHz	/
	LPHF-01F	1	2.92mm-f(50Ω)	DC-40GHz	500W	50W@2GHz 2W@18GHz 1W@40GHz	1.4@0-18GHz 1.7@18-26.5GHz 2.0@26.5-40GHz	0.5dB@0-18GHz 1.0dB@18-26.5GHz 1.2dB@26.5-40GHz	/
	LPHF-01G	1	2.4mm-f(50Ω)	DC-50GHz	1000W	50W@1GHz 15W@10GHz 3W@50GHz	1.3@0-10GHz 1.4@10-26.5GHz 1.7@26.5-50GHz	0.3dB@0-10GHz 0.5dB@10-26.5GHz 0.9dB@26.5-50GHz	/
	LPHF-01H	1	N-f(50Ω)	DC-18GHz	10000W	200W@1GHz 100W@8GHz 70W@18GHz	1.2@0-10GHz 1.3@10-18GHz	0.2dB@0-10GHz 0.3dB@10-18GHz	/
	LPHF-01L	1	2.92mm-f(50Ω)	DC-40GHz	500W	50W@2GHz 2W@18GHz 1W@40GHz	1.4@0-18GHz 1.7@18-26.5GHz 2.0@26.5-40GHz	0.5dB@0-18GHz 1.0dB@18-26.5GHz 1.2dB@26.5-40GHz	/
	LPHF-01M	1	SMA-f(50Ω)	DC-18GHz	3000W	200W@1GHz	1.35@0-10GHz 1.5@10-18GHz	0.3dB@0-10GHz 0.4dB@10-18GHz	/
Multi-Channel	LPHF-02A	2	SMA-f(50Ω)	DC-4.5GHz	1000W	60W@4.5GHz	1.2	0.25dB	50dB
			SMA-f(50Ω)	DC-4.5GHz	1000W	10W	1.5	0.3dB	
	LPHF-02B	2	SMA-f(50Ω)	DC-18GHz	1000W	200W@1GHz	1.3@0-8GHz 1.5@4-18GHz	0.4dB@0-4GHz 0.9dB@4-18GHz	50dB
			SMA-f(50Ω)	DC-4GHz	1000W	200W@1GHz	1.5	0.5dB	
	LPHF-02C	2	SMA-f(50Ω)	DC-18GHz	1000W	100W@2GHz 60W@8GHz 10W@18GHz	1.35@0-8GHz 1.5@8-18GHz	0.4dB@0-8GHz 0.9dB@8-18GHz	50dB
			SMA-f(50Ω)	DC-13GHz	1000W	10W	1.6@0-4GHz 1.8@4-8GHz 2.0@8-13GHz	0.5dB0-4GHz 0.7dB@4-8GHz 1.0dB@8-13GHz	
	LPHF-02D	2	2.92-f(50Ω)	DC-18GHz	1000W	100W@2GHz 35W@8GHz 10W@18GHz	1.35@0-8GHz 1.5@8-18GHz	0.4dB@0-8GHz 1.0dB@8-18GHz	50dB
			2.92-f(50Ω)	DC-18GHz	1000W	10W	2.0@0-4GHz 2.5@4-8GHz 3.5@8-12GHz 4.5@12-18GHz	0.5dB@0-4GHz 1.0dB@4-8GHz 2.0dB@8-12GHz 3.5dB@12-18GHz	
	LPHF-02E	2	SMA-f(50Ω)	DC-5GHz	1000W	60W@5GHz	1.2	0.25dB	50dB
			SMA-f(50Ω)	DC-5GHz	1000W	10W	1.5	0.45dB	

LPHF High Frequency Rotary Joints

	Model	Channel	Interface	Frequency range	Peak power,max	Average power,max	VSWR, max	Insertion loss, max	Isolation, min.
Multi-Channel	LPHF-02F	2	SMA-f(50Ω)	DC-18GHz	1000W	100W@2GHz 35W@8GHz 10W@18GHz	1.35@0-8GHz 1.5@8-18GHz	0.5dB@0-8GHz 1.0dB@8-18GHz	50dB
			SMA-f(50Ω)	DC-13GHz	1000W	10W	1.6@0-5GHz 2.0@5-13GHz	0.6dB@0-5GHz 1.2dB@5-13GHz	
	LPHF-02G	2	SMA-f(50Ω)	DC-8GHz	1000W	200W@1GHz	1.2@0-4GHz 1.3@4-8GHz	0.2dB@0-4GHz 0.4dB@4-8GHz	50dB
			SMA-f(50Ω)	DC-8GHz	1000W	10W	1.8@0-4GHz 2.2@4-8GHz	0.5dB@0-4GHz 0.8dB@4-8GHz	
	LPHF-03A	3	SMA-f(50Ω)	DC-3GHz	1000W	10W	1.3	0.4dB	60dB
			SMA-f(50Ω)	DC-3GHz	1000W	50W@1GHz	2.0	0.7dB	
			SMA-f(50Ω)	DC-3GHz	1000W	50W@1GHz	2.0	0.4dB	
	LPHF-03B	3	TNC(50Ω)	DC-3GHz	3000W	100W	1.7	0.75dB	60dB
			TNC(50Ω)	DC-3GHz	3000W	30W	1.7	0.75dB	
			TNC(50Ω)	DC-3GHz	3000W	30W	1.3	0.75dB	
	LPHF-03C	3	SMA-K(50Ω)	DC-3GHz	1000W	30W	1.5	0.8dB	50dB
			SMA-K(50Ω)	DC-3GHz	1000W	30W	1.5	0.8dB	
			SMA-K(50Ω)	DC-3GHz	1000W	30W	1.5	0.8dB	
	LPHF-04A	4	SMA-f(50Ω)	DC-4GHz	1000W	50W	1.3	1.0dB	55dB
			SMA-f(50Ω)	DC-4GHz	1000W	10W	1.5	1.0dB	
			SMA-f(50Ω)	DC-4GHz	1000W	10W	1.5	1.0dB	
			SMA-f(50Ω)	DC-4GHz	1000W	10W	1.5	1.0dB	
Integrated	LPC-1C1202	1	可选	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.4dB@3GHz (250mm/250mm)	/
	LPC-1C2402	1	可选	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.4dB@3GHz (250mm/250mm)	/
	LPC-1C3002	1	可选	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.4dB@3GHz (250mm/250mm)	/
	LPC-1C3602	1	可选	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.4dB@3GHz (250mm/250mm)	/

LPFO Fiber Optic Rotary Joints



Electrical & Electronics		Mechanical		Environmental	
Channels	1~50 (optional)	Maximum speed	2000rpm or more	Working temperature	-45 ~ 85℃
Wavelength range	650-1650nm (customized)	Tensile load	10N		
Insertion loss	Single-Channel < 2dB multi-channel < 5dB	Package style	Pigtails/Interfaces	Storage temperature	-55 ~ 85℃
Insertion loss ripple	Single-Channel < 0.5dB multi-channel < 2dB	Connector types	ST/FC/SC/LC,etc.		
Return Loss	Single Mode:40dB Multi Mode:30dB	Jacket types	0.9/2/3mm (TPU or Armor)	IP rating	IP68 (Maximum)
Crosstalk	> 45dB	Vibration	MIL-STD-167-1A (Military Level)		
Maximum optical power	23dBm (High power customized)	Mechanical shock	MIL-STD-810G (Military Level)		

