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# JINPAT Electronics

PROVIDING FREE CUSTOM SLIP RING SOLUTIONS TO SET THE RIGHT  
IMPULSES FOR THE FUTURE OF YOUR TECHNOLOGY

# JINPAT

## Business Philosophy



Business Philosophy

People-Oriented

Creating Value

Full Participation

Profit Sharing

Sustainable Management



Become a Solver for High-Precision Slip Rings

# DIRECTORY

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# Company Introduction

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 UL, FCC, CE, RoHS, REACH, BV classification society's certification, the explosion-proof certification, and it has obtained 70 national patents. Keeping improving and innovating, JINPAT slip rings are not only with reliable performnace, long lifespan, free maintenance, but also with the features of high protection grade, anti-explosion, anti-quake, anti-impact, high and low temperature resistance, high perssure resistance, 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 Group , 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.

# Qualification Certificates



# LPC Capsule Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	1-125 or more	Rotating Speed	0-300rpm or higher	Temperature	Industrial: -20°C~+60°C Military: -50°C~+80°C
Current	≥2A each circuit	Contact Material	Gold-to-gold	Humidity	60%RH or higher
Voltage	240VAC/DC	Housing Material	Engineering Plastics/ Metals (optional)	Protection Grade	IP40
Dielectric Strength	≥500VAC@50Hz	Torque	≤0.88 g.m (for reference)	Others	
Insulation Resistance	≥100MΩ@500VDC	Wire Type	AWG28#Teflon or others	Life Span	Customizable
Dynamic Contact Resistance	1mΩ min.	Wire Length	250mm (optional)		

## Brief Introduction

Standard middle-sized Capsule Slip Ring is able to integrate over 125 circuits, with optional outer diameter from 22mm~54mm. This series adopts advanced military-standard surface processing techniques, and is highly precise, compact and easy to assemble. Gold-to-gold contact ensures low resistance and super long service life. It is able to integrate various signals: Ethernet, USB, RS, LVDS, CAN bus, Fire Wire, SDI and HDMI, etc.

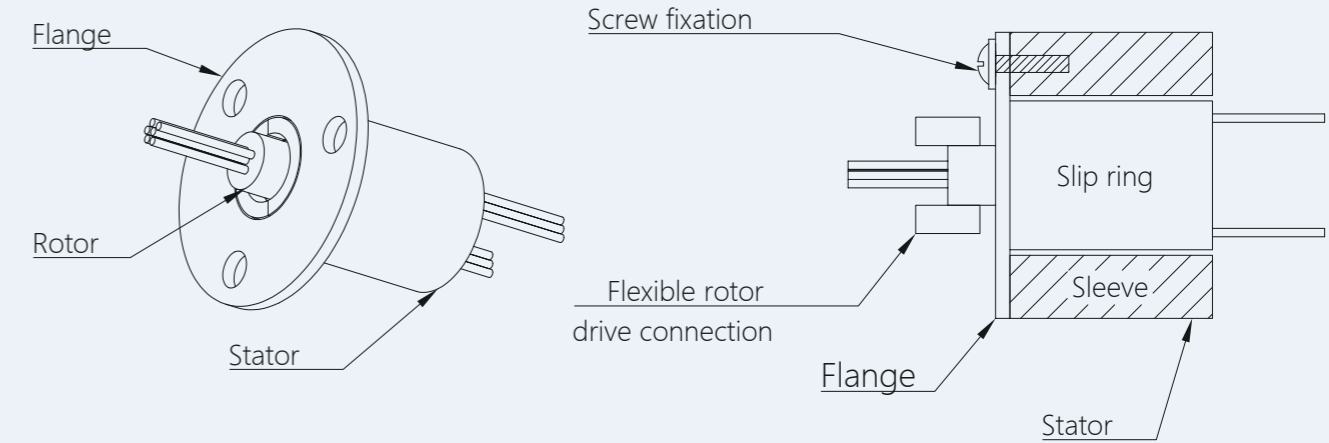
Features:  
●Military standard surface processing /Precise/Gold-to-gold contact/Low resistance/Long service life

Options:  
●Rotating speed/Life span/Protection grade/Number of circuits/Current capacity/Size/Housing material/Mass production

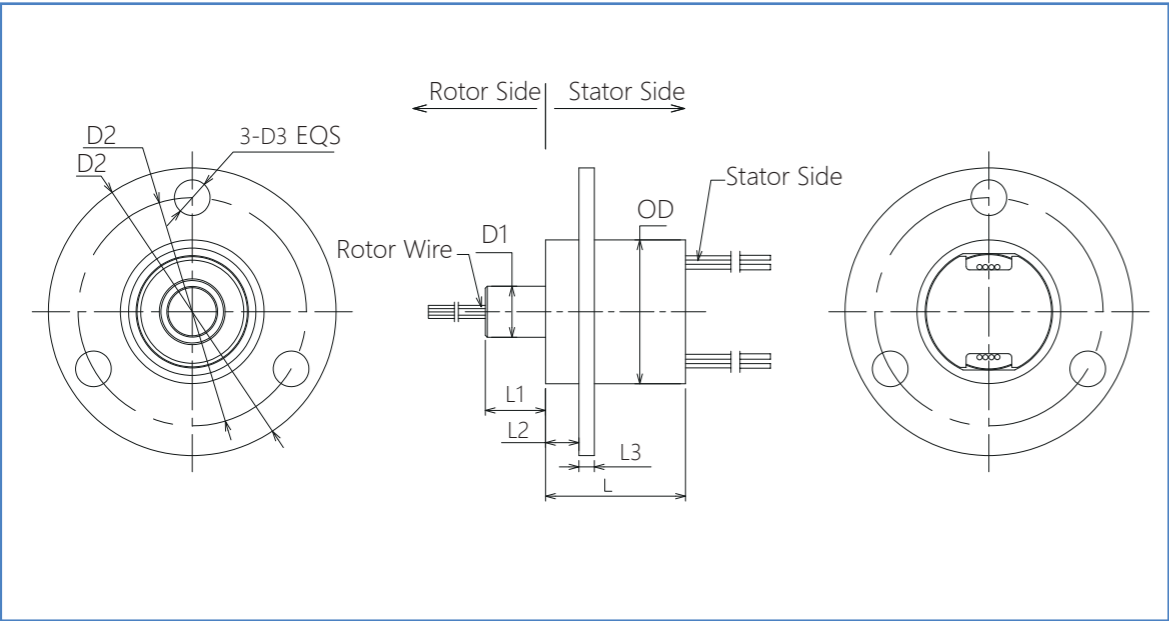
Main applications:  
●High speed dome/Camera platform/Electrical testing equipment/Rotary table /Manufacturing and control equipment

## Installation Specifications

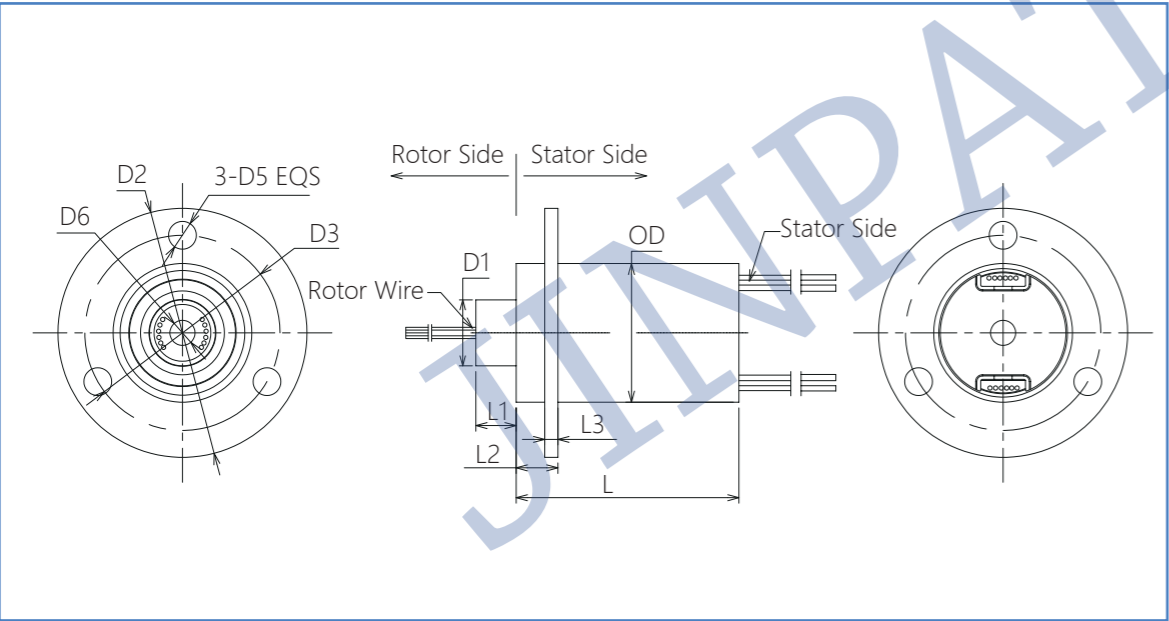
1. This series of slip ring has integrated flange on the stator side, can be mounted directly to the application or bracket to stabilize the stator.
2. Rotor should be mounted on the center axis of the application to ensure concentric drive. Rotor leads are not recommended to be used for drive purpose; otherwise, customers should carry out a close evaluation of their applications beforehand.
3. As demonstrated above, apply screw washers when installing the slip rings to avoid over-fastening of the flange and screws.
4. The slip ring is not designed to bear the weight of the equipment to which it is connected. Rotating equipment should be secured so that no axial or radial load is applied to the slip ring rotor.
5. The slip ring should be protected from dust and moisture. If applied outdoors, protection measures must be taken (except for Specific Custom Slip Rings).
6. Secure all leads so that they do not suffer friction and damage. Care should be taken when routing and securing the leads so that no side loading of the slip ring occurs.
7. Be careful not to damage the shield when stripping the wire ends.



LPC Capsule Slip Ring Outline Drawing



LPC-T Capsule Slip Rings with Through Hole



Wire Color Code

Wire Size	Ring	Color	Ring	Color	Ring	Color	Ring	Color
AWG28# Silver-Plated Teflon UL	#1	BLK	#2	BRN	#3	RED	#4	ORN
	#5	YEL	#6	GRN	#7	DK BLU	#8	PPL
	#9	GRY	#10	WHT	#11	PNK	#12	LT BLU
	#13	WHT/BLK	#14	WHT/BRN	#15	WHT/RED	#16	WHT/ORN
	#17	WHT/YEL	#18	WHT/GRN	#19	WHT/BLU	#20	WHT/PPL
	#21	WHT/GRY	#22	CLR	#23	BLK/RED	#24	BLK/TAN

LPC Capsule Slip Ring												
Model	Number of Circuits	OD * Length (mm)	Voltage (AC/DC)	Current (A)	Rotor Outer Diameter (D1)	Flange Outer Diameter (D2)	Flange Mounting Hole Position (D3)	Flange Mounting Hole Inner Diameter (D4)	Via Diameter (D5)	Rotor Exposed Length (L1)	Flange Position (L2)	Flange Thickness (L3)
LPC-06	6	φ22*18.6	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-12	12	φ22*26.4	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-18	18	φ22*32.9	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-24	24	φ22*42.3	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-30	30	φ22*49.6	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-36	36	φ22*57.3	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.3	5	2.4
LPC-56	56	φ25*85.7	0~240V	2A	φ10	φ45	φ35	φ5	φ0	9.5	5	2.5
LPC-76	76	φ35.5*105.7	0~240V	2A	φ15	φ55	φ46	φ5.4	φ0	12.4	6.2	2.5
LPC-125	125	φ54*200	0~240V	2A	φ22.8	φ80	φ69.5	φ5.5	φ0	16	10	5
LPC-06YT	6	φ24.8*32.5	0~240V	2A	φ11.8	φ44.5	φ34.9	φ5	φ6.4	7.2	5	2.4
LPC-12YT	12	φ24.8*39.8	0~240V	2A	φ11.8	φ44.5	φ34.9	φ5	φ6.4	7.2	5	2.4
LPC-24YT	24	φ24.8*54.8	0~240V	2A	φ11.8	φ44.5	φ34.9	φ5	φ6.4	7.2	5	2.4
LPC-30YT	30	φ24.8*62.3	0~240V	2A	φ11.8	φ44.5	φ34.9	φ5	φ6.4	7.2	5	2.4
LPC-36YT	36	φ24.8*68.5	0~240V	2A	φ11.8	φ44.5	φ34.9	φ5	φ6.4	7.2	5	2.4
LPC-08YS	8	φ22*23	0~240V	2A	φ9	φ44.5	φ34.9	φ5.5	φ4.5	7	5	2.4
LPC-15YS	15	φ22*34	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.7	5	2.4
LPC-24YS	24	φ22*53.2	0~240V	2A	φ7.8	φ44.5	φ34.9	φ5.5	φ0	9.7	5	2.4

# LPM Miniature Capsule Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	1-30 or more	Rotating Speed	0-300rpm or higher	Temperature	Industrial: -20°C~+60°C Military: -50°C~+80°C
Current	1-2A or higher	Contact Material	Gold-to-gold	Humidity	60%RH or higher
Voltage	0-110VAC/DC	Housing Material	Engineering Plastics/ Metals (optional)	Protection Grade	IP40
Dielectric Strength	≥200VAC@50Hz	Torque	≤0.88 g.m (for reference)	Others	
Insulation Resistance	≥50MΩ@200VDC	Wire Type	AWG30# Teflon or others	Life Span	Customizable
Dynamic Contact Resistance	1mΩ min.	Wire Length	250mm (optional)		

## Brief Introduction

LPM Miniature Capsule Slip Ring is able to integrate 30 or more circuits, with optional outer diameter from 12.5mm~16mm. This series adopts advanced military-standard surface processing techniques, and is highly precise, compacter and easy to assemble. Gold-to-gold contact ensures low resistance and super long service life. Representative models: LPM-04A/06A/12F/18C/24A/30A,etc. It is able to integrate various signals: Ethernet, USB, RS, LVDS, CAN bus, Fire Wire, SDI and HDMI, etc.

