

Fiber Optic Rotary Joints



● Features

- ◉Non-contact, frictionless design with ultra-long lifespan (over 100 million rpm for signal channels)
- ◉Supports hybrid transmission of video, serial, Ethernet, and more
- ◉Fiber optic transmission ensures no leakage or EMI, ideal for long-distance communication
- ◉Much higher bandwidth than electrical connectors; supports WDM for bandwidth doubling
- ◉Compact and lightweight, easy to integrate with electrical slip rings and upgrade systems
- ◉Available in single to multi-channel options (up to 10+ channels)
- ◉Photoelectric integrated rotary joint available

Number of Circuits: 1~50 (optional)

Wavelength range :650-1650nm (customized)

Insertion loss :Single-Channel < 2dB multi-channel
< 4dB 8-40Channel < 5dB

Insertion loss ripple :Single-Channel < 0.5dB multi-channel < 2dB

Return Loss : > 40dB



● Technical specification parameters

Electrical & Electronics		Mechanical		Environmental	
Channels	1~50 (optional)	Maximum speed	2000rpm or more	Working temperature	Industrial: -20°C~+70°C
Wavelength range	650-1650nm (customized)	Tensile load	10N		Military: -55°C~+85°C
Insertion loss	Single-Channel < 2dB multi-channel < 5dB	Package style	Pigtails/Interfaces	Storage temperature	-55 ~ +85°C
Insertion loss ripple	Single-Channel < 0.5dB multi-channel < 2dB	Connector types	ST/FC/SC/LC,etc.		
Return Loss	> 40dB	Jacket types	0.9/2/3mm (TPU or Armor)	IP rating	IP68 (Maximum)
Crosstalk	> 45dB	Vibration	MIL-STD-167-1A		
Maximum optical power	23dBm (High power customized)	Mechanical shock	MIL-STD-810G		

● Selection table

LPFO Fiber Optic Rotary Joints							
Channel		Model	Fiber Type	Wavelength	Insertion loss	Returnloss	Dimensions (Flange*OD*Length)
Single-Channel	Miniature Model	LPFO-01A	SM(9/125um) & MM(50/125um) or MM(62.5/125um)	SM:1270-1650nm MM:650-1300nm	< 2	SM: ≥40 MM: ≥30	φ15.2*φ6.8*67.4
		LPFO-01B					φ10*φ6.8*67.4
		LPFO-01F			< 3		φ15.2*φ8*50.3
	Medium Model	LPFO-01E			< 2		φ24*φ10*73.7
		LPFO-01E					φ26*φ17*33.5
		LPFO-01G					φ42*φ32*65.2
		LPFO-01L					φ26*φ17*30.9
	2-7-Channel				LPFO-0 (2-7)N-A		< 4
LPFO-07C -X(2-7)			φ50*φ30*115				
8-18-Channel		LPFO-09C -X(8-18)	SM:1310-1550nm MM:850-1300nm	< 5	φ50*φ92.2*1156.5		
8-18-Channel		LPFO-37A -X(19-35)			φ95*φ62.5*162		
● Note: Standard models are shown above. Custom solutions with integrated electrical, signal, or fluid channels are available upon request.							

● Model Description

LPFO -XX X(X) XX XX

⊙ SM: indicates single-mode
MM: indicates multimode

⊙ The number of channels of the product,
starting from 01-99, e.g. 02 means there are channels

⊙ Product type running number, indicated by A~Z;
(X): Indicates the overflow of 1 bit after the previous more than 26 letters,
indicated by A~Z;

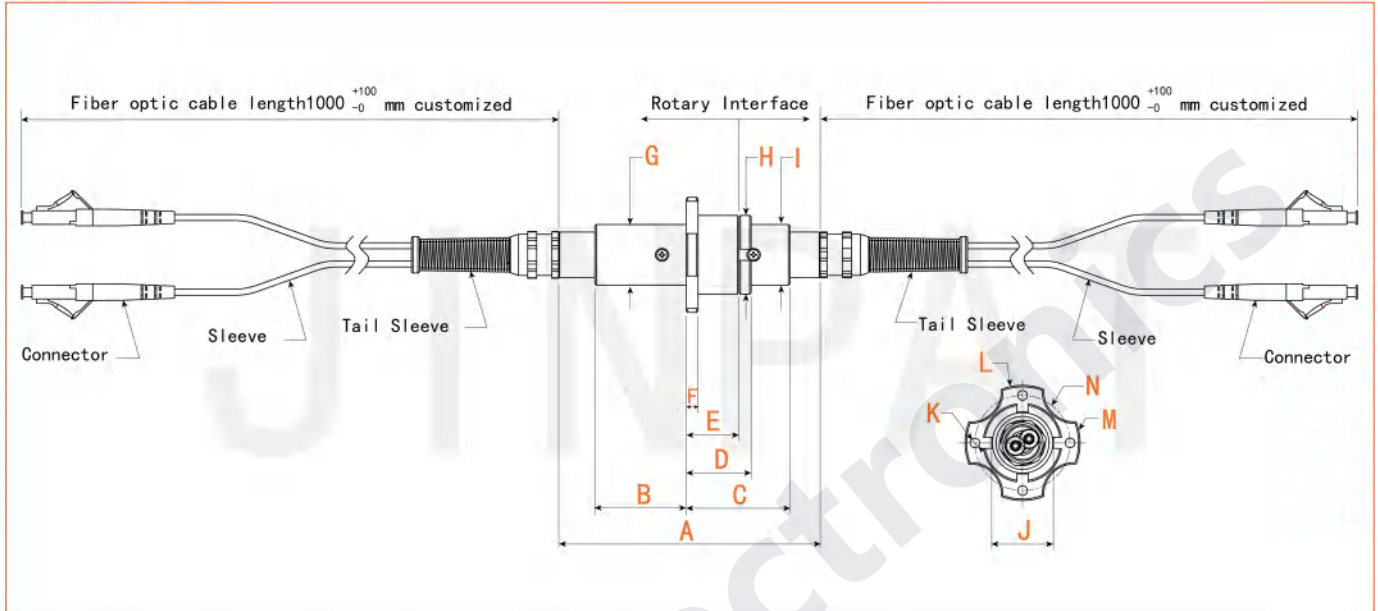
⊙ Indicates the number of channels the product can do: 01 for 1 channel,
07 for this product can do 7 channels, and so on.

- Example: LPFO-07C-02-SM, which is a 2-channel single-mode Pber optic slip ring based on the LPFO-07C 7-channel standard product.

● Product Dimension Drawing

JINPAT

LPFO SERIES



Rotating interface: The point where the rotating part meets the stationary part.

● Customization options

Note: The following special requirements can be customized, JINPAT most of the basic accessories are standardized, modular, non-standard customization can also greatly reduce the cost and delivery time.

- 1、 Customized rotor and stator outlet and outlet length
- 2、 Due to structural limitations, can be customized in accordance with the specified length or height or external diameter
- 3、 Yasukawa, Panasonic, Siemens and other servo system signals, power lines, and encoder lines mixed slip ring
- 4、 Mixed high-speed data transmission (including Ethernet, USB, RS232, RS485, Profibus, CanBUS, CANOPEN, DeviceNET, CANBUS, CANPUS). CANOPEN, DeviceNET, CC-LINK, ProPNET, EtherCAT and other types of industrial lines).
- 5、 Anti-shock, high temperature and other special environment customization
- 6、 Can be mixed with pneumatic, hydraulic rotary joints integrated pneumatic-electrical-hydraulic slip ring
- 7、 Military grade
- 8、 Waterproof, underwater mode optional, IP65, IP68 optional