Brief Introduction

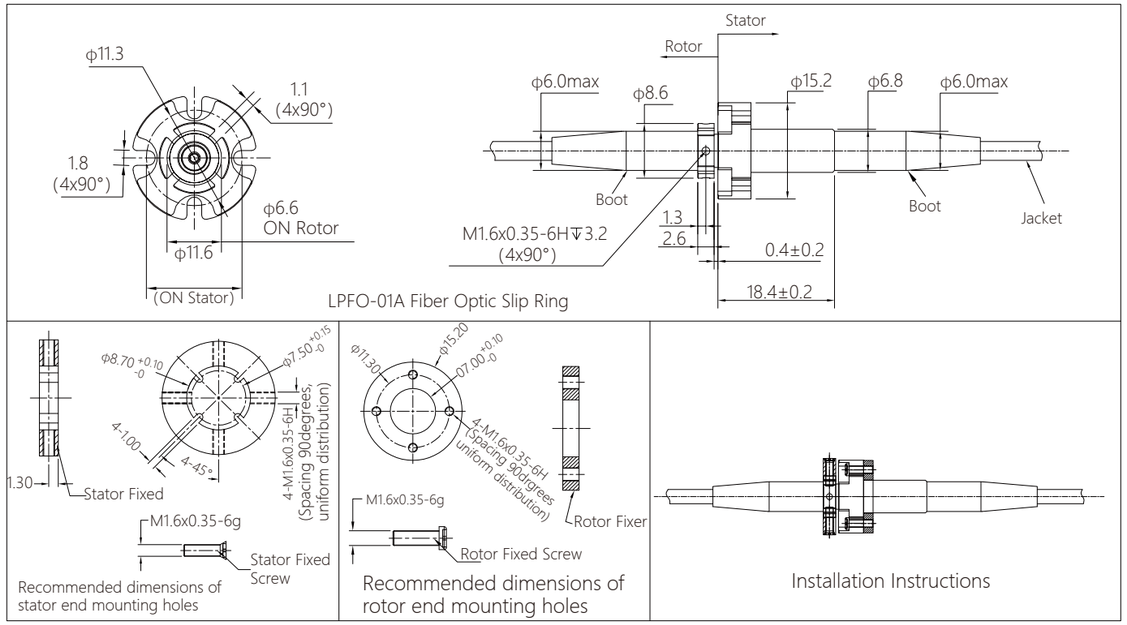
Fiber Optic Rotary Joint adopts fiber optic as media, providing the best technical solution for the transmission of data. It is especially suitable for equipments that require unlimited, continuous or intermittent rotation, transmitting large capacity of data and signals from the stationary position to the rotary position. It can improve mechanical performance, simplify system operation, and avoid damage to fiber optic due to the rotation of moving joints. The fiber optic rotary joint can be used together with a traditional electric slip ring, so as to make a photoelectric hybrid slip ring for the transmission of power and high speed data.

Advantages:
◎No contact and friction, long life, up to 10 million rpm (more than 100 million rpm for signal channel)
◎Can combine with multiple signals such as video, series, and Ethernet signal, etc.
◎Use optical fiber to transmit information, no leakage, no electromagnetic interference; can transmit tens of hundreds of kilometers of networking applications over long distances
◎The transmission bandwidth is much larger than the electrical connector, and it can be used to double the bandwidth with the wavelength division multiplexer.
◎Small in volume and light in weight that is easy to integrate with electric slip ring, and system is easy to upgrade and change
◎Providing the world's smallest single-channel fiber optic rotary joint, as well as double-channels, four-channels, ten-channel or even more channel for your option
◎Providing photoelectric integrated rotary joint

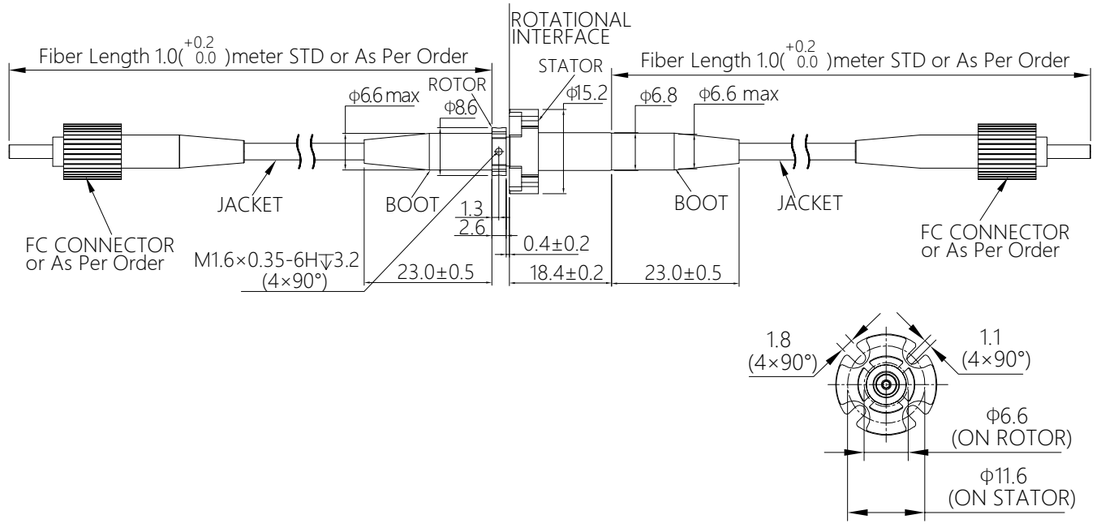
Options
◎Fiber optic transmission type is optional, circuits of current and signal are optional.
◎Single mode or multi mode, single channel or multiple channel
◎Shape can be customized, housing material and driving connector are optional as well

Typical Application
◎Robotics
◎Material conveying system
◎Rotating turret on the vehicle
◎Remote control system
◎Radar system
◎Offshore and marine system
◎High speed video, digital, analog signal transmission and control of optic fiber sensor revolving table
◎Medical system
◎Video surveillance system
◎National or international security systems
◎Subsea operating systems

Installation Instructions

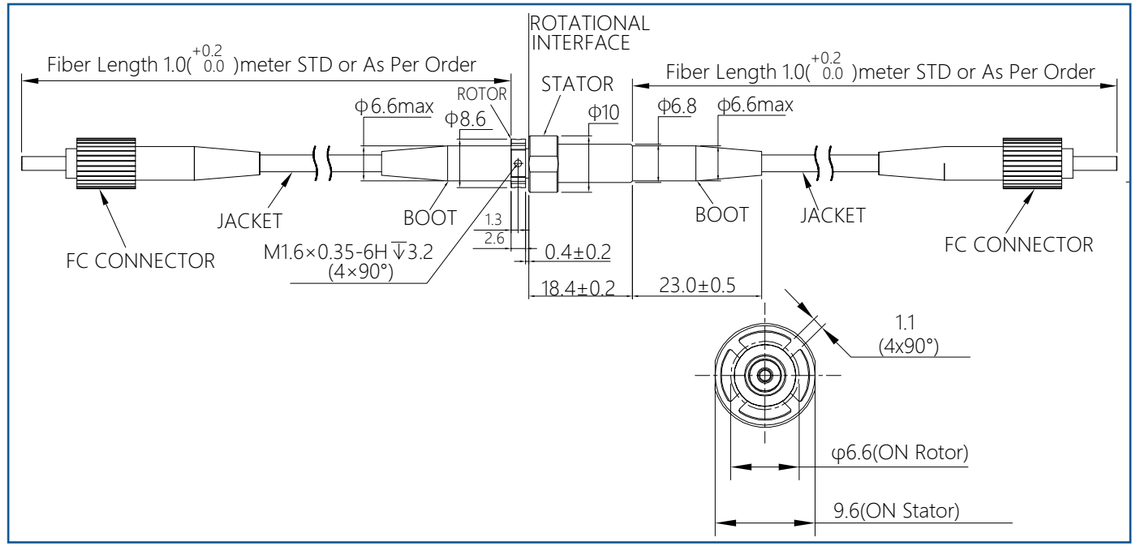


LPFO-01A Outline Drawing



Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:650-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<2dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP65 or IP68
Return loss	≥40dB（SM）/ ≥30dB（MM）	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Working temperature	-45~85°C	Jacket types	0.9/2/3mm (Kevlar/TPU or Armor)
Storage temperature	-50~+85°C	Weight approx	10g(No tail cable and connection included)

LPFO-01B Outline Drawing



Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:650-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<2dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP65 or IP68
Return loss	≥40dB（SM） ≥30dB（MM）	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Working temperature	-45~+80°C	Jacket types	0.9/2/3mm (Kevlar/TPU or Armor)
Storage temperature	-55~+85°C	Weight approx	10g(No tail cable and connection included)

Features

Independent Research and Development

Key Challenges

- Fiber collimator optical machine coaxial adjustment
- Optical machine coaxial test system
- Fiber contactless coupling
- High coaxial array collimator
- Precision 2:1 transmission structure design
- Design and precision adjustment of the derotating prism