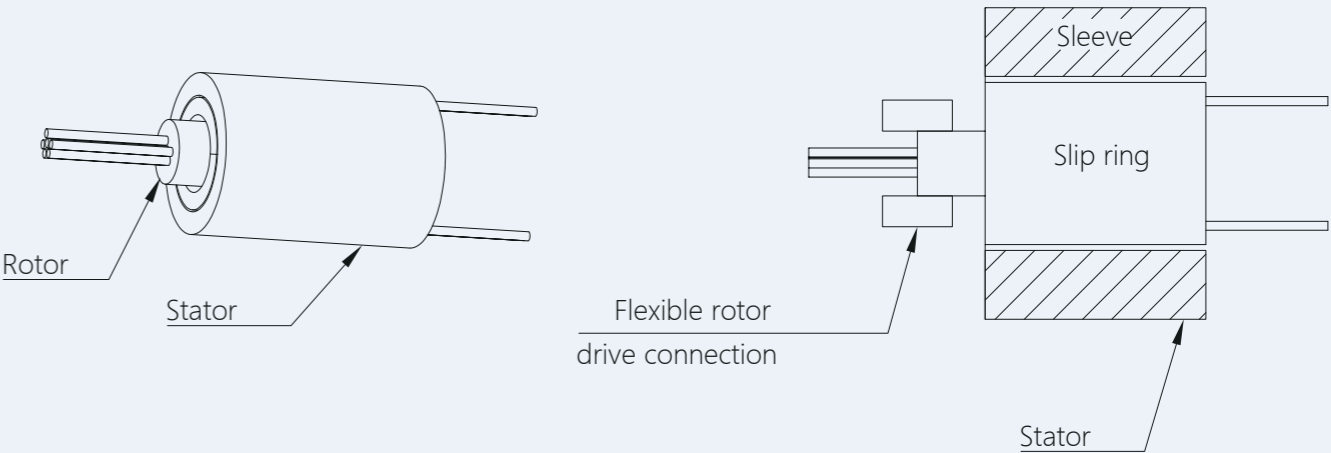
Features:  
●Compact size/Gold-to-gold contact/Low resistance/Long service life/Integrate multifarious signals

Options:  
●Rotating speed/Life span/Protection grade/Number of circuits/Current capacity/Size/Housing material/Mass production

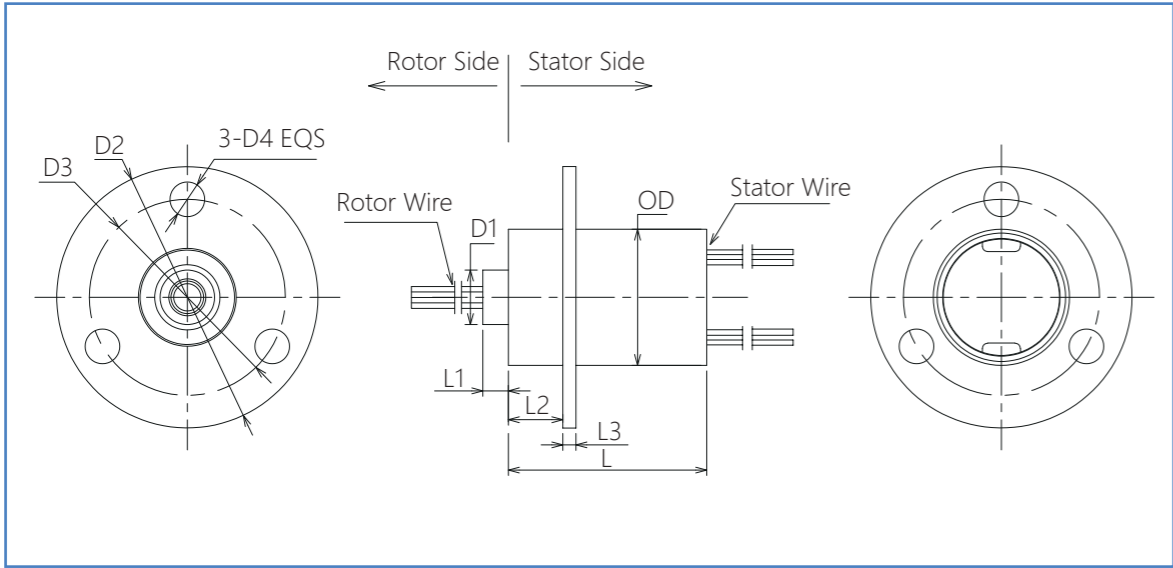
Main Applications:  
●Robot vacuum/Rocker camera/Petrol and mine platforms/Testing equipment/Electrical testing equipment/Medical instruments

## Installation Specifications

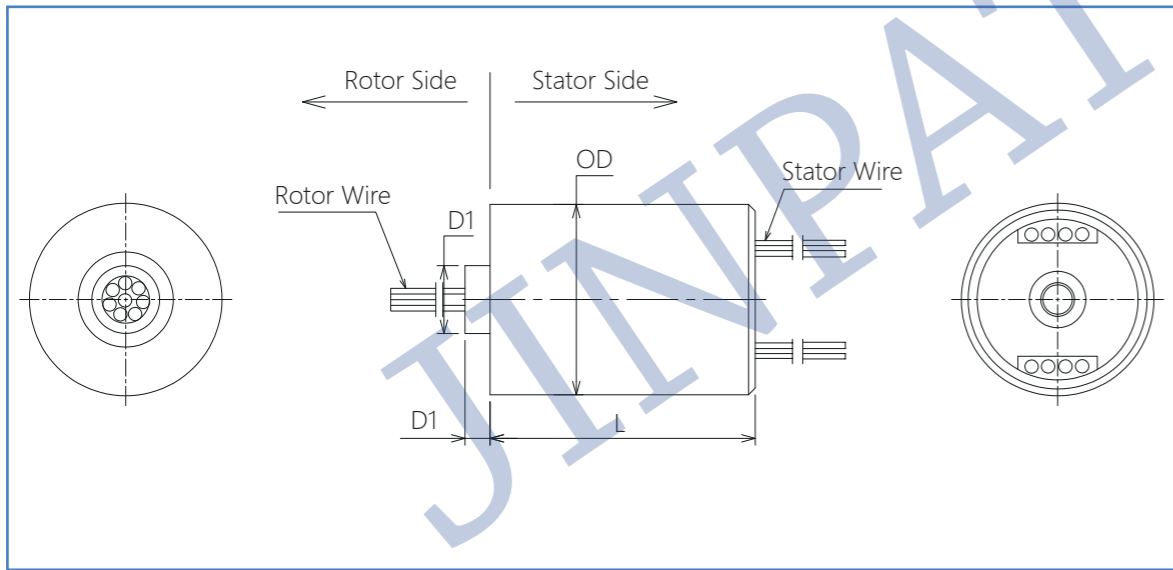
1. The slip ring is designed to be mounted in the fixing part for the stator with no flange.
2. The fixing part for the rotor should be connected well to guarantee a concentric drive of the slip ring.  
If the rotor lead wires are used as the drive by customers, it should be evaluated according to the usage of the product.
3. The slip ring cannot bear the weight of its connected equipment, of which the rotary parts should be fixed tightly to avoid its weight from being added to the rotor part of the slip ring.
4. The slip ring should be protected from dust and moist. If it is used outdoors, a protection cover should be considered.  
(Custom slip rings are not included)
5. Protect all wire skins from being damaged during the rotation of the equipment.  
The end of all wires should not bear weight, withstand force, or be pulled in wires arrangement.
6. Do not damage the outer skin of wires' other parts during the operation of wire stripping.



The Outline Drawing of LPM Miniature Slip Ring (with Flange)



The Outline Drawing of LPM Miniature Slip Ring (without Flange)



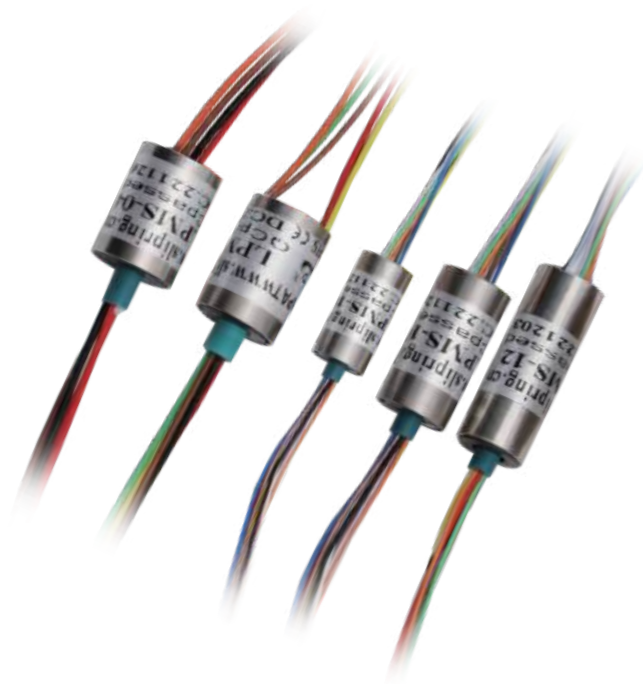
Wire Color Code

Wire Size	Ring	Color	Ring	Color	Ring	Color	Ring	Color
AWG28# Silver-Plated Teflon UL	#1	BLK	#2	BRN	#3	RED	#4	ORN
	#5	YEL	#6	GRN	#7	DK BLU	#8	PPL
	#9	GRY	#10	WHT	#11	PNK	#12	LT BLU
	#13	WHT/BLK	#14	WHT/BRN	#15	WHT/RED	#16	WHT/ORN
	#17	WHT/YEL	#18	WHT/GRN	#19	WHT/BLU	#20	WHT/PPL
	#21	WHT/GRY	#22	CLR	#23	BLK/RED	#24	BLK/TAN

LPM Miniature Capsule Slip Rings

Model	Number of Circuits	OD*Length (mm)	Voltage (AC/DC)	Current (A)	Rotor Outer Diameter (D1)	Flange Outer Diameter (D2)	Flange Mounting Hole Position (D3)	Flange Mounting Hole Inner Diameter (D4)	Via diameter (D5)	Rotor Exposed Length (L1)	Flange Position (L2)
LPM-04	4	φ12.5*15.6	0~110V	2A	φ5	φ24	φ18	φ2.4	0	2.4	1.5
LPM-06	6	φ12.5*18.2	0~110V	2A	φ5	φ24	φ18	φ2.4	0	2.4	1.5
LPM-12	12	φ12.5*25.2	0~110V	2A	φ5	φ24	φ18	φ2.4	0	2.4	1.5
LPM-18	18	φ12.8*23.5	0~110V	1A	φ5	φ22.3	φ17.5	φ3.2	0	4	2.2
LPM-24	24	φ15.5*34	0~110V	1A	φ7	φ32	φ25	φ2.8	0	6.4	2.2
LPM-30	30	φ16*37	0~110V	1A	φ7	φ32	φ25	φ2.8	0	7.25	2.2
LPM-12YT	12	φ12.5*22.5	0~110V	1A	φ6	/	/	/	3	4	/
LPM-12YS	12	φ12.8*30	0~110V	2A	φ5	/	/	/	0	5	/

LPMS Super Miniature Capsule Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	1-12 or more	Rotating Speed	0-300rpm or higher	Temperature	Industrial: -20°C ~ +60°C Military: -50°C ~ +80°C
Current	1A or higher	Contact Material	Gold-to-gold	Humidity	60%RH or higher
Voltage	0-48VAC/DC	Housing Material	Engineering Plastics / Metals (optional)	Protection Grade	IP40
Dielectric Strength	≥100VAC@50Hz	Torque	≤0.88 g.m (for reference)	Others	
Insulation Resistance	≥50MΩ@100VDC	Wire Type	AWG32/30# Teflon or others	Life Span	Customizable
Dynamic Contact Resistance	1mΩ min.	Wire Length	250mm (optional)		

Brief Introduction

LPMS Super Miniature Capsule Slip Ring is able to integrate 12 or more circuits, with optional outer diameter from 5.5mm~11.1mm. This series is super mini size, with precise design using military-standard material. It can adapt to both high and low ambient temperature with a low resistance and small torque. These characteristics guarantee smooth and reliable operation of the slip rings and thus able to fit in high precision equipment or other applications with limited space and harsh conditions. Representative models: LPMS-05D/08A/08B/08C/08D/12U, etc. It is able to integrate various signals: Ethernet, USB, RS, LVDS, CAN bus, Fire Wire, SDI and HDMI, etc.

- Features:
- Ultra compact size/Precise design/Military-standard material /Low resistance
- Options:
- Rotating speed/Number of circuits/Housing material/Protection grade/Length of leads and /Leads exit/Integrate power transmission
- Main Applications:
- Intelligent Robots/Commercial UAV/Manual stabilizer/VR devices

Wire Color Code

Wire Size	Ring	Color	Ring	Color	Ring	Color	Ring	Color
AWG30#/ AWG32# Silver-Plated Teflon UL	#1	BLK	#2	BRN	#3	RED	#4	ORN
	#5	YEL	#6	GRN	#7	DK BLU	#8	PPL
	#9	GRY	#10	WHT	#11	PNK	#12	LT BLU

LPMS Super Miniature Capsule Slip Rings						
Model	Number of Circuits	Voltage (AC/DC)	Current (A)	OD*Length (mm)	Rotor Exposed Length (L1)	Rotor Outer Diameter (D1)
LPMS-04	4	0~48V	1A	φ7.9*10.8	3.3	φ2.5
LPMS-05	5	0~48V	1A	φ5.5*9.35	1.25	φ2
LPMS-06	6	0~48V	1A	φ7.9*11.2	3	φ3
LPMS-08	8	0~48V	1A	φ5.5*13.5	1	φ2
LPMS-10	10	0~48V	1A	φ6.8*13.5	2.1	φ2.38
LPMS-12	12	0~48V	1A	φ6.5*17.4	2	φ2.38
LPMS-15	15	0~48V	1A	φ7.6*19.1	3	φ3

# LPS Separate Slip Rings

## Brief Introduction

Our separate slip ring consists of a rotor and a brush stator. With a through hole in the rotor, this slip ring model is compatible with hydraulic channel, pneumatic channel and transmission shaft. Because of its separate design, separate slip ring is able to meet harsh requirements demanded by limited space and special installation in the customer's application. Pin contact is alternative for wire contact.

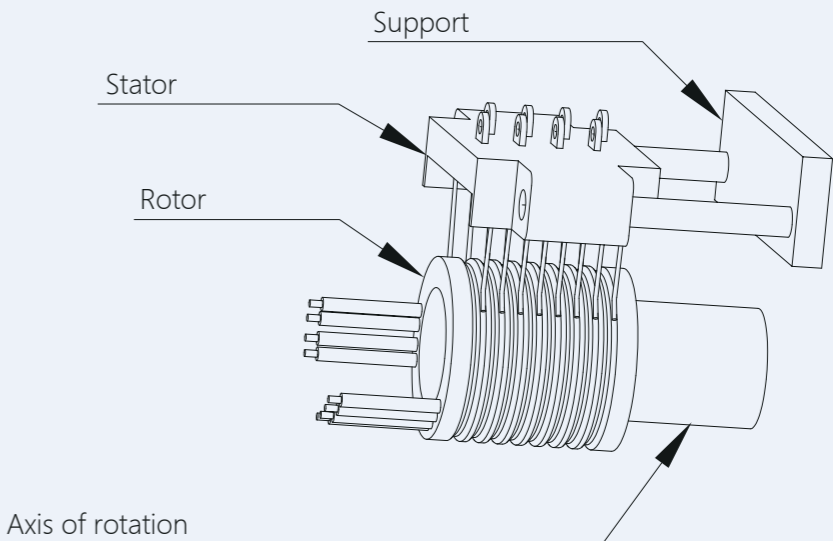
Features:  
◉Separated stator and rotor/Transmit power and/or signal/ Low contact resistance/Easy to install/Fit in limited space

Options:  
◉Working Speed/Number of Circuits/Current/Wire Length

Main Applications:  
◉Instruments, meters and measurement equipment  
◉Aviation, military and medical instruments  
◉Aerial camera platform, military/private UAV

## Installation Specifications

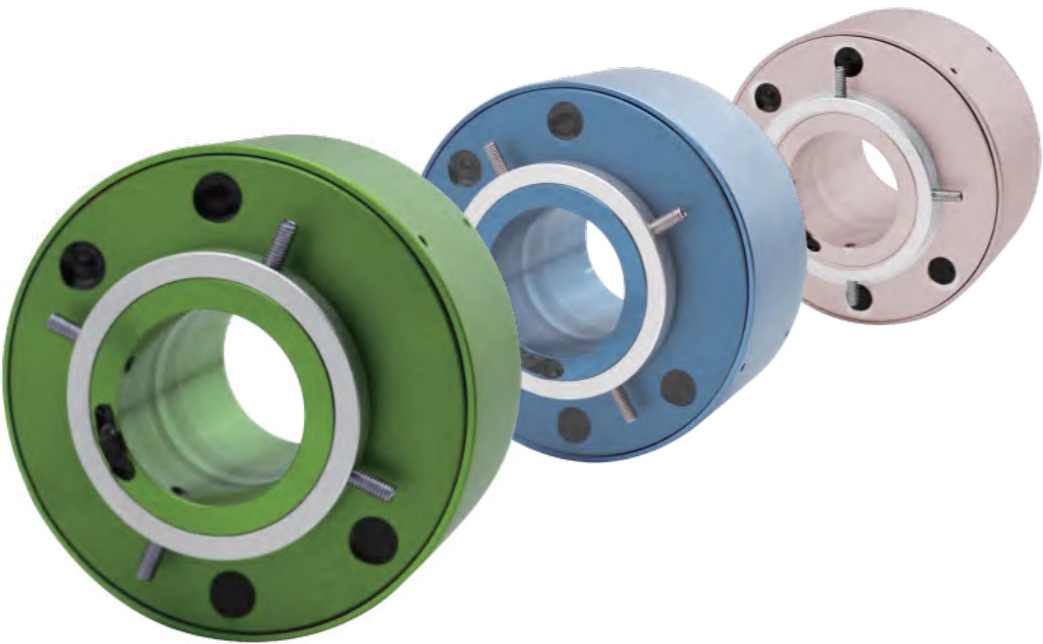
1. The slip ring is designed to be mounted in a separate way, in which the rotor and stator is separately fixed.
2. Align the grooves of rings and brush wires and match well in case of deviation from rings after the rotor of the slip ring is fixed on the spindle.
3. The slip ring should be protected from dust and moist. If it is used outdoors, a protection cover should be considered. (Custom slip rings are not included)
4. Protect all wire skins from being damaged during the rotation of the equipment. The end of all wires should not bear weight, withstand force, or be pulled in wires arrangement.
5. Use an exclusive tool while operating wire stripping, and do not damage the wire core.
6. Weld wires to the wire terminals with careful amount of soldering tin in stator wire connection, avoiding electric performance weakening between rings due to excessive soldering tin.



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	1-15 or more	Rotating Speed	0-100rpm or higher	Temperature	Industrial: -20°C~+60°C
Current	1-3A per circuit	Contact Material	Gold-to-gold		Military: -50°C~+80°C
Voltage	0-24VAC/DC				Humidity
Dielectric Strength	≥500VAC@50Hz	Wire Type	AWG28#/AWG32# Teflon or others	Others	
Insulation Resistance	≥100MΩ@500VDC			Life Span	Customizable
Dynamic Contact Resistance	1mΩ min.	Wire Length	250mm ( optional )		



# LPT Through-bore Slip Rings



## Brief Introduction

LPT series are through-bore slip rings (the center hole can pass through the drive shaft, gas-liquid passage; it can also integrate high frequency, fiber, encoder, waveguide, gas and liquid and other joints). The use of advanced fiber brush ensures reliable contact under extremely low friction. The center hole is available from 0 to 1000mm. The current is from mA to 5000 amps. The voltage can be up to 10000 volts, which can fully meet different needs of transmission.

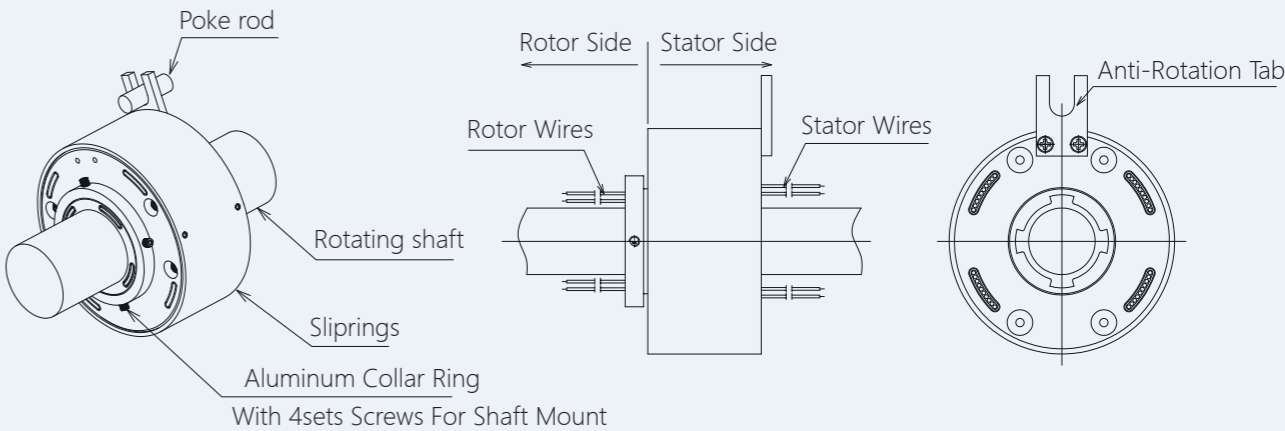
- Features:
- ◉ Transmit analog and digital signal
  - ◉ The power and signal are mixed transmitted, and the signal categories are as follows:
  - ◉ Ethernet: Rate (10Mbps/100Mbps/1000Mbps)
  - ◉ Industrial Ethernet: EtherNet , EtherCAT ,ProfiNet, Powerlink , SercosIII/IP, etc.
  - ◉ HD video: SDI, LVDS, etc.
  - ◉ Serial communication: RS232, RS485, RS422, etc.
  - ◉ Universal Serial Bus: USB2.0
  - ◉ Industrial Fieldbus: CANBus,ProfiBus, InterBus, CC-Link, DeviceNet, etc.
  - ◉ Sensor signal: thermal resistance, thermocouple, strain gauge, etc.
  - ◉ Long service life, maintenance-free
  - ◉ Easy to install

- Main Applications:
- ◉ Industrial automation equipment/Medical equipment/Wind power equipment/Test equipment/Exhibition / display equipment/Robots/Turntable equipment/Amusement equipment/High-speed railway equipment/Packaging machinery/Ship offshore equipment/Construction machinery

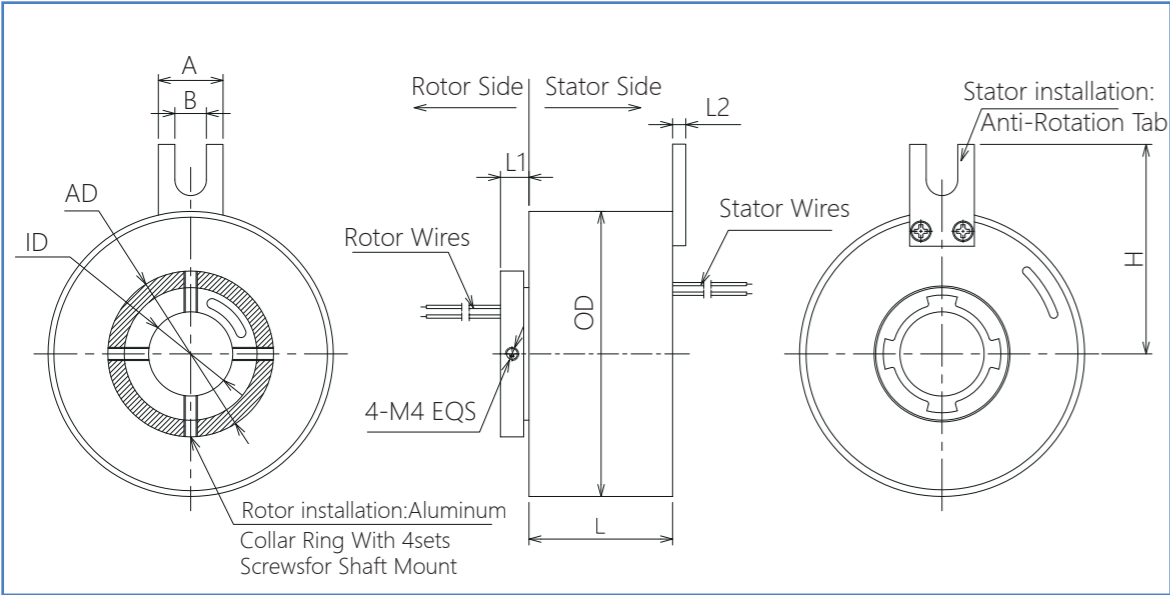
Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	06/12/18/24	Rotating Speed	0~300rpm	Temperature	Industrial: -20°C~+60°C Military: -55°C~+80°C
Current	5A(Signal)/10A/15A	Contact Material	Engineering plastic	Humidity	95%,100%RH or higher
Voltage	240VAC/DC	Housing Material	Aluminum	Protection Grade	IP50
Dielectric Strength	1000VAC@50Hz	Torque	≤0.1N.m/6 circuits, +0.03N.m/6 circuits	Others	
Insulation Resistance	≥500MΩ@500VDC	Wire Type	Teflon or others	Life Span	10 million (customizable)
Dynamic Contact Resistance	Min 1mΩ	Wire Length	rotor/stator: 300mm		

## Installation Specifications

- 1.The slip ring is not designed to bear the weight of the equipment to which it is connected.Also,the wires are vulnerable to pull and drag.
2. "Hard mounting" of both ends(rotor and stator) of the slip ring is forbidden. We suggest stabilizing the slip ring on the shaft with 4 screws, then plant the anti-rotation tab. Meantime, secure all wires to avoid interference and damage.
3. Slip rings are precise electronic components. Take protection measures in case of harsh environment or apply slip rings with higher protection level.