Core Technology

- Fiber non-contact rotary coupling technology
- High-speed single-channel fiber slip ring technology
- Compact multi-channel fiber optic slip ring design
- Visible band optical fiber slip ring technology
- High power fiber slip ring design

Slip Ring Performance and Quality

- Slip ring life is not lower than similar products
- Multi-channel slip ring insertion loss index is better than similar products
- Multi-channel slip ring size is smaller than similar products

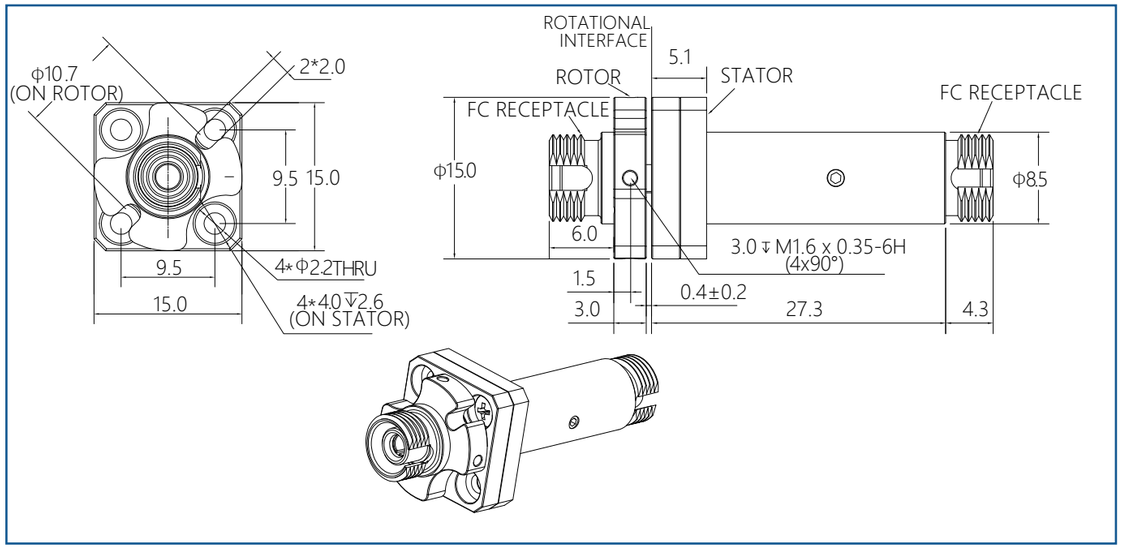
Product Delivery

- Significantly shorten the delivery period compared to imported products; General single-channel products are delivered for 1-2 weeks, multi-channel products are delivered for 2-4 weeks

Cost Performance

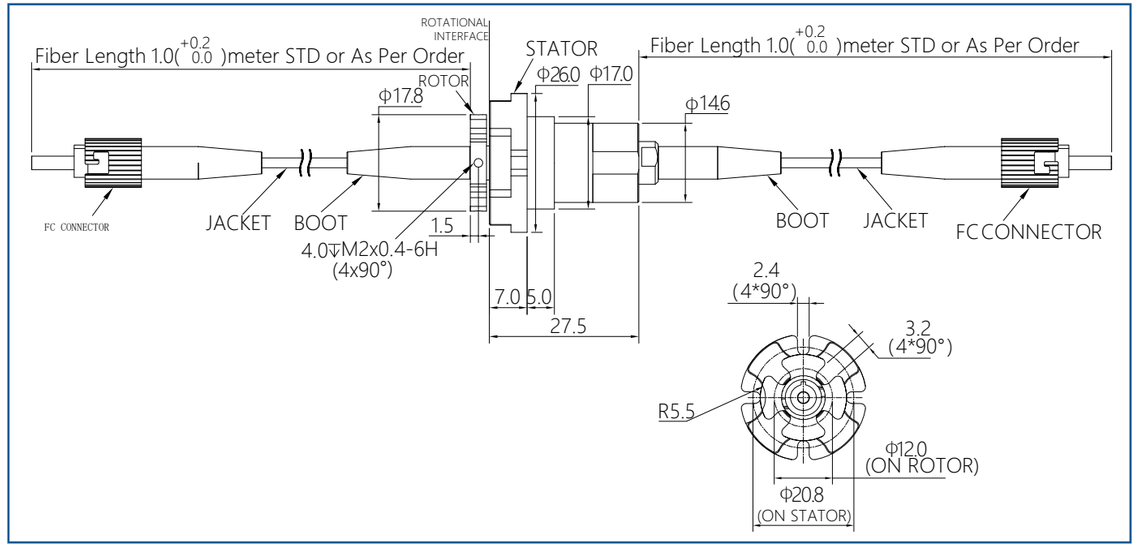
- Cost-effective compared to similar imported products

LPFO-01C Outline Drawing

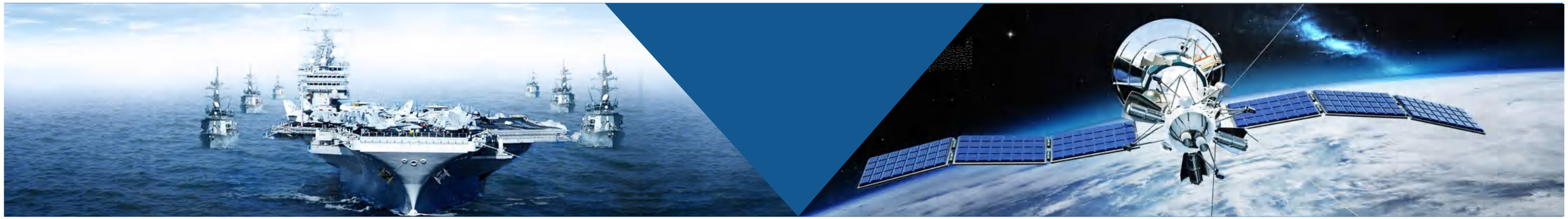


Specoifications			
Fiber types	SM or MM	Connector types	FC/PC
Channel number	1	Estimated life cycle	200-400 millionrevolutions
Wavelength range	SM:1270-1650nm MM:650-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<3dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP68
Return loss	≥30dB	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	FC RECEPTACLE
Working temperature	-40~+85°C	Jacket types	/
Storage temperature	-50~85°C	Weight approx	20g

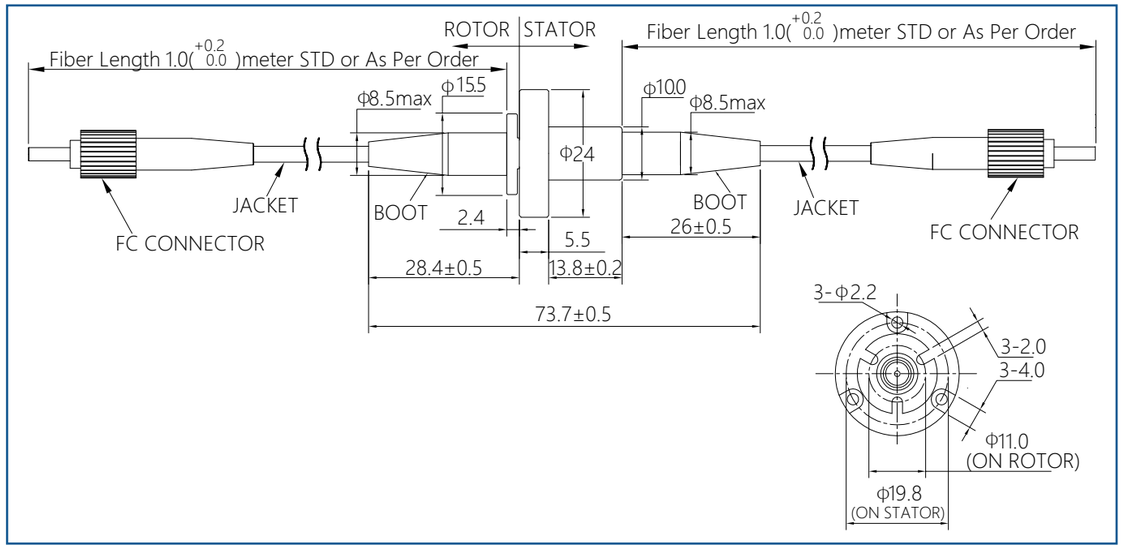
LPFO-01D Outline Drawing



Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:650-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<2dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP65 or IP68
Return loss	≥40dB	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Working temperature	-45~+80°C	Jacket types	0.9/2/3mm (Kevlar/PVC or Armor)
Storage temperature	-55~+85°C	Weight approx	50g(No tail cable and connection included)