LPT Through-bore Slip Rings Outline Drawing



Wire Color Code

Wire Size	Ring#	Color	Ring#	Color	Ring#	Color	Ring#	Color
AWG22# Teflon UL(5A)	#1	BLK	#2	RED	#3	YEL	#4	GRE
	#5	BLU	#6	WIT	#7	BRN	#8	ORG
	#9	GRAY	#10	CLAR	#11	WIT/RED	#12	WIT/BLU
AWG17# Teflon UL(10A)	#13	WIT/YEL	#14	WIT/GRE	#15	WIT/BLK	#16	WIT/BRN
	#17	WIT/ORG	#18	WIT/GRAY	#19	BLK/RED	#20	BLK/YEL
	#21	BLK/GRE	#22	BLK/BLU	#23	BLK/BRN	#24	BLK/GRAY
1、AWG22#、AWG17# Teflon wire, 24 colors for a circle 2、"#1" from rotor side (The color of the wire can be changed)								
AWG14# Teflon UL(15A)	#1	BLK	#2	RED	#3	YEL	#4	GRE
	#5	BLU	#6	WIT	#7	BRN	#8	ORG
	#9	GRAY	#10	CLAR	#11	WIT/RED	#12	WIT/BLU
1、AWG14# Teflon wire, 12 colors for a circle 2、#1 from rotor side (The color of the wire can be changed)								

LPT Through-bore Slip Rings															
Model	ID (mm)	OD (mm)	Voltage	Current	Length (mm)				Rotating Speed (rpm)	Aluminum Ring Diameter (AD)	Rotor Exposed Length (L1)	Width of Anti-rotation Tab (A)	Groove Width of Anti-rotation Tab (B)	Height of Anti-rotation Tab (H)	Thickness of Anti-rotation Tab (L2)
					6 Circuits	12 Circuits	18 Circuits	24 Circuits							
LPT012	Φ12.7	Φ53	240VAC/DC	5A/Signal	34.8	48.6	62.4	76.2	300	Φ30	5.5	12	6	37	2
		5A/Signal		34	47.8	61.6	75.4								
		10A		37	53.8	70.6	87.4								
LPT025	Φ25.4	Φ86	240VAC/DC	5A/Signal	43.3	62.5	81.7	100.9	300	Φ50	8.6	19.5	9.5	63.2	4
		10A	47.5	70.9	94.3	117.7									
		380VAC/DC	15A	52.3	80.5	108.7	136.9								
LPT038	Φ38.1	Φ99	240VAC/DC	5A/Signal	43.6	63.4	83.2	103	300	Φ60	8.7	19.5	9.5	67.2	4
		10A	47.8	71.8	95.8	119.8									
		380VAC/DC	15A	52.6	81.4	110.2	139								
LPT050	Φ50	Φ119	240VAC/DC	5A/Signal	50	69.8	89.6	109.4	300	Φ75	8.5	19.5	9.5	78.2	4
		10A	54.2	78.2	102.2	126.2									
		15A	59	87.8	116.6	145.4									
LPT060/070	Φ60 / 70	Φ135	240VAC/DC	5A/Signal	52.5	70.5	88.5	106.5	300	Φ95	8.7	19.5	9.5	85	4
		10A	56.7	78.9	101.1	123.3									
		15A	61.5	88.5	115.5	142.5									
LPT080	Φ80	Φ160	240VAC/DC	5A/Signal	61.6	85.6	109.6	133.6	300	Φ120	13	19.5	9.5	97.2	4
		10A	64.6	91.6	118.6	145.6									
		15A	67.6	97.6	127.6	157.6									
LPT096	Φ96	Φ185	240VAC/DC	5A/Signal	69	96	123	150	300	Φ140	14	35	15	118	5
		10A	69	96	123	150									
		15A	72	102	132	162									
LPT120	Φ120	Φ207	240VAC/DC	5A/Signal	81	108	135	162	300	Φ139	14	35	15	133	5
		10A	81	108	135	162									
		15A	84	114	144	174									
LPT150	Φ150	Φ250	240VAC/DC	5A/Signal	98	131	164	197	300	Φ169	14	35	15	154	5
		10A	98	131	164	197									
		15A	101	137	173	209									
LPT180	Φ180	Φ298	240VAC/DC	5A/Signal	104	137	170	203	300	Φ199	15	35	15	181.5	8
		10A	104	137	170	203									
		15A	107	143	179	215									

LPT Long Life Slip Rings



LPT Long Life Slip Rings								
Model	ID(mm)	OD(mm)	Length(mm)	Voltage	Current	Rotating Speed(rmp)	Application	Lifespan (turns)
LPT009-0204-05S	Φ9.55	Φ35	26.6	240VAC/DC	2x4A+5 *common signal	300 or higher	Drone	50millions
LPT009-1802-HS	Φ9.5	Φ31.8	43	240V	2A/Signal	500 or higher	Turntable Equipment	50millions
LPT010-0602	Φ10	Φ36	24.6	240V	2A/Signal	300 or higher	Radar Equipment	50millions
LPT012A-1202	Φ12.7	Φ35	34.4	240VAC/DC	2A/Signal	300 or higher	Cable Reel Equipment	50millions
LPT012B-0602	Φ12.7	Φ35.1	29.6	240VAC/DC	2A/Signal	300 or higher	Test Equipment	50millions
LPT012B-0602-HS-HT	Φ12.7	Φ35.1	29.6	240VAC/DC	2A/Signal	2000 or higher	High-Speed Railway Equipment	200million
LPT012-3002-HS	Φ12.7	Φ36	66	240V	2A/Signal	500 or higher	Turntable Equipment	50millions
LPT032-0802-HS-HT	Φ32	Φ61	41.9	220V	2A/Signal	400	High-Speed Railway Equipment	50millions
SPT050-104-0610	Φ50	Φ104	58.8	500V	10A	400	Packaging Equipment	50millions
SPT050-104-1210	Φ50	Φ104	82.8	500V	10A	400	Packaging Equipment	50millions
SPT050-104-1810	Φ50	Φ104	106.8	500V	10A	400	Packaging Equipment	50millions
SPT050-104-2410	Φ50	Φ104	130.8	500V	10A	400	Packaging Equipment	50millions

LPR Pin Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	2/4/6/8	Rotating Speed	0-300rpm or higher	Temperature	Industrial: -40°C~+80°C
					Military: -50°C~+80°C
Current	2A/5A/14A/15A/20A/25A	Contact Material	Precious gold	Humidity	60%RH or higher
Voltage	0-240VAC/DC	Housing Material	Engineering plastics / Metals (optional)	Protection Grade	IP40 or higher
Dielectric Strength	≥500VAC@50Hz	Torque	≤0.88 g.m	Others	
Insulation Resistance	≥500MΩ@500VDC	Connection Method	Gold plated pin	Life Span	Customizable
Dynamic Contact Resistance	1mΩ min.				

Brief Introduction

LPR Pin Slip Ring adopts exquisite and innovative design, and replaces wires with pins. This model complies with the RoHS standards, and is widely used in wind generators, production line equipment, rotating platform, cable reel and hot roller.

Features:

- Pin contact instead of wire contact
- Transmit power and signal
- Smooth function
- Low contact resistance
- Easy to install

Option:

- Rotating speed
- Number of circuits
- Current capacity
- Housing material

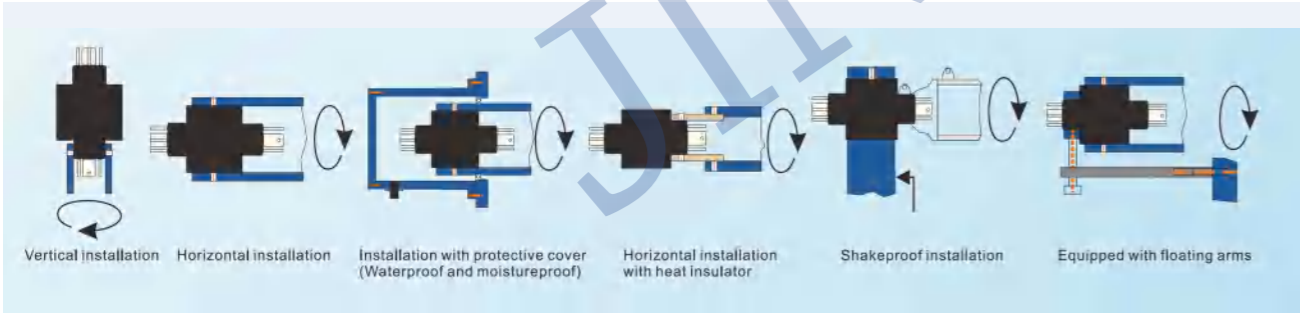
Application:

- Wind generators
- Rotating platform
- Cable reel and hot roller
- Production line equipment

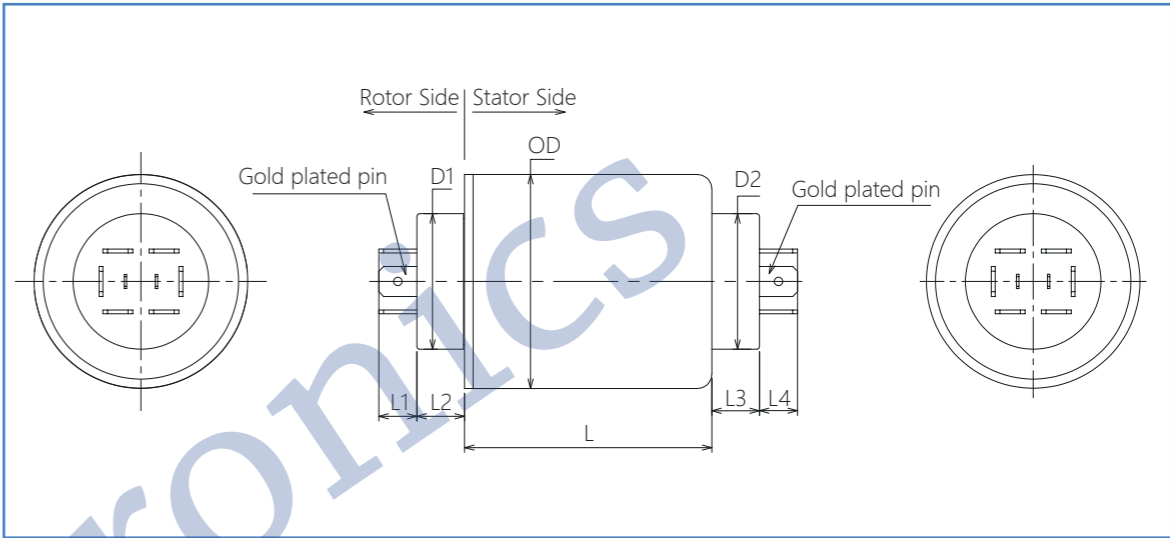
Product Advantages

- Strong current carrying capacity
- Can transmit 100bit high speed data signals, control signals, etc.
- Advanced fiber brush technology to ensure low friction, low contact resistance, no friction debris
- Long Lifespan

Installation Diagram



LPR Pin Slip Rings Outline Drawing



LPR Pin Slip Rings									
Model	Voltage (AC/DC)	Current (A)	OD*Length (mm)	Rotor Outer Diameter (D1)	Pin Base Outer Diameter (D2)	Rotor Pin Length (L1)	Rotor Exposed Length (L2)	Stator Base Length (L3)	Stator Pin Length (L4)
LPR-2	0~240V	15A	φ32*28.6	φ16	φ16	8	9.8	9	8
LPR-3	0~240V	15A	φ32*28.6	φ16	φ16	8	9.8	9	8
LPR-4	0~240	2*15A+2*5A	φ32*28.6	φ16	φ16	8	9.8	9	8
LPR-6	0~240	20A	φ45*64.5	φ29	φ29	8	10	10	8
LPR-8	0~240	6*20A+2*5A	φ45*64.5	φ29	φ29	8	10	10	8

# LPKS Pancake Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	1~10 circuits	Working Speed	0~100rpm	Temperature	Industrial: -20°C~+60°C
Current	5A/Signal	Contact Material	Precious metal/ Gold to gold		Military: -55°C~+80°C
Voltage	240VAC/DC	Housing Material	FR-4	Humidity	Below 60%RH
Dielectric Strength	500VAC@50Hz (power) 300VAC@50Hz (signal)	Torque	0.1N.m(Reference)	Others	
Insulation Resistance	≥500MΩ@500VDC	Wire Type	AWG20# Teflon®UL	Life Span	10Mio
Electrical Noise	≤20MΩ (At the speed of 50rpm)	Wire Length	Stator: 300mm Rotor: 300mm		

## Brief Introduction

This series is divided into an integrated pancake slip ring and a separate pancake slip ring. The integrated pancake slip rings provide vias of different size; the separate pancake slip ring consists of a separate rotor and a stator to meet more stringent height requirements, and can be installed by the customer according to the application environment.

Features:  
Minimum thickness up to 5.4m  
Transmit analog and digital signal

The power and signal are mixed transmitted, and the signal categories are as follows:

- ⊙Ethernet: Rate (10Mbps/100Mbps/1000Mbps)
- ⊙Industrial Ethernet: ProfiNet, Powerlink, SercosIII, EtherCAT, EtherNet/IP, etc.
- ⊙HD video: SDI, LVDS, etc.
- ⊙Serial communication: RS232, RS485, RS422, etc.
- ⊙Universal Serial Bus: USB2.0
- ⊙Industrial Fieldbus: CANBus, CC-Link, InterBus, DeviceNet, ProfiBus, etc.
- ⊙Sensor signal: thermal resistance, thermocouple, strain gauge, etc.
- ⊙Shock-resistant, maintenance-free

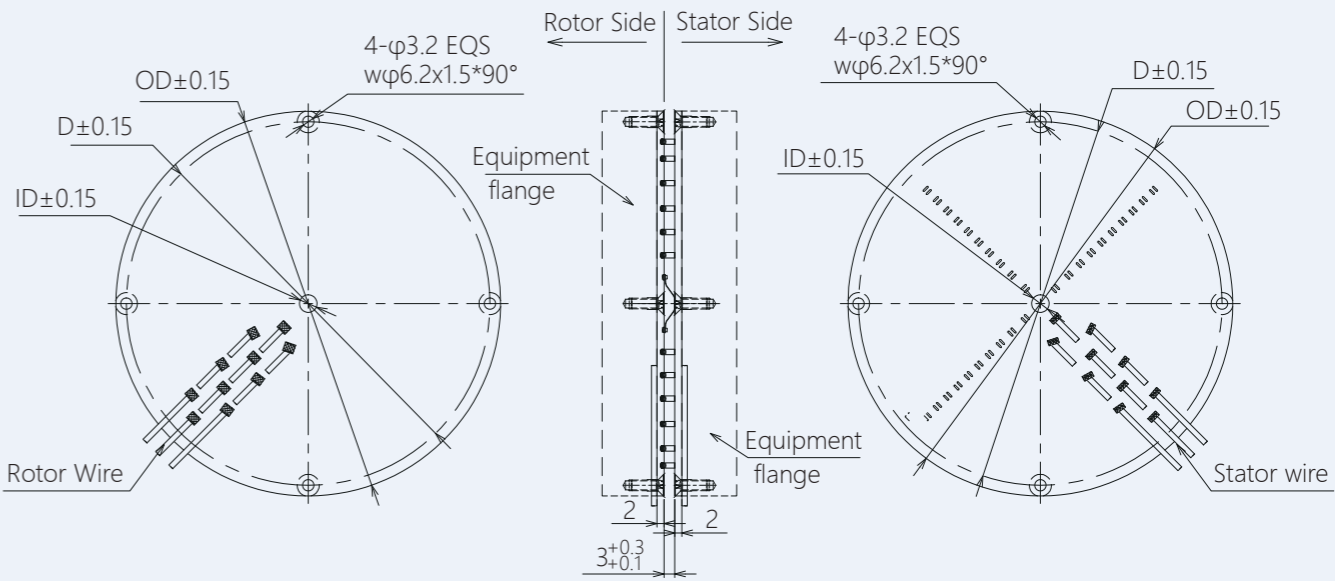
Optional:  
⊙Inner diameter & Outer diameter/Number of circuits/Current & Voltage/Wire length/Housing material and color/Protection level/Signal and power can be transmitted separately or in combination

Main Applications:

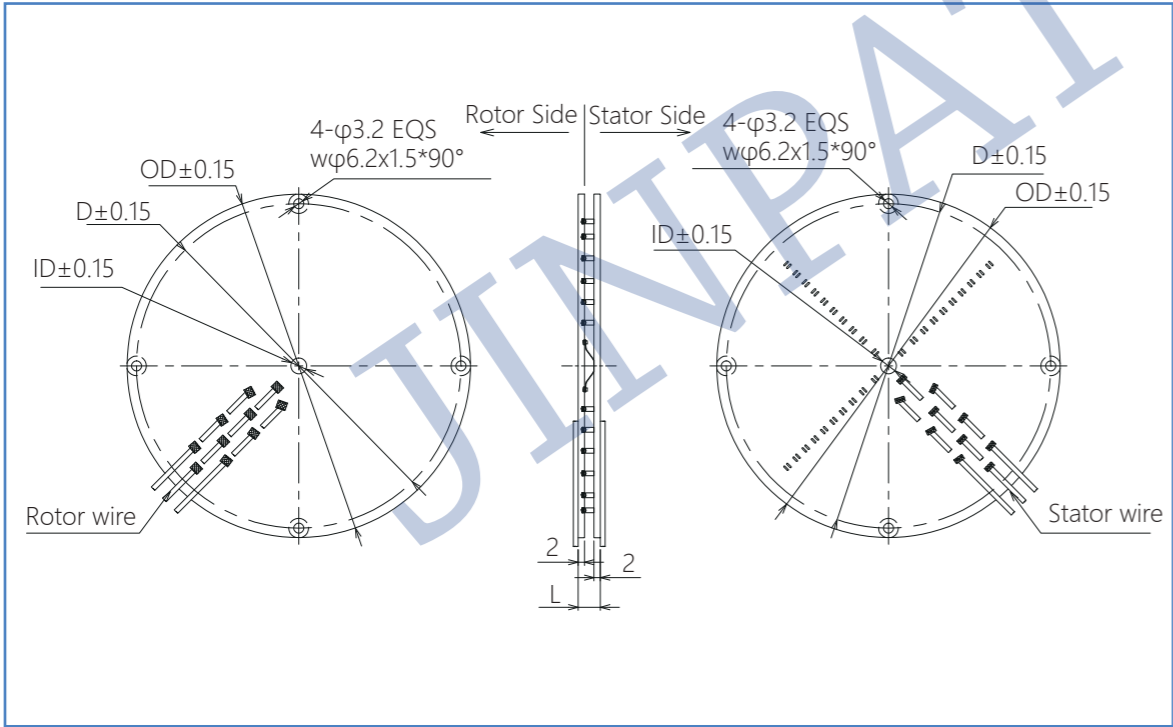
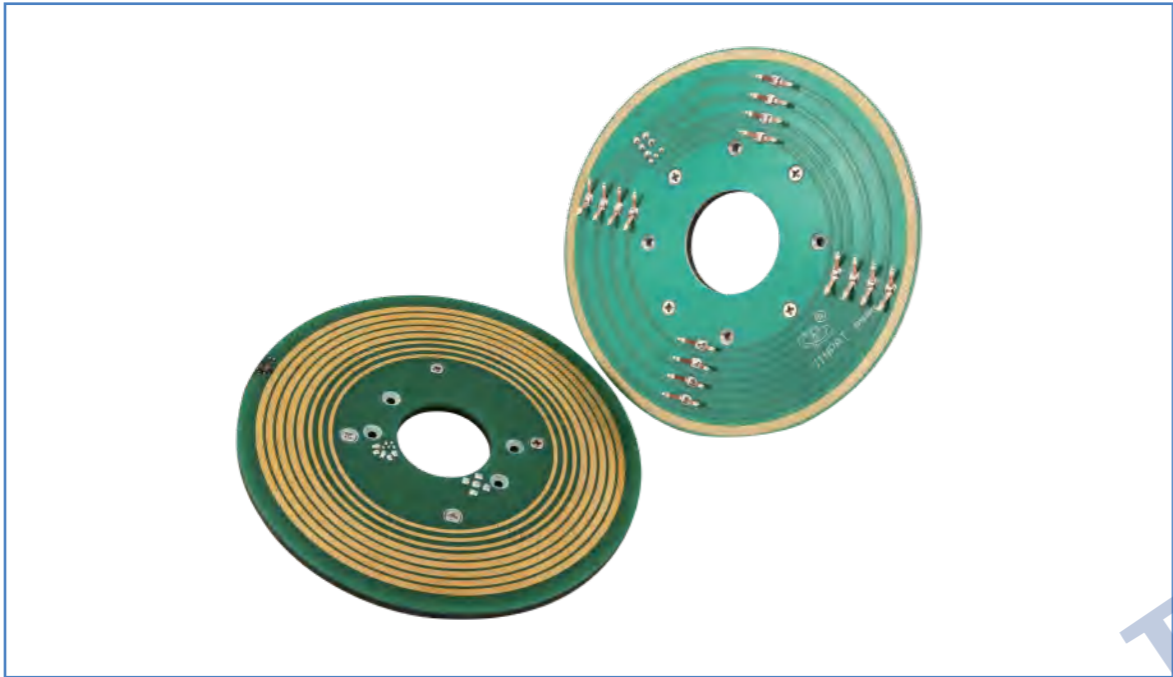
- ⊙ Military Equipments
- ⊙ Medical Equipments
- ⊙ Wind Turbine
- ⊙ Test Equipment
- ⊙ Revolving Door
- ⊙ Robot

## Installation Instructions of Separate Pancake Slip Ring

1. First install the rotor side. Fix the rotor PCB board to the flange of the device with the corresponding screws;
2. Then install the stator side. Fix the stator PCB board to the flange of the device with the corresponding screws;
3. Debug the coaxiality of the slip ring. The brush shrapnel contacts on the stator side must be adjusted to the center of the rotor side ring to ensure the coaxiality between the slip ring and the device;
4. Debug the distance between the two PCB boards. The distance between the stator side PCB board and the rotor side PCB board is L (+0.1/+0.3) mm.



LPKS Pancake Slip Rings Outline Drawing



LPKS Pancake Slip Rings

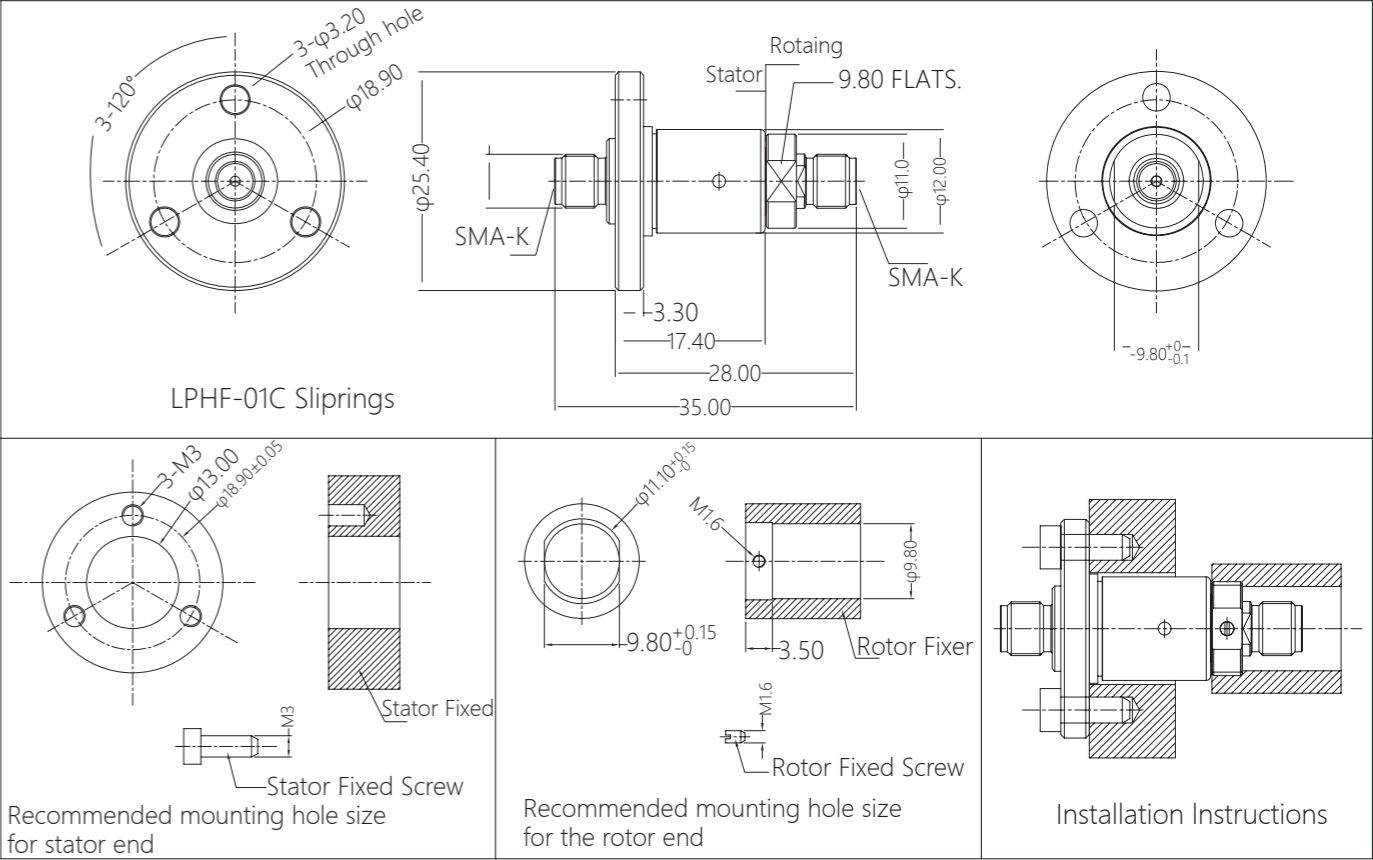
Model	Number of Circuits	Voltage (AC/DC)	Current (A)	OD*Length (L) (mm)	(ID) (mm)	Reference Circle (D) (mm)
LPKS005-0105	1	240V	5	Φ34×7	5	30
LPKS005-0205	2	240V	5	Φ42×7	5	38
LPKS005-0305	3	240V	5	Φ52×7	5	46
LPKS005-0405	4	240V	5	Φ60×7	5	54
LPKS005-0505	5	240V	5	Φ68×7	5	62
LPKS005-0605	6	240V	5	Φ76×7	5	70
LPKS005-0705	7	240V	5	Φ84×7	5	78
LPKS005-0805	8	240V	5	Φ92×7	5	86
LPKS005-0905	9	240V	5	Φ100×7	5	94
LPKS005-1005	10	240V	5	Φ108×7	5	102
LPKS019-0905	9	240V	5	Φ108×7	19	102
LPKS028-0805	8	240V	5	Φ108×7	28	102
LPKS036-0705	7	240V	5	Φ108×7	36	102
LPKS045-0605	6	240V	5	Φ108×7	45	102
LPKS053-0505	5	240V	5	Φ108×7	53	102
LPKS061-0405	4	240V	5	Φ108×7	61	102
LPKS069-0305	3	240V	5	Φ108×7	69	102
LPKS076-0205	2	240V	5	Φ108×7	76	102
LPKS084-0105	1	240V	5	Φ108×7	84	102