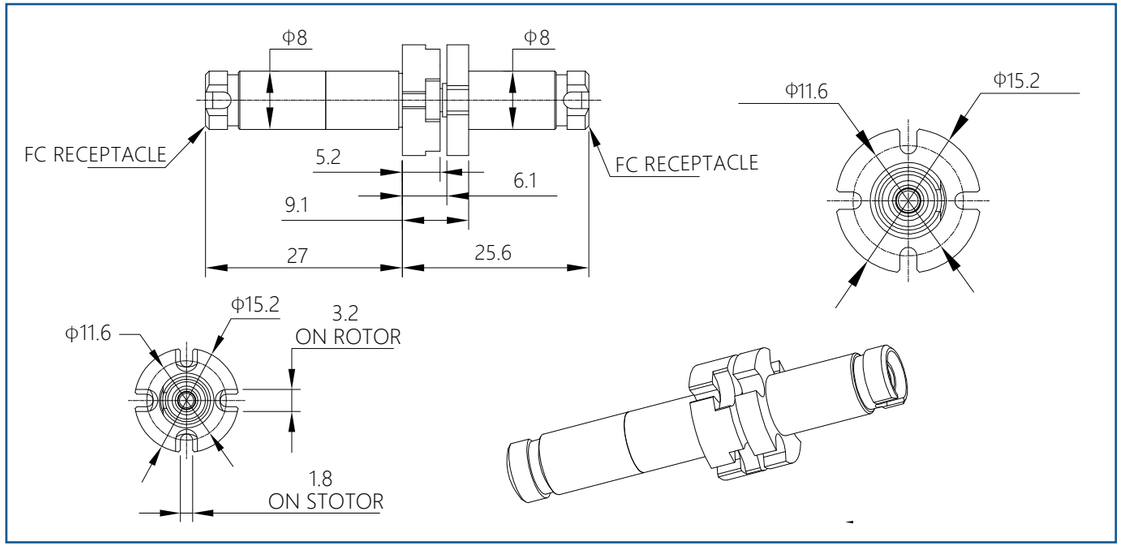
LPFO-01E Outline Drawing



Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:650-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<2dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP65 or IP68
Return loss	≥40dB (SM) ≥30dB (MM)	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Working temperature	-45~+80°C	Jacket types	0.9/2/3mm (Kevlar/TPU or Armor)
Storage temperature	-55~85°C	Weight approx	40g (No tail cable and connection included)

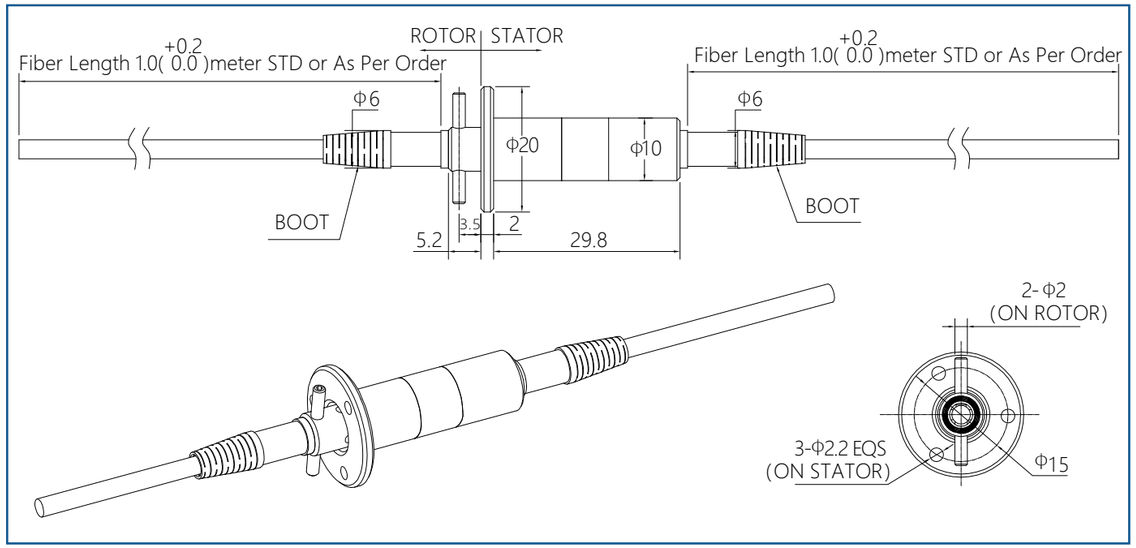
LPFO-01N-B Outline Drawing



Specoifications

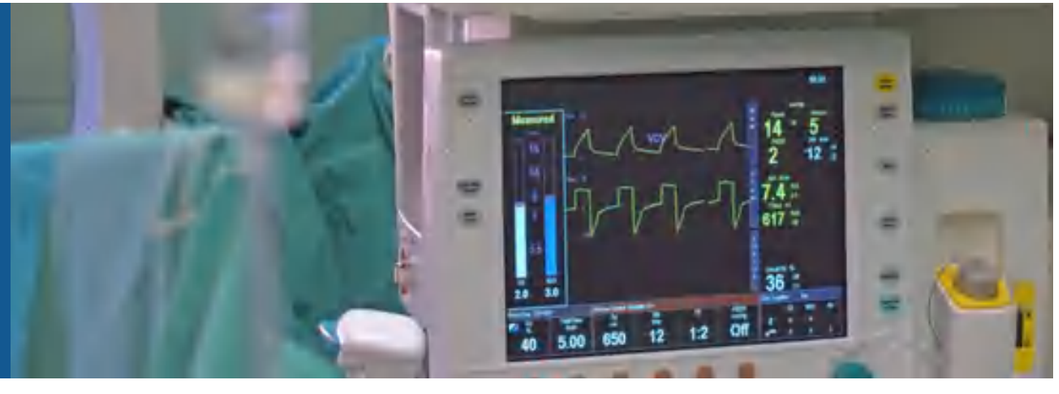
Fiber types	SM or MM	Connector types	FC/PC
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<3dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<1dB	IP rating	IP54
Return loss	≥40dB (SM) ≥30dB (MM)	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	FC RECEPTACLE on both ends
Working temperature	-45~+80°C	Jacket types	/
Storage temperature	-55~85°C	Weight approx	20g