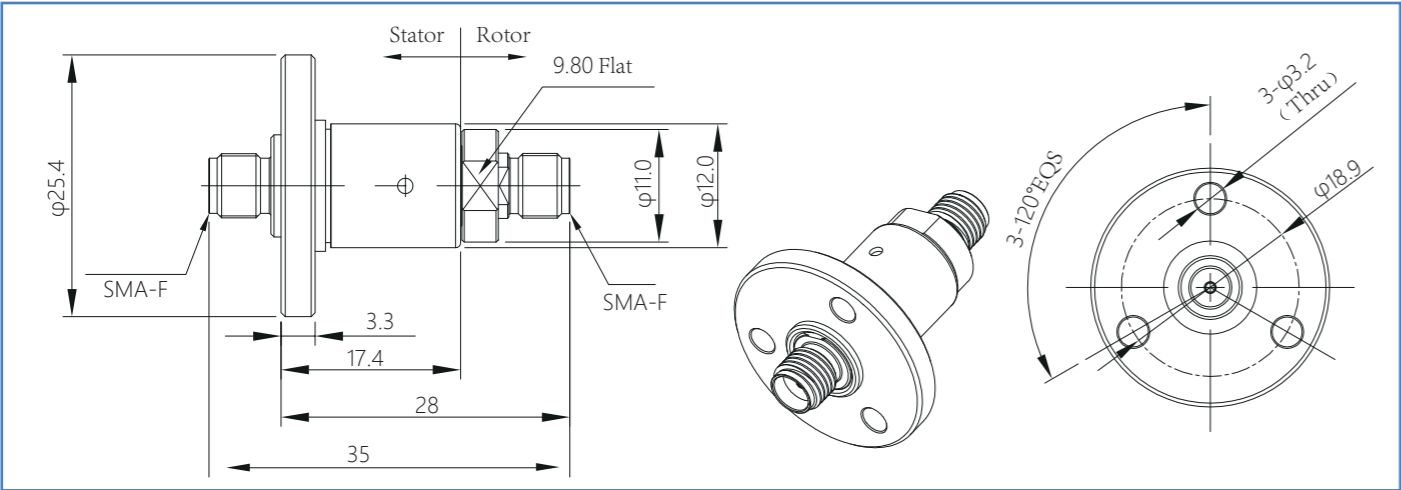
Electrical & Electronics		Mechanical		Environmental	
Channels	1/2/3/4(optiongal)	Rotating speed	0-500rpm	Working temperature	Industrial: -40°C~+75°C
Frequency range	1CH:≤50GHz 2CH:≤18GHz	Lifetime	10million revolutions		Military: -55°C~+85°C
Inserfaces	SMA/N/3.5/2.92/2.4/F	Interface loads ,max	±5N(axial) ±5N(radial)	Storage ambient temperature	-50~85°C
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 ternary alloy		

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



LPHF-01C Outline drawing



Specifications

Interface Type	SMA-F(50Ω)	Axial load on Interface, Max	±2N
Frequency Range	DC-18GHz	Radial Load on Interface, Max	±2N
VSWR, Max	1.3@DC-12GHz 1.4@12-18GHz	Body Material	Stainless Steel
VSWR WOW	0.05	Insul ator Material	PTFE
Insertion loss,Max.	0.3dB@DC-12GHz 0.4dB@12-18GHz	Marking	Laser marking
Insertion loss WOW	0.05dB	Weight	25.4g
Peak Power, Max.	3KW	IP Protection Level	IP40
Maximum speed	2000rpm	Operation Temperature	-45~+80°C
Average Power, Max	200W@1GHz/30W@18GHz	Storage Temperature	-55~+85°C
Phase WOW, Max	1°	Rotating Speed, Max.	300rpm
Humidity (Operation)	95%	Humidity (Storage)	95%
Life Time, Min.	10 Million Revolutions	Starting Torque	2Ncm Max
Continuous Rotational Torque		2Ncm Max	

Features

Independent Research and Development

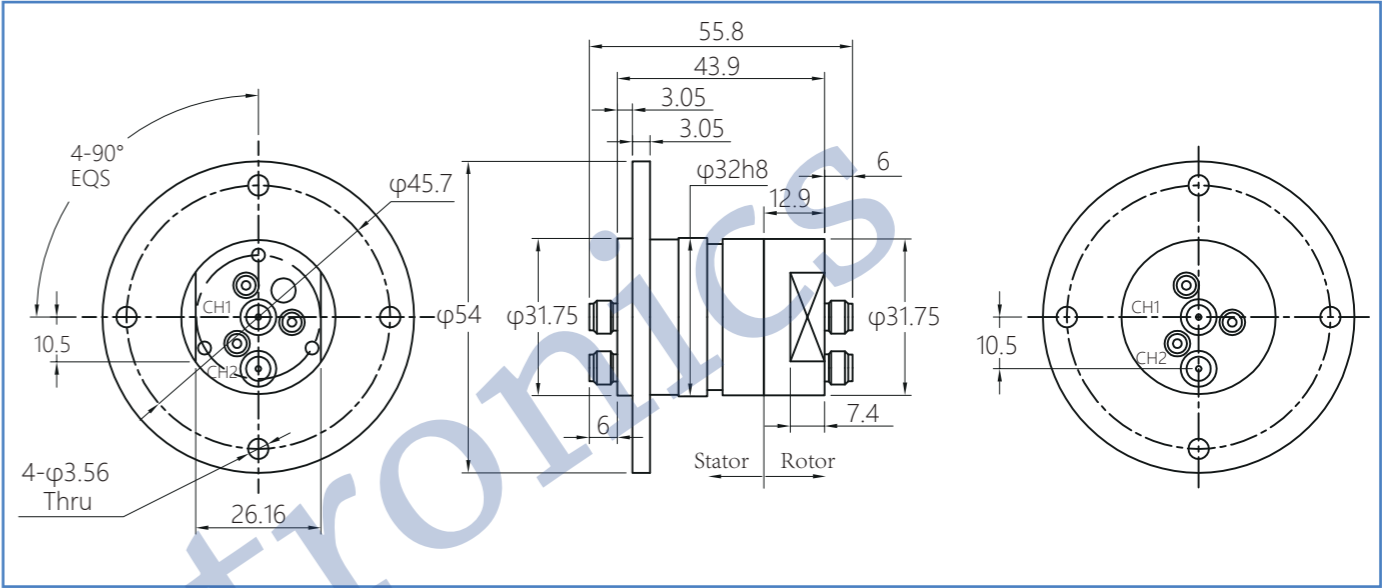
Key Challenges

- ▶ 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

LPHF-02A Outline drawing



Specifications

Channel1	Channel1 1	Channel1 2	Starting Torque	5Ncm@ room temperature
Interface Type	SMA-F(50ohm)	SMA-F(50ohm)	Continuous Rotational Torque	5Ncm@ room temperature
Type	I	I	Rotaing Speed, Max.	60rpm
Frequency Range	DC-4.5GHz	DC-4.5GHz	Lofe Time,Min	10 million Revolutions
Peak Power, Max.	1000W	1000W	Body Material	Aluminum alloy
Average Power, Max	60W@4.5GHz	10W	Case surface finish	Chromate conversion coat
VSWR, Max	1.2	1.5	Weight	0.13Kg
VSWR, WOW	0.05	0.2	IP Protection Level	IP60
Insertion Loss, Max.	0.25dB	0.3dB	Operation Temperature	-45~+80°C
Insertion Loss, WOW	0.05dB	0.15dB	Storage Temperature	-55~+85°C
DC capability, 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	/	

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

LPHF Rotary Joints									
Single-Channel	Model	Channel	Interface	Frequency range	Peak power, max	Average power, max	VSWR, max	Insertion loss, max	Isolation, min
	LPCC-01A	1	Optional	DC-3GHz	1000W	20W@3GHz	1.5@0-3GHz	1.2dB@3GHz (250mm/250mm)	/
	LPCC-02A	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.2dB@3GHz (250mm/250mm)	/
	LPCC-01B	1	Optional	DC-6GHz	800W	10W@6GHz	1.5@6GHz	1.8dB@0-6G (250mm/250mm)	/
	LPCC-01C	1	N-F(75Ω)	DC-12GHz	1kW	100W@1GHz 15W@12GHz	1.4	0.6dB	/
	LPHF-01A	1	SMA-f(50Ω)	DC-18GHz	1500W	200W@1GHz 30W@18GHz	1.20@0-6GHz 1.25@6-12GHz 1.35@12-18GHz	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-01J	1	SSMA-F(50Ω)	DC-18GHz	500W	100 W @ 1 GHz 10 W @ 18 GHz	1.4 @ DC-18 GHz	0.4dB	/
	LPHF-01K	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		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		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		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		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 Rotary Joints									
Multi-Channel	Model	Channel	Interface	Frequency range	Peak power,max	Average power,max	VSWR, max	Insertion loss, max	Isolation, min.
	LPHF-02E	2	SMA-f(50Ω)	DC-5GHz	1000W	60W@5GHz	1.2	0.25dB	50dB
			SMA-f(50Ω)	DC-5GHz		10W	1.5	0.45dB	
	LPHF-02W	2	SMA-f(50Ω)	DC-18GHz	1000W	200W@1GHz	1.5@-18GHz	0.6dB@	50dB
			SMA-f(50Ω)	DC-10GHz		200W@1GHz	2.4@4-10GHz	1.5dB@	
	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		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		10W	1.8@0-4GHz 2.2@4-8GHz	0.5dB@0-4GHz 0.8dB@4-8GHz	
	LPHF-02A-75Ω	2	MCX-M(75Ω)	DC-1.5GHz	1000W	200W@1GHz	2	1.5dB	50dB
			SMA-F(75Ω)	DC-1.5GHz		200W@1GHz	2.5	1.5dB	
	LPHF-02K	2	1.85-F(50Ω)	DC-60GHz	1000W	200W@1GHz	2	2.0dB	50dB
			SMA-F(50Ω)	DC-6GHz		10W@6GHz	2.5	1.5dB	
	LPHF-02I	2	2.92-F(50Ω)	DC-40GHz	1000W	200W@1GHz	2	1.5dB	50dB
			SMA-F(50Ω)	DC-6GHz		10W@4.5GHz	1.65	1.65dB	
	LPHF-03A	3	SMA-K(50Ω)	DC-2GHz	1000W	30W@1GHz 10W@1GHz 10W@1GHz	1.5	1.0dB	50dB
	LPHF-03C	3	SMA-F(50Ω)	DC-3GHz	1000W	30W	1.5	0.8dB	50dB
			SMA-F(50Ω)	DC-3GHz		30W	1.5	0.8dB	
			SMA-F(50Ω)	DC-3GHz		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		10W	1.5	1.0dB	
			SMA-f(50Ω)	DC-4GHz		10W	1.5	1.0dB	
			SMA-f(50Ω)	DC-4GHz		10W	1.5	1.0dB	
Integrated	LPC-1C1202	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.2dB@3GHz (250mm/250mm)	/
	LPC-1C2402	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.2dB@3GHz (250mm/250mm)	/
	LPC-1C3002	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.2dB@3GHz (250mm/250mm)	/
	LPC-1C3602	1	Optional	DC-3GHz	1000W	20W@3GHz	1.6@0-3GHz	1.2dB@3GHz (250mm/250mm)	/

# LPFO Fiber Optic Rotary Joints



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		

## Brief Introduction

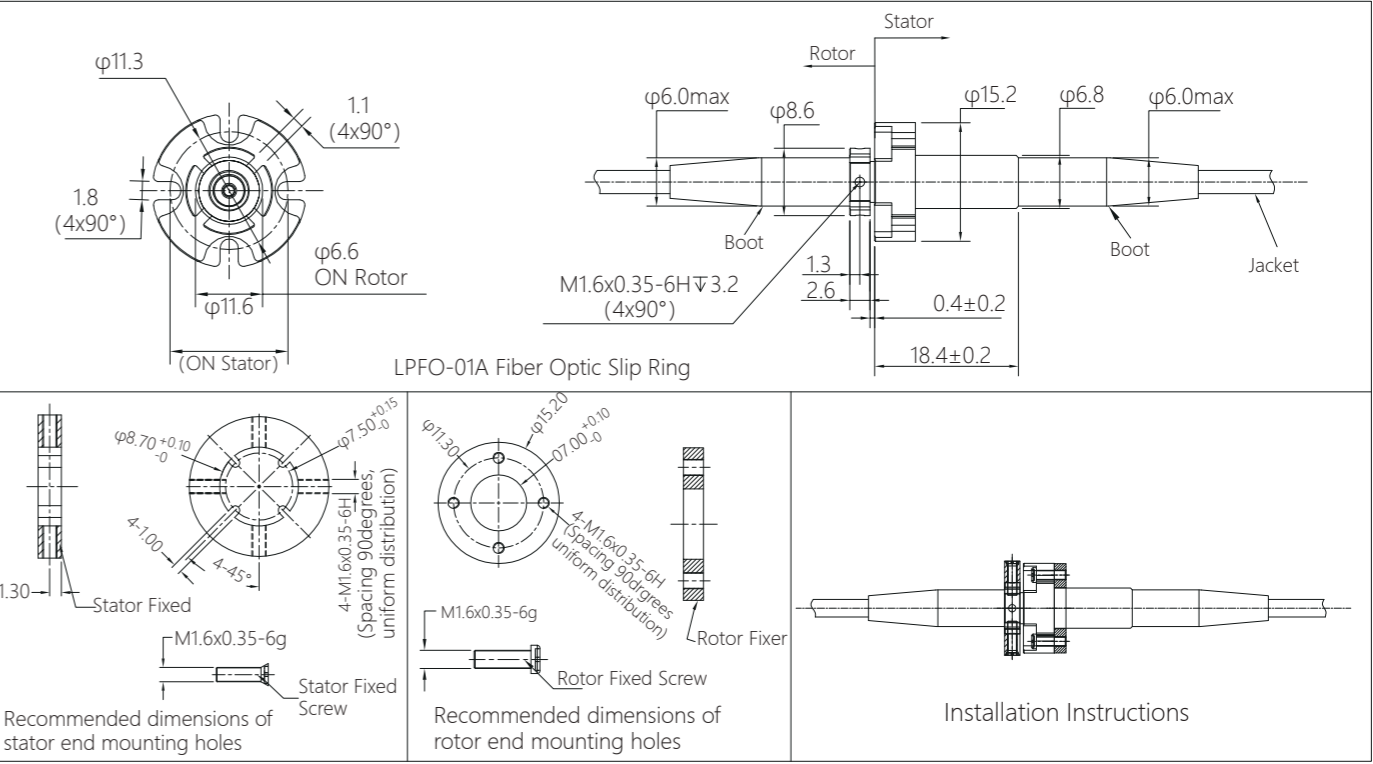
Fiber Optic Rotary Joint adopts fiber optic as media, providing the best technical solution for the transmission of data. It is especially suitable for equipments that require unlimited, continuous or intermittent rotation, transmitting large capacity of data and signals from the stationary position 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

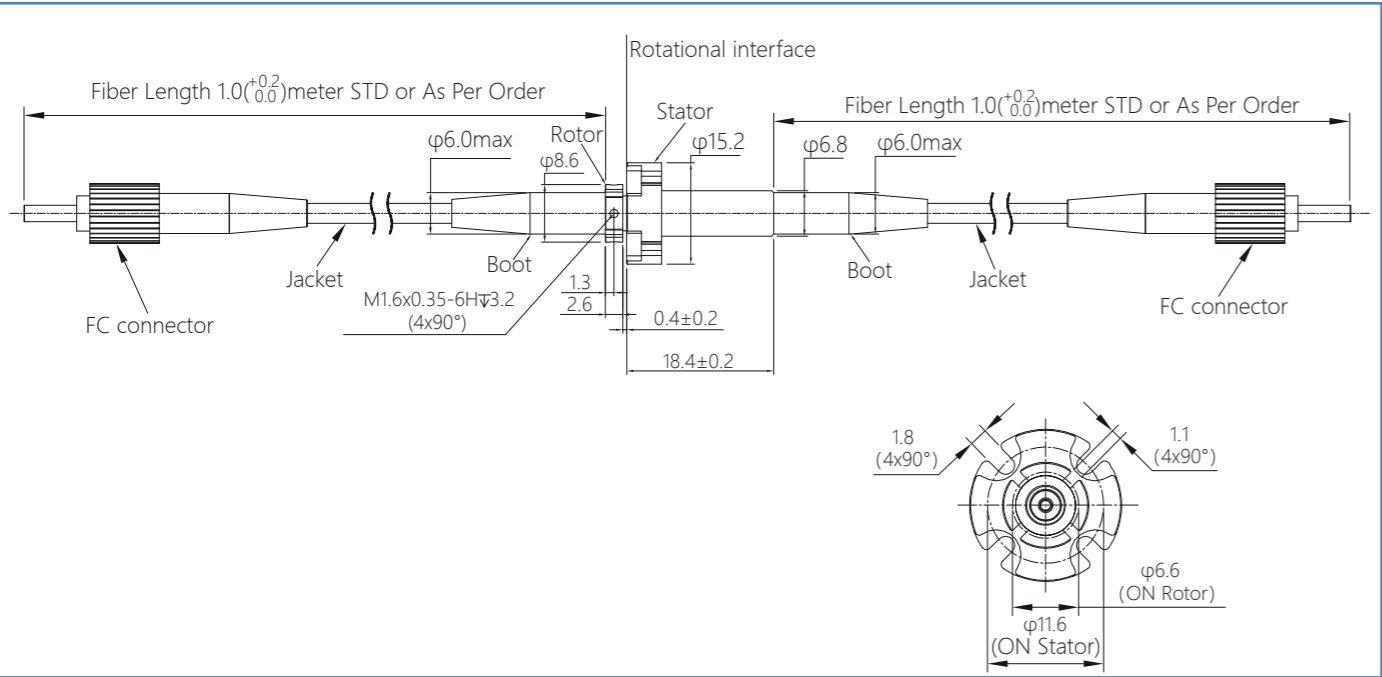
- Options
- Fiber optic transmission type is optional, circuits of current and signal are optional.
  - Single mode or multi mode, single channel or multiple channel
  - Shape can be customized, housing material and driving connector are optional as well

- 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



Specifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	1	Estimated life cycle	200-400 millionrevolutions
Wavelength range	650-1650nm	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	Storage temperature	-50~+85°C
Max Optical power	23dBm	Package style	Pigtails on both ends
Maximum speed	2000rpm	Jacket types	0.9/2/3mm(PVC or Kevlar)
Working temperature	-45~85°C	Weight approx	10g(No tail cable and connection included)

Features

Independent Research and Development

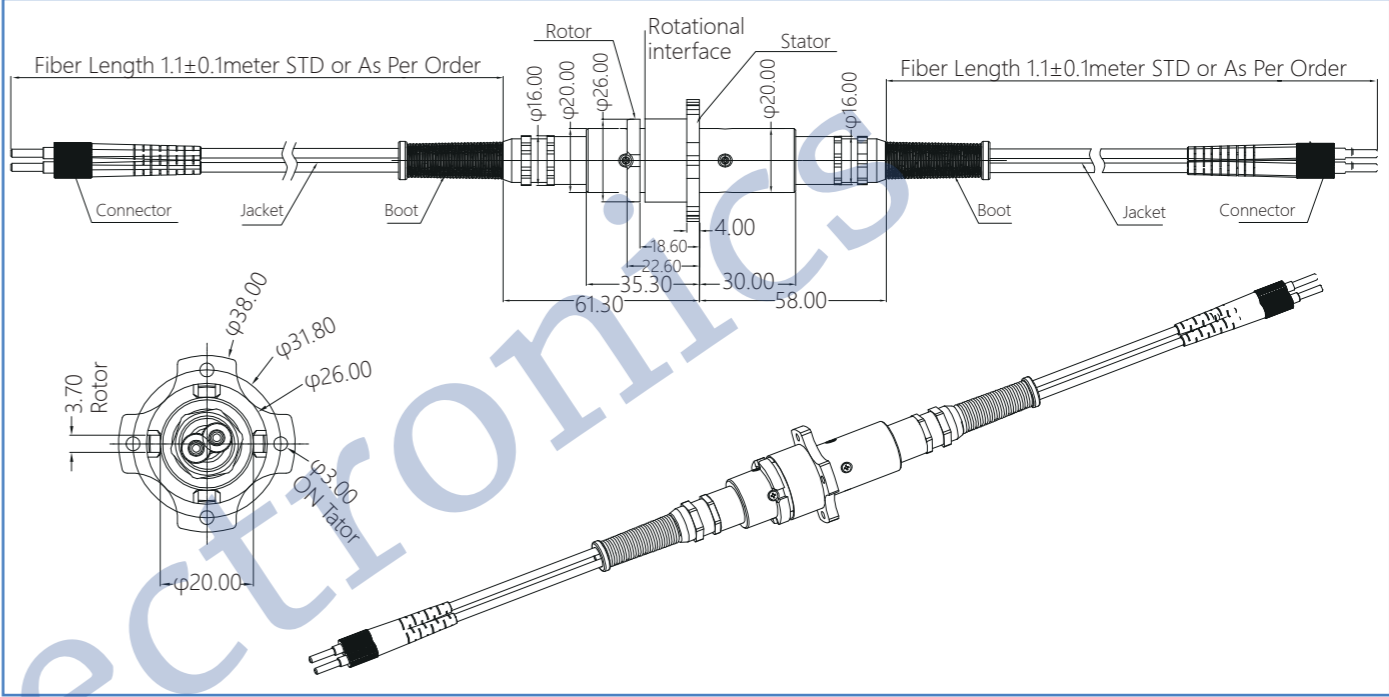
Key Challenges

- ▶ 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

LPFO-04N Outline Drawing



Specifications			
Fiber types	SM or MM	Connector types	FC/SC/ST/LC(PC or APC)
Channel number	4	Estimated life cycle	200 million revolutions
Wavelength range	850-1550nm	Vibration	MIL-STD-167-1A
Insertion loss	<4dB	Mechanical shock	MIL-STD-810G
Insertion loss ripple	<2dB	IP rating	IP65 or IP67
Return loss	≥40dB	Storage temperature	-50~+85°C
Max Optical power	23dBm	Package style	Pigtails on both ends
Maximum speed	300rpm	Jacket types	2.0mm(PVC or Kevlar)
Working temperature	Industrial: -20~+70°C	Crosstalk	≥50dB
	Military: -55~+85°C	Weight approx	200g (No tail cable andconnection included)

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 Fiber Optic Rotary Joints						
Single-Channel	Model	Fiber Optic Channel	Fiber Type	Wavelength (nm)	Insertion Loss (dB)	Insertion loss ripple (dB)
	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-01G	1	SM&MM	650-1650	< 2dB	< 1 dB
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-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-07C-X	2~7	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-A	12	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-16N-A	16	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-18N-A	18	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-20N-A	20	SM&MM	850-1550	< 5dB	< 2dB
	LPFO-24N-A	24	SM&MM	850-1550	< 5dB	< 2dB
Photoelectric 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					
Single-Channel	Return Loss (dB)	Crosstalk (dB)	Speed,max (rpm)	Connector Type	Sizes (mm)
	> 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	/	1000	ST	Φ32/Φ42*65.2
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
	> 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
	> 40	> 45	300	ST/FC/SC/LC	Φ30/Φ50*115
	> 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/Φ88*123
	> 40	> 45	300	ST/FC/SC/LC,(PC orSPC)	Φ38/Φ60*119.5
	> 40	> 50	300	ST/FC/SC/LC,(PC orSPC)	Φ67/Φ88*123
	> 40	> 50	300	ST/FC/SC/LC,(PC orSPC)	Φ67/Φ88*123
	> 40	> 50	300	ST/FC/SC/LC,(PC orSPC)	Φ67/Φ88*123
	> 40	> 50	300	ST/FC/SC/LC,(PC orSPC)	Φ67/Φ88*123
	> 40	> 50	300	ST/FC/SC/LC,(PC orSPC)	Φ67/Φ88*123
Photoelectric Integrated	> 40	/	300	ST/FC/SC/LC,etc.	Φ24.8*39.8
	> 40	/	300	ST/FC/SC/LC,etc.	Φ24.8*54.8

# LPP Rotary Unions

(Can Be Integrated with Electricity)



Rotary Union		Electrical & Electronics		Mechanical	
Circuits	2/4/6/8/10/12	Circuits	1 ~ 36	Working Speed	0 ~ 100rpm
Gas Pipe Outer Diameter(mm)	φ4	Current	2A each circuit or higher	Contact Material	Gold to gold
Maximum Working Pressure	-1.5Kpa ~ 1Mpa	Voltage	240V AC/DC	Housing Material	Engineering Plastic / Metal (Optional)
Medium	Compressed air, inert gas, etc.	Dielectric Strength	≥500VAC@50Hz	Wire Type	AWG28# Teflon® UL
Environmental		Insulation Resistance	100MΩ@500VDC	Wire Length	250mm (Optional)
Temperature	-20℃~+60℃ (Optional)			Others	
Humidity	≤60%RH	ElectricalNoise	35mΩ (Min 1mΩ)	Life	5 million (can be customized)
Protection Grade	IP50 (Optional)				

## Brief Introduction

The LPP rotary unions can perform rotation of 360 degrees. The medium includes inert gas such as compressed air, steam, vacuum, nitrogen, hydrogen, etc. It can integrate slip ring to transport various control signals. The sealing surface and sealing ring are made of special materials, with the advantages of wear resistance, long life, corrosion resistance, and no leakage. Customers can install LPP rotary unions independently according to the application environment.

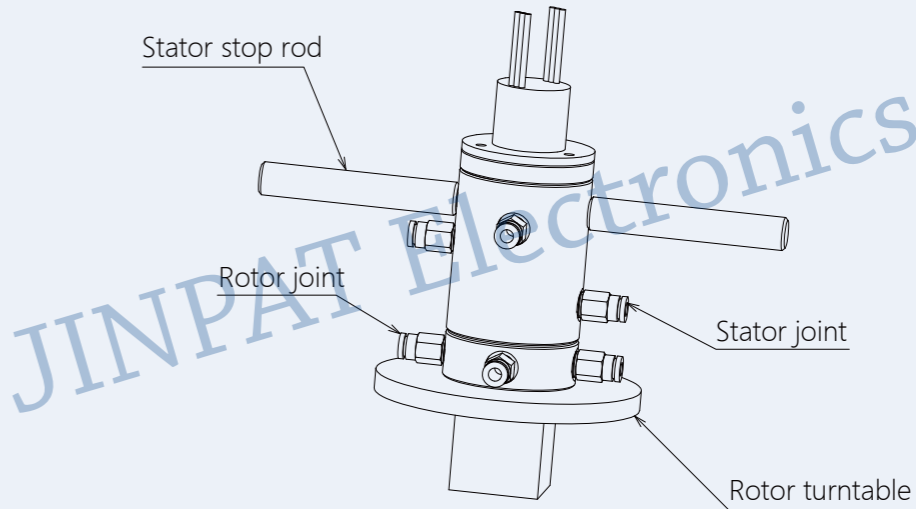
- Features
- Continuable medium: compressed air, nitrogen, and other inert gases;
  - Small size, light weight, low torque
  - Integrated power, switching signal, Ethernet, USB, industrial bus, sensor and other signals;
  - Customized rotary joint parameters and integrated slip ring can be customized according to customer requirements;
  - The joint and pipe diameter can be customized according to customer requirements;
- Optional
- Inner diameter & Outer diameter/Number of circuits/Current & Voltage/Wire length/Housing material and color/Protection level/Signal and power can be transmitted separately or in combination

## Installation Specifications

1. The mounting position of the slip ring is matched with the equipment. It is necessary to connect the air pipe at the rotor end to ensure that there is no leakage.
2. Debug the concentricity of the rotor before installation and ensure the smooth rotation of the slip ring.
3. The stator is screwed into the anti-rotation rod through the anti-rotation hole to stop rotation, and can also be customized according to customer requirements.