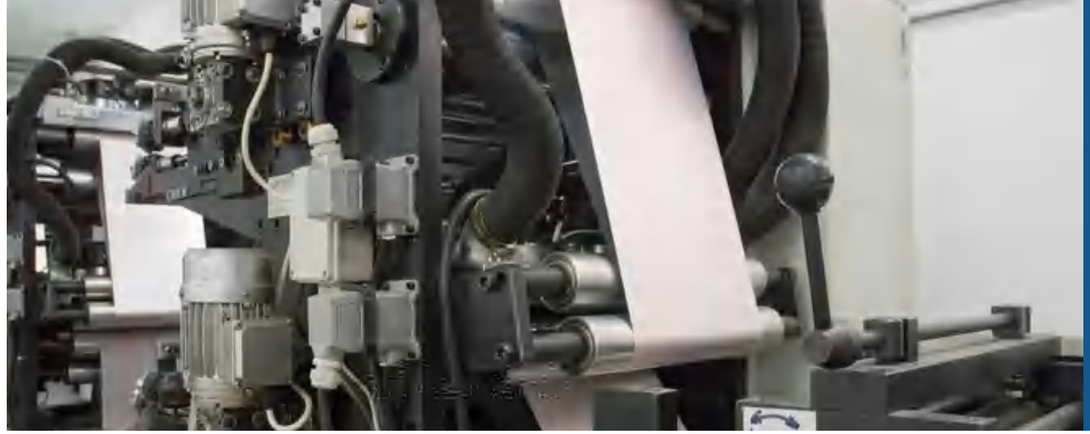
LPFO-01N-E Outline Drawing



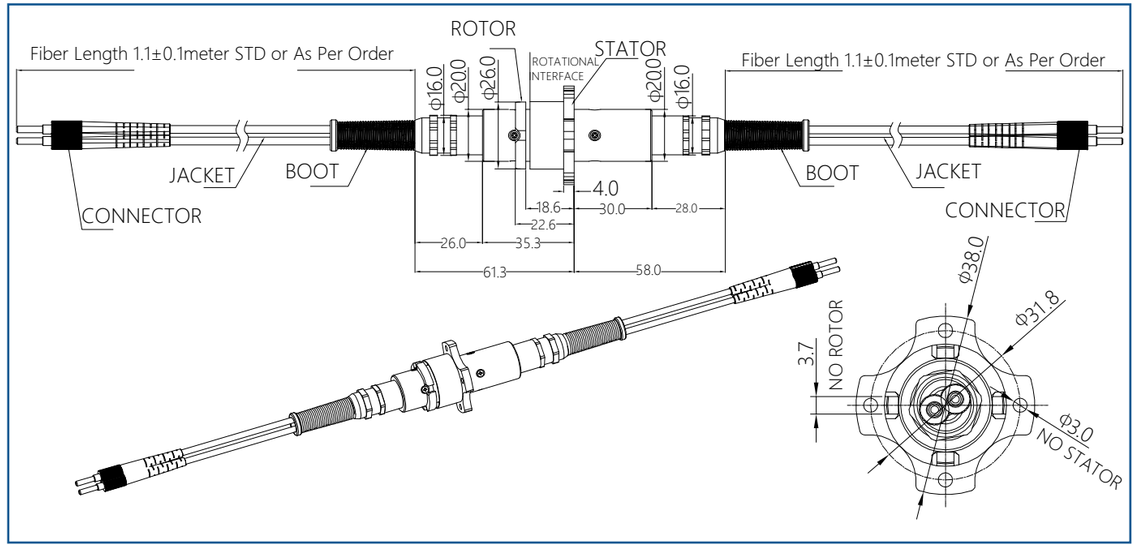
Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	> 200 million revolutions
Wavelength range	SM:1270-1650nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<2dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<0.5dB	IP rating	IP54
Return loss	≥40dB (SM) ≥30dB (MM)	Maximum speed	2000rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Working temperature	-45~+80°C	Jacket types	0.9/2/3mm(TPU or Kevlar)
Storage temperature	-55~85°C	Weight approx	25g (No tail cable and connection included)





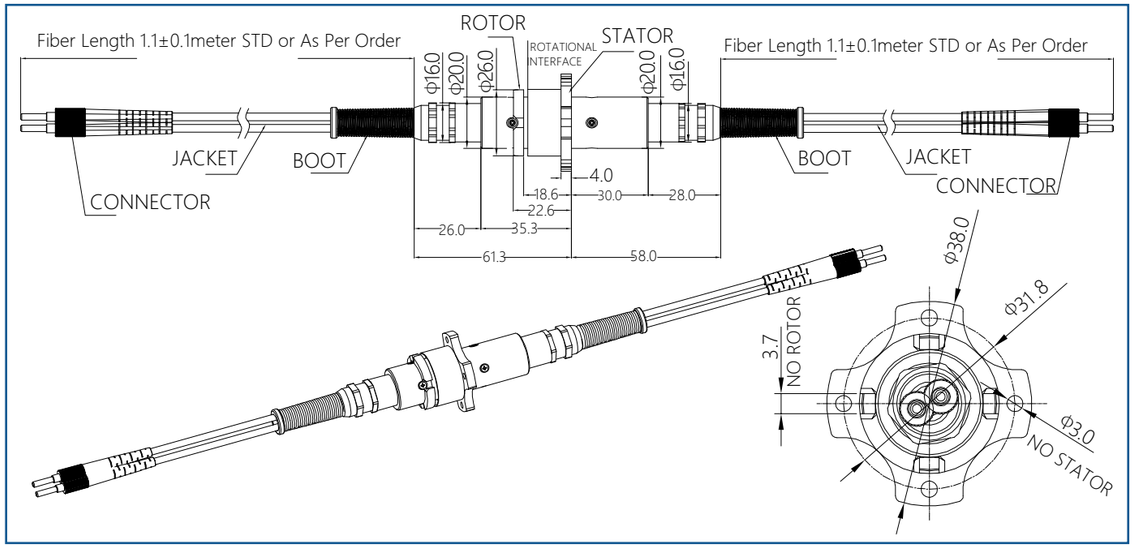
LPFO-02N-A Outline Drawing



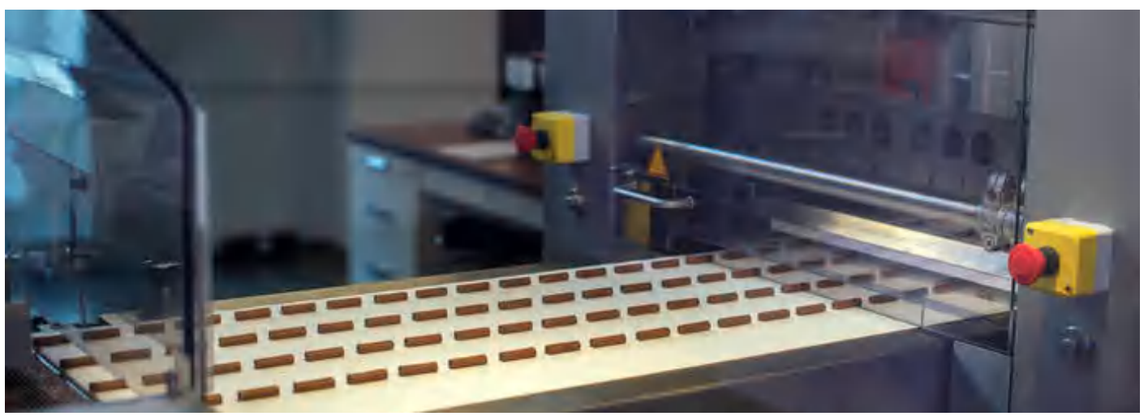
Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	2	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Working temperature	-20~+65°C(Industrial grade) -50 ~ +80°C (Military grade)	Weight approx	200g (No tail cable and connection included)
Storage temperature	-55~+85°C		

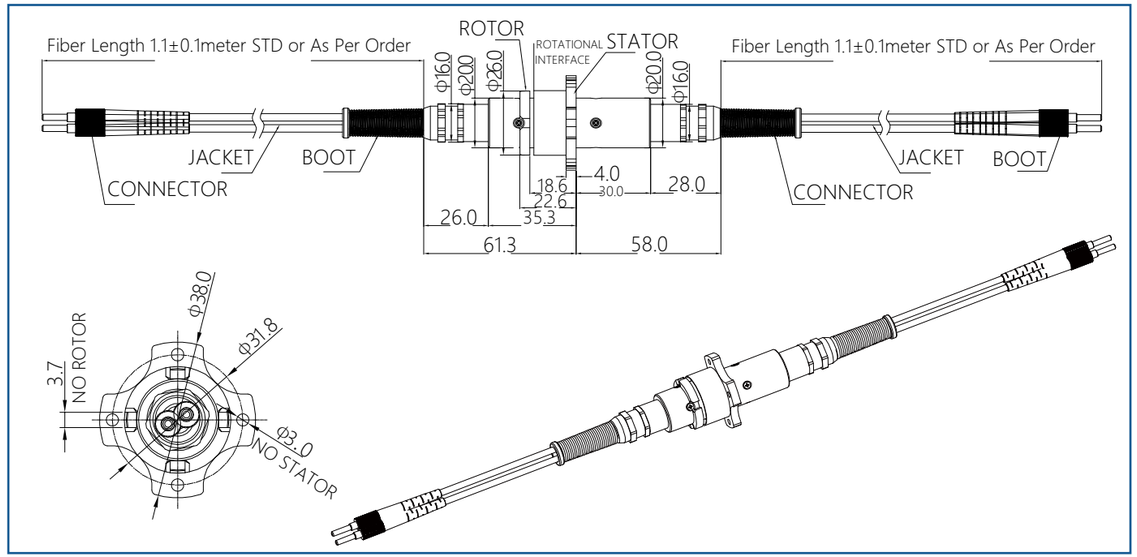
LPFO-03N-A Outline Drawing



Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	3	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Working temperature	-20~+65℃(Industrial grade) -50 ~ +80℃ (Military grade)	Weight approx	200g (No tail cable and connection included)
Storage temperature	-55~+85℃		

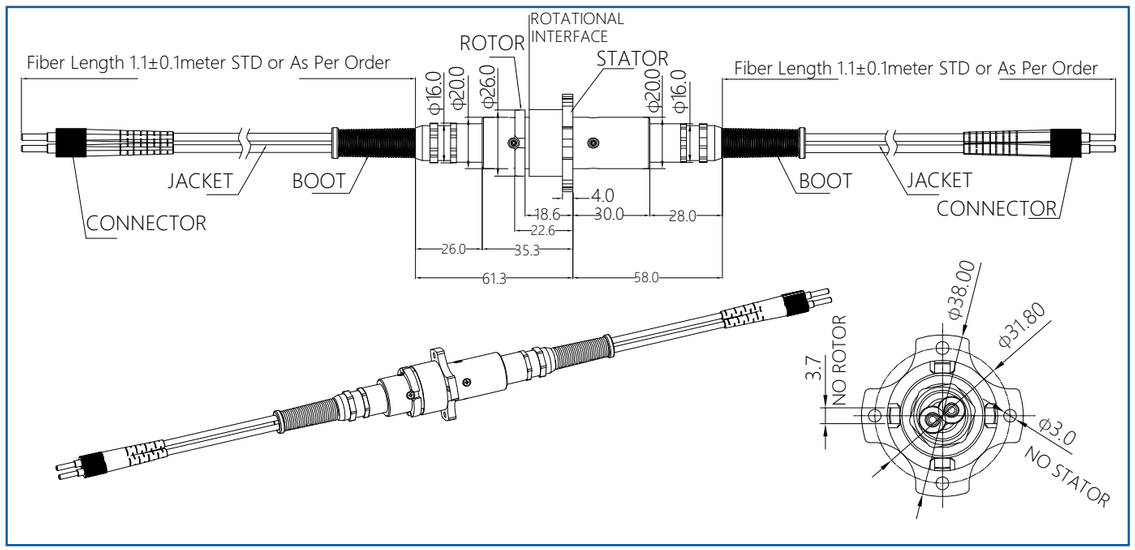


LPFO-04N-A Outline Drawing



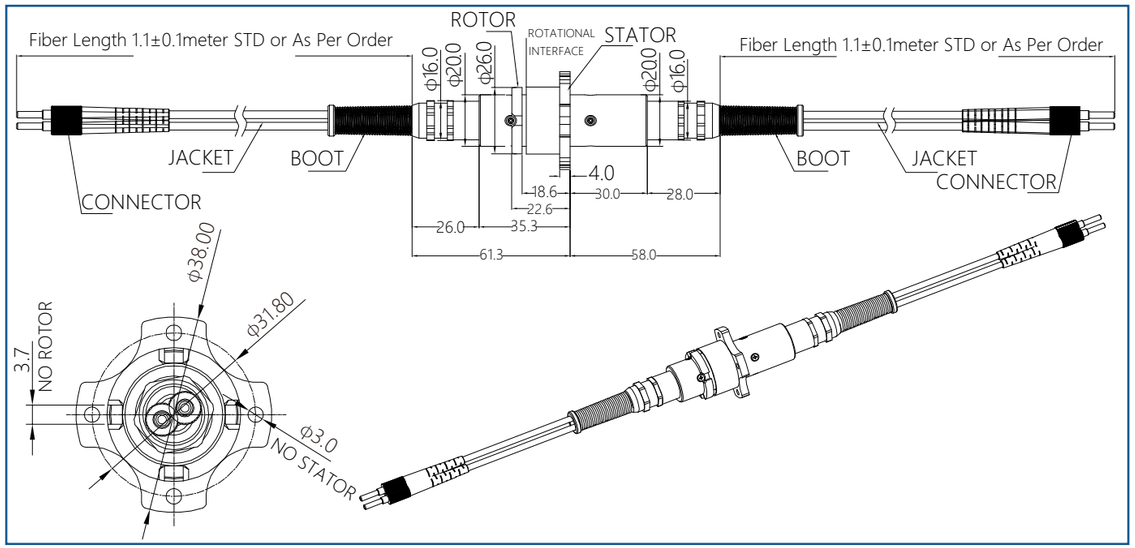
Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	4	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Working temperature	-20~+65℃(Industrial grade) -50 ~ +80℃ (Military grade)	Weight approx	200g (No tail cable and connection included)
Storage temperature	-55~+85℃		

LPFO-05N-A Outline Drawing



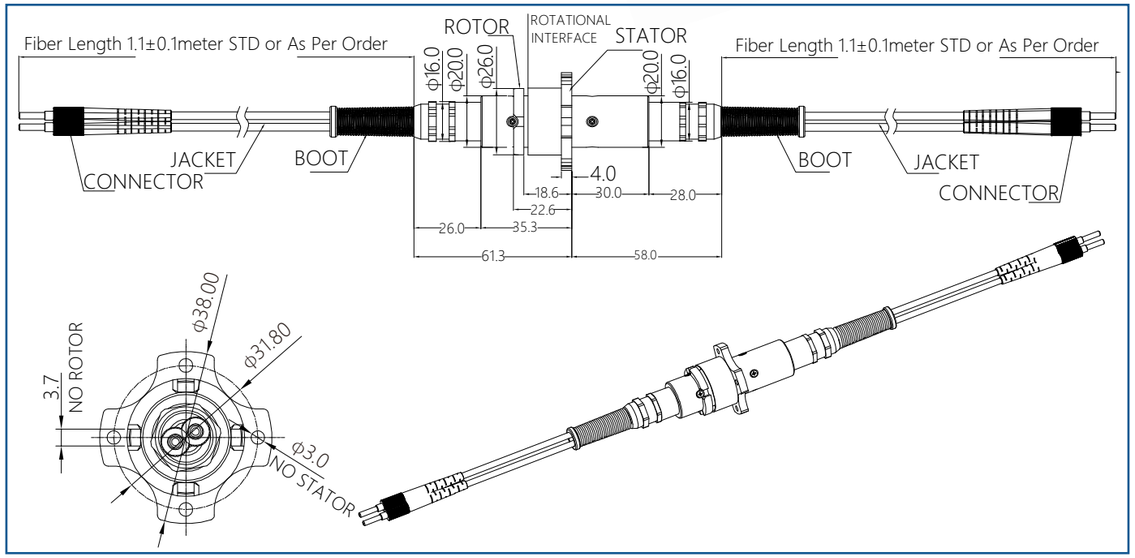
LPFO-05N-A Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	5	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Working temperature	-20~+65℃(Industrial grade) -50 ~ +80℃ (Military grade)	Weight approx	200g (No tail cable and connection included)
Storage temperature	-55~+85℃		

LPFO-06N-A Outline Drawing



LPFO-06N-A Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	6	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Working temperature	-20~+65℃(Industrial grade) -50 ~ +80℃ (Military grade)	Weight approx	200g (No tail cable and connection included)
Storage temperature	-55~+85℃		

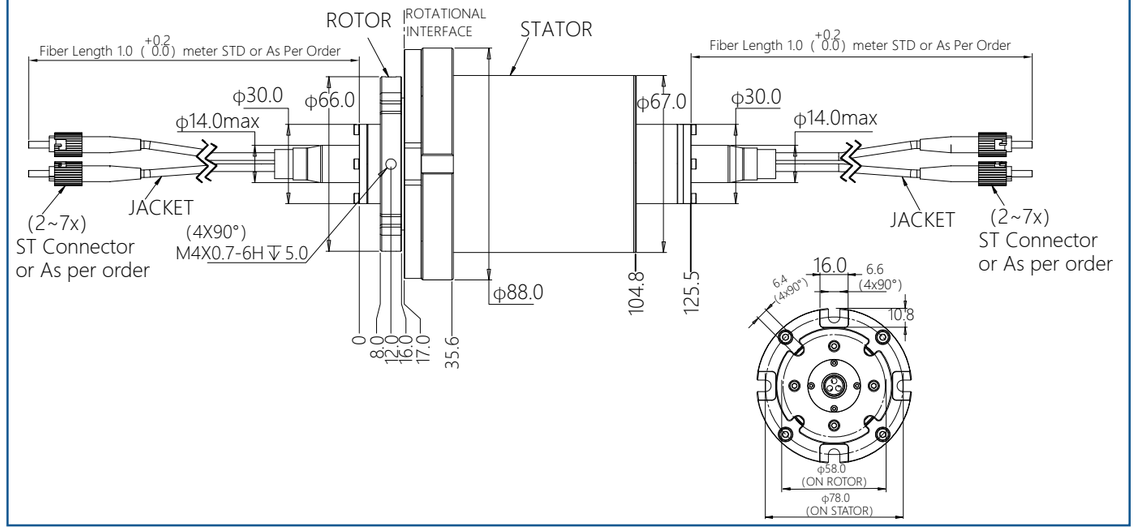
LPFO-07N-A Outline Drawing



Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	7	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Storage temperature	-55~+85°C	Weight approx	200g (No tail cable and connection included)
Working temperature	-20~+65°C(Industrial grade) -50 ~ +80°C (Military grade)		

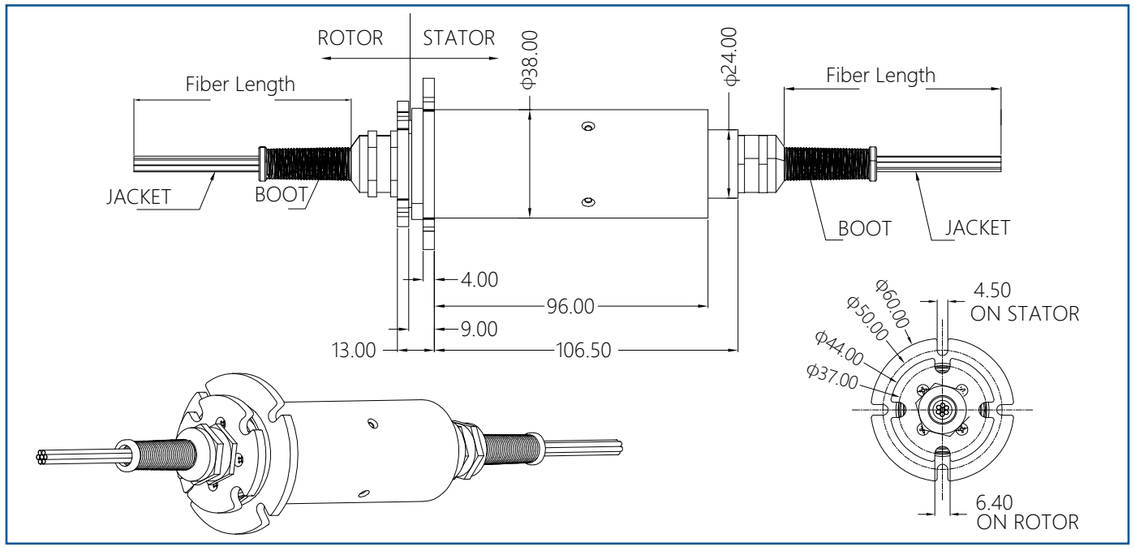
LPFO-07B Outline Drawing



Specoifications

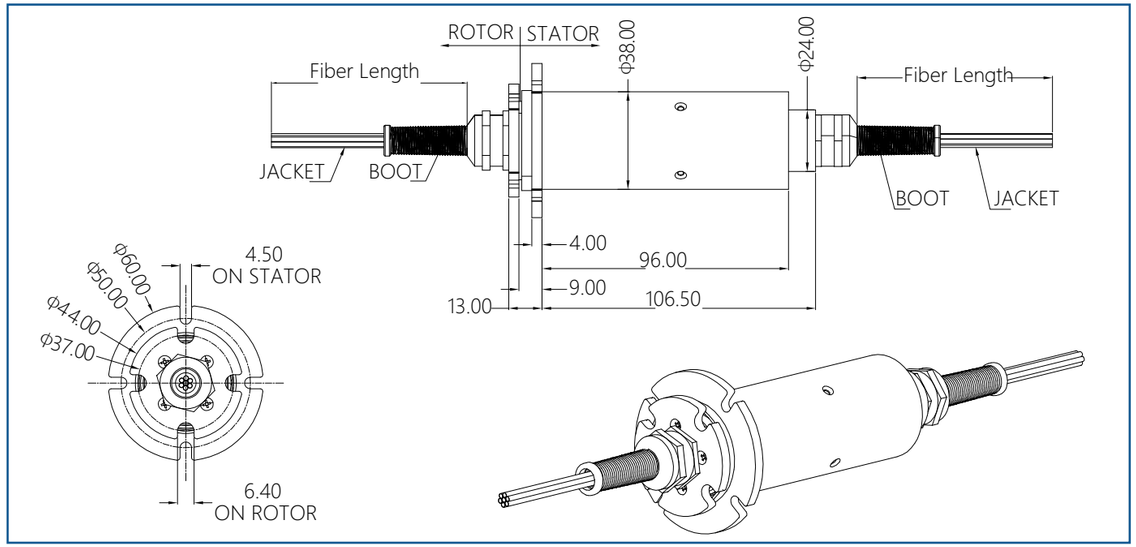
Fiber types	Single or multimode	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	2-7	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1270-1610nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<5dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB	Maximum speed	200rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥50dB	Jacket types	0.9/2/3mm(PVC or Kevlar)
Working temperature	-20~+65°C	Weight approx	1.5Kg
Storage temperature	-25~+75°C		

LPFO-08N-B Outline Drawing



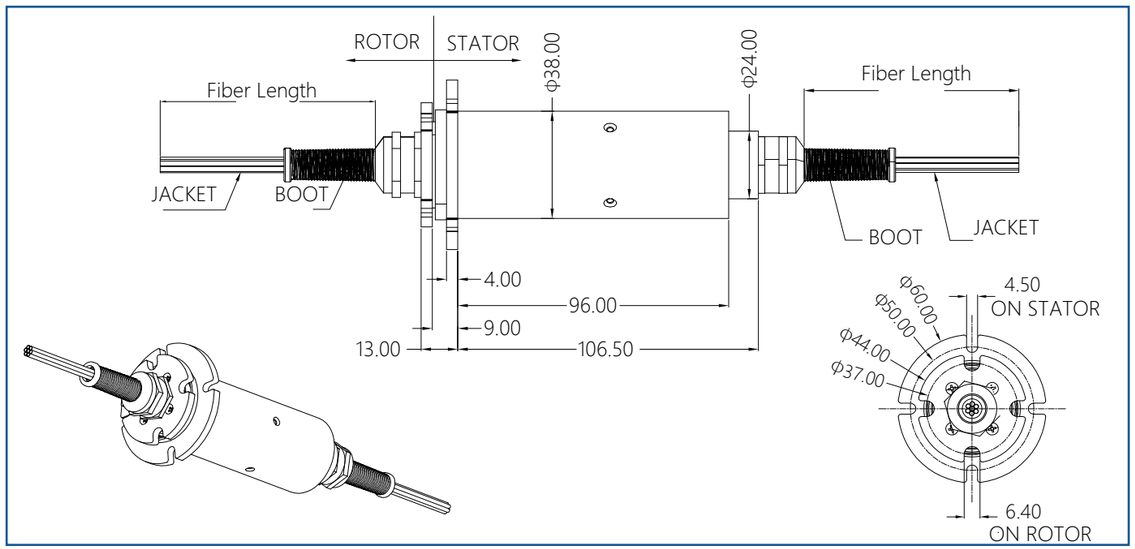
Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	8	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥45dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Storage temperature	-50~+85°C	Body Material	Stainless steel
Working temperature	-20~+65°C(Industrial grade) -45 ~ +80°C (Military grade)	Weight approx	650g (No tail cable and connection included)
Starting Torque	≤1Nm	Continuous Rotational Torque	≤1Nm

LPFO-12N-B Outline Drawing



Specoifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	12	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥45dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Storage temperature	-50~+85°C	Body Material	Stainless steel
Working temperature	-20~+65°C(Industrial grade) -45 ~ +80°C (Military grade)	Weight approx	650g (No tail cable and connection included)
Starting Torque	≤1Nm	Continuous Rotational Torque	≤1Nm

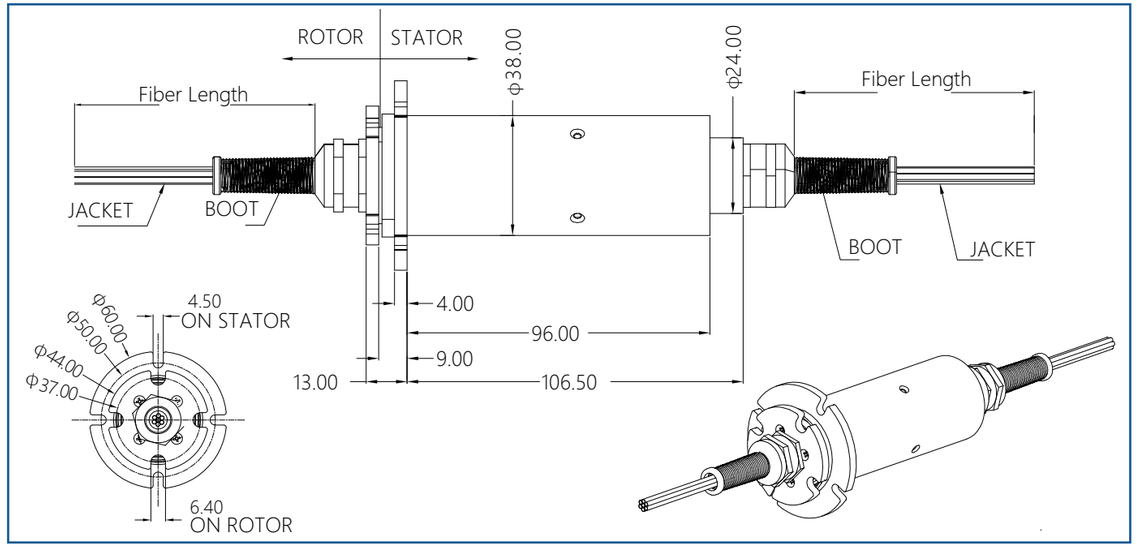
LPFO-16N-B Outline Drawing



Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	16	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥45dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Storage temperature	-50~+85°C	Body Material	Stainless steel
Working temperature	-20~+65℃(Industrial grade) -45 ~ +80℃ (Military grade)	Weight approx	650g (No tail cable and connection included)
Starting Torque	≤1Nm	Continuous Rotational Torque	≤1Nm

LPFO-18N-B Outline Drawing



Specoifications

Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	18	Estimated life cycle	> 100 million revolutions
Wavelength range	SM:1310-1550nm MM:850-1300nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥45dB (SM) ≥30dB (MM)	Maximum speed	300rpm
Max Optical power	23dBm	Package style	Pigtails on both ends
Crosstalk	≥45dB	Jacket types	2.0mm(Kevlar/TPU or armor)
Storage temperature	-50~+85°C	Body Material	Stainless steel
Working temperature	-20~+65℃(Industrial grade) -45 ~ +80℃ (Military grade)	Weight approx	650g (No tail cable and connection included)
Starting Torque	≤1Nm	Continuous Rotational Torque	≤1Nm

LPFO Fiber Optic Rotary Joints

	Model	Fiber Optic Channel	Fiber Type	Wavelength (nm)	Insertion Loss (dB)	Insertion loss ripple (dB)
Single-Channel	LPFO-01A	1	SM&MM	650-1650	< 2dB	< 0.5dB
	LPFO-01B	1	SM&MM	650-1650	< 2dB	< 0.5dB
	LPFO-01C	1	SM&MM	650-1650	< 3dB	< 0.5dB
	LPFO-01D	1	SM&MM	650-1650	< 2dB	< 0.5dB
	LPFO-01E	1	SM&MM	850-1650	< 2dB	< 0.5dB
	LPFO-01F	1	SM&MM	650-1650	< 3dB	< 0.5dB
	LPFO-01H	1	SM&MM	650-1650	< 2dB	< 0.5dB
	LPFO-01N-A	1	SM&MM	850-1650	< 2dB	< 0.5dB
	LPFO-01N-B	1	SM&MM	650-1650	< 3dB	< 0.5dB
	LPFO-01N-C	1	SM&MM	650-1650	< 3dB	< 0.5dB
	LPFO-01N-D	1	SM&MM	650-1650	< 3dB	< 0.5dB
	LPFO-01N-E	1	SM&MM	850-1650	< 2dB	< 0.5dB
Multi-channel	LPFO-02A	2	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-02B	2	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-02N-A	2	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-03A	3	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-03B	4	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-03N-A	3	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-04N-A	4	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-05N-A	5	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-06N-A	6	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-07N-A	7	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-07A	4~7	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-07B	4~7	SM&MM	850-1550	< 5dB	< 2dB
	LFPO-08N-A	8	SM&MM	850-1550	< 4dB	< 2dB
	LFPO-08N-B	8	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-12N-B	12	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-16N-B	16	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-18N-B	18	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-24N-B	24	SM&MM	850-1550	< 4dB	< 2dB
	LPFO-19A	8-19	SM&MM	850-1550	< 5dB	< 2dB
Photoel ctric Integrated	LPC-1F1202	1	SM&MM	650-1650	< 2dB	< 0.5dB
	LPC-1F2402	1	SM&MM	650-1650	< 2dB	< 0.5dB

LPFO Fiber Optic Rotary Joints

	Return Loss (dB)	Crosstalk (dB)	Speed,max (rpm)	Connector Type	Sizes (mm)
Single-Channel	> 40	/	2000	ST/FC/SC/LC,etc	Φ6.8/Φ15.2*28
	> 40	/	2000	ST/FC/SC/LC,etc	Φ6.8/Φ10*28
	> 30	/	2000	FC Jack	Φ8.5*40
	> 40	/	2000	ST/FC/SC/LC,etc	Φ17/Φ26*27.5
	> 40	/	2000	ST/FC/SC/LC,etc	Φ10/Φ24*18
	> 30	/	2000	ST Jack	Φ17/Φ26*26.3
	> 40	/	2000	ST/FC/SC/LC,etc	Φ17/Φ26*46.2
	> 40	/	2000	ST/FC/SC/LC,etc	Φ12.5/Φ26*36.6
	> 30	/	2000	FC Jack	Φ8/Φ15.2*52.6
	> 30	/	2000	Pigtail/ST Jack	Φ6.8/Φ15.2*51.1
	> 30	/	2000	ST Jack/Pigtail	Φ8/Φ15.2*41.9
	> 40	/	2000	ST/FC/SC/LC,etc	Φ10/Φ20*37
Multi-channel	> 45	> 50	300	ST/FC/SC/LC,etc	Φ44*111
	> 45	> 50	300	ST/FC/SC/LC,etc	Φ38*78.5
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 45	> 50	300	ST/FC/SC/LC,etc	Φ44*111
	> 45	> 50	300	ST/FC/SC/LC,etc	Φ67*122
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ26/Φ38*119
	> 45	> 50	300	ST/FC/SC/LC,etc	Φ44*144.2
	> 45	> 50	300	ST/FC/SC/LC,etc	Φ67*122
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ67*123
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ38*152
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ38*152
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ38*152
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ38*152
	> 40	> 45	300	ST/FC/SC/LC,etc	Φ38*152
	> 40	> 50	200	ST/FC/SC/LC,etc	Φ67*168
Photoel ctric Integrated	> 40	/	300	ST/FC/SC/LC,etc	Φ24.8*39.8
	> 40	/	300	ST/FC/SC/LC,etc	Φ24.8*54.8