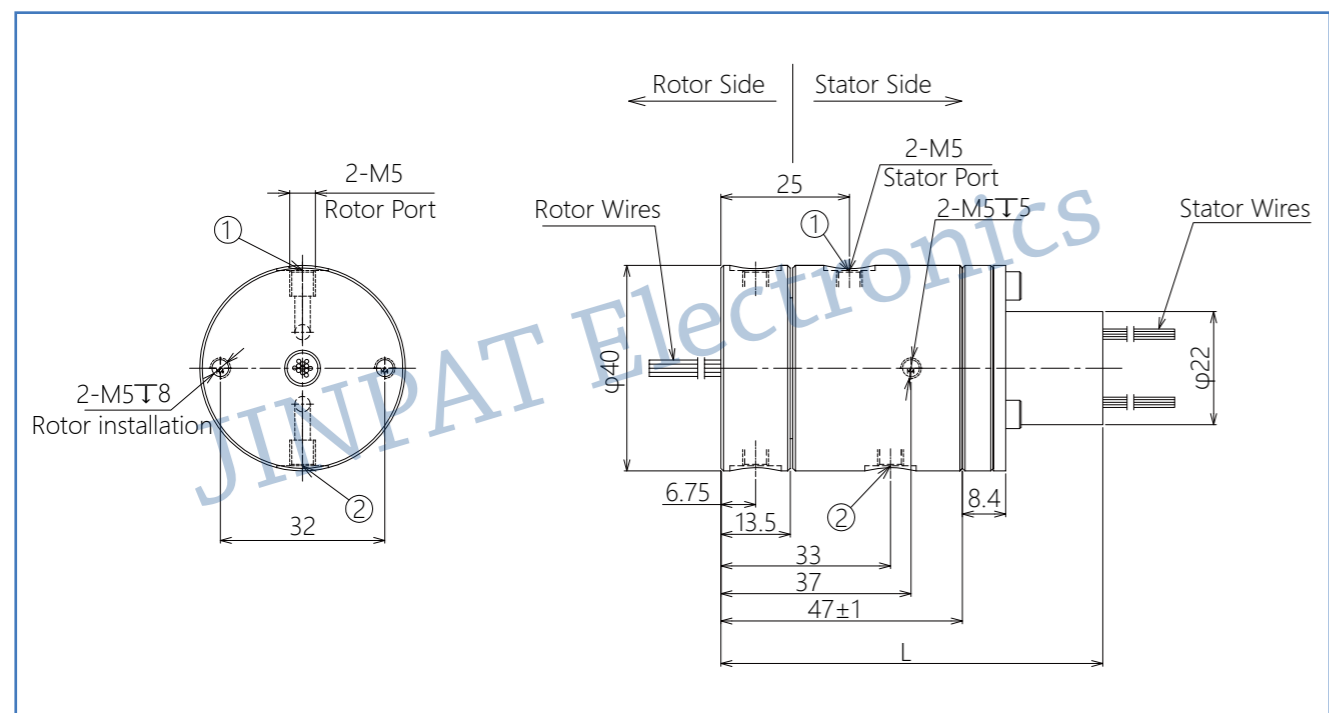
Precautions for Installation of Rotary Joints:

1. Rotary joints should prevent impact and drop during delivery and storage to avoid damage to the interface and internal parts.
2. The bolts for fixing need to be loosened.
3. When installing the rotary joints, it should be noted that the thread direction of the inner and outer tubes corresponds to the rotation direction of the drum, and the thread rotation direction of the inner and outer tubes should also be the same.
4. The inlet and outlet of the rotary joint should be connected directly to the hose as much as possible. The transmission

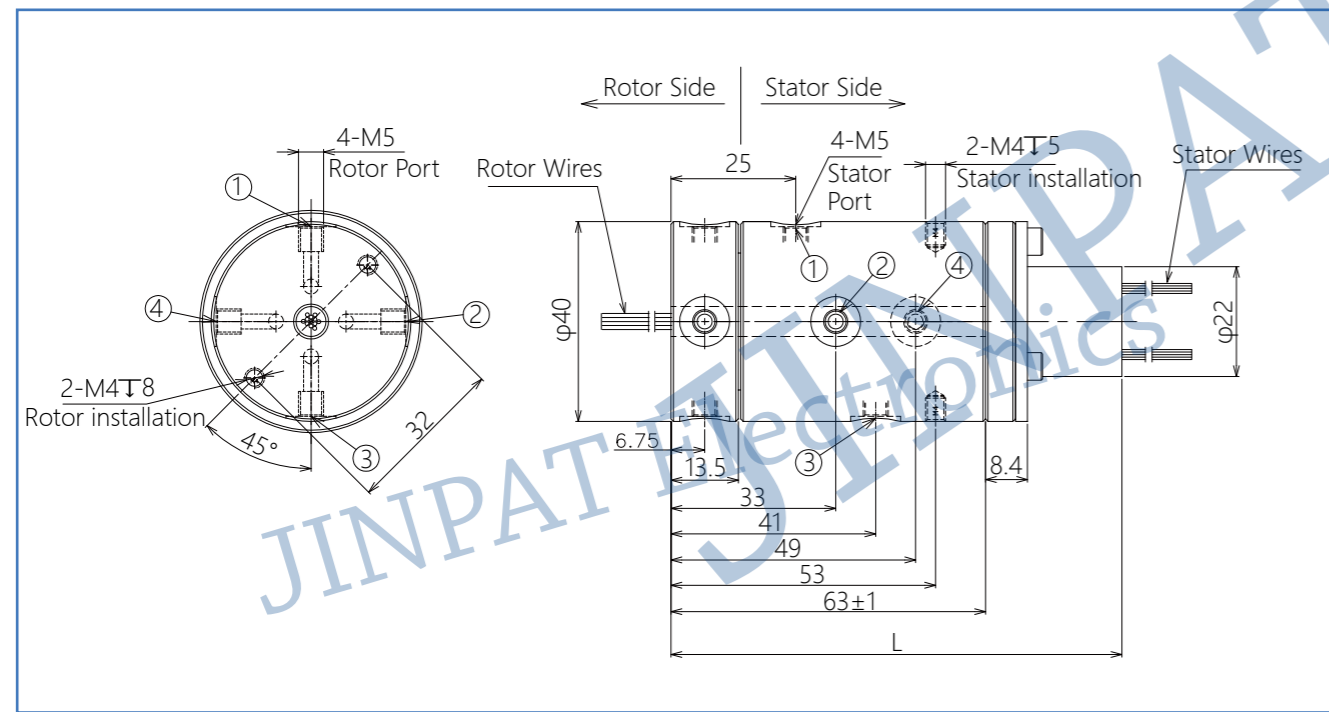


LPP Rotary Unions Outline Drawing

LPPL06-02A-xx02(xx Represents the Number of Circuits)

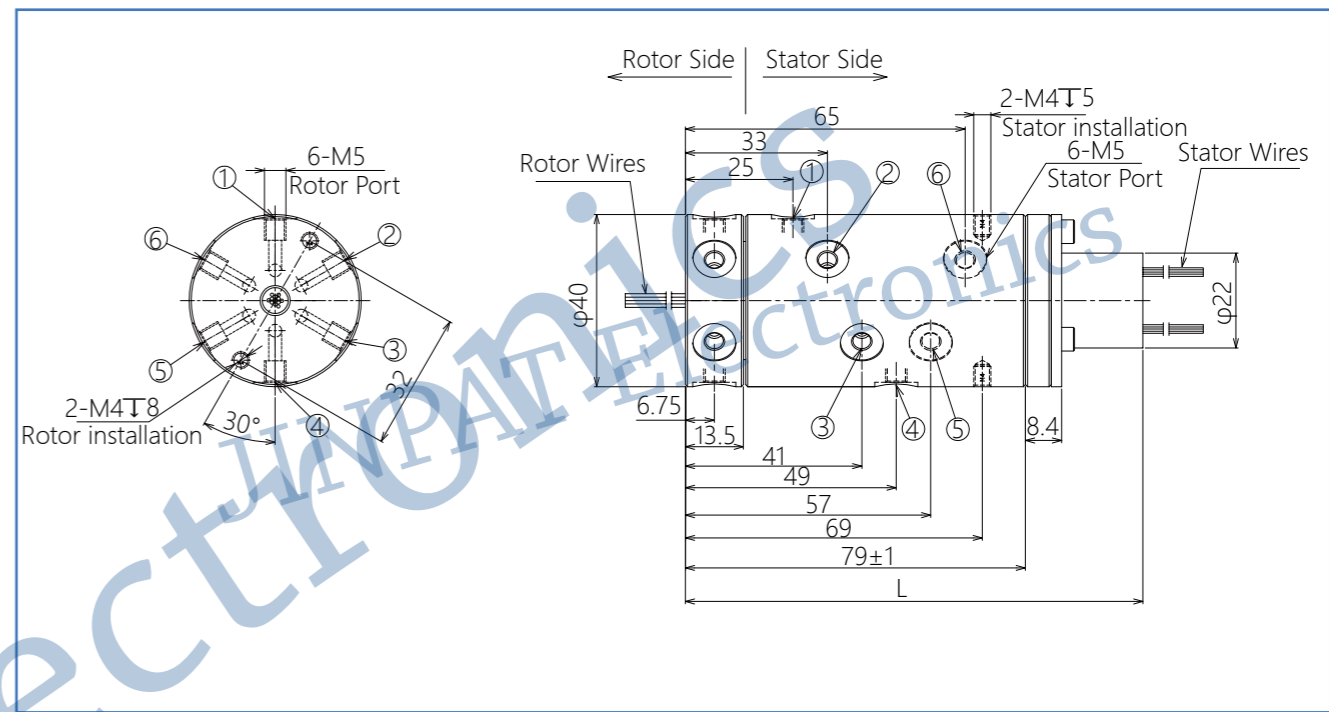


LPPL06-04A-xx02(xx Represents the Number of Circuits)

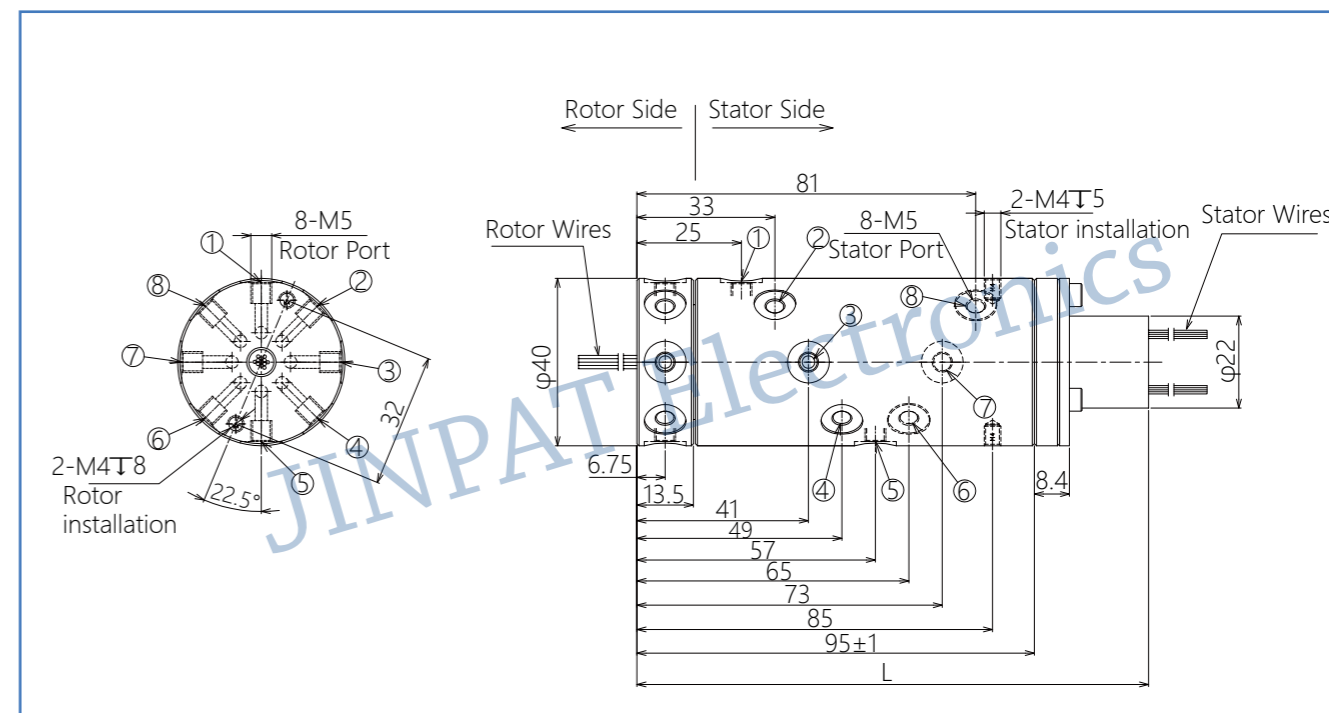


LPP Rotary Unions Outline Drawing

LPPL06-06A-xx02(xx Represents the Number of Circuits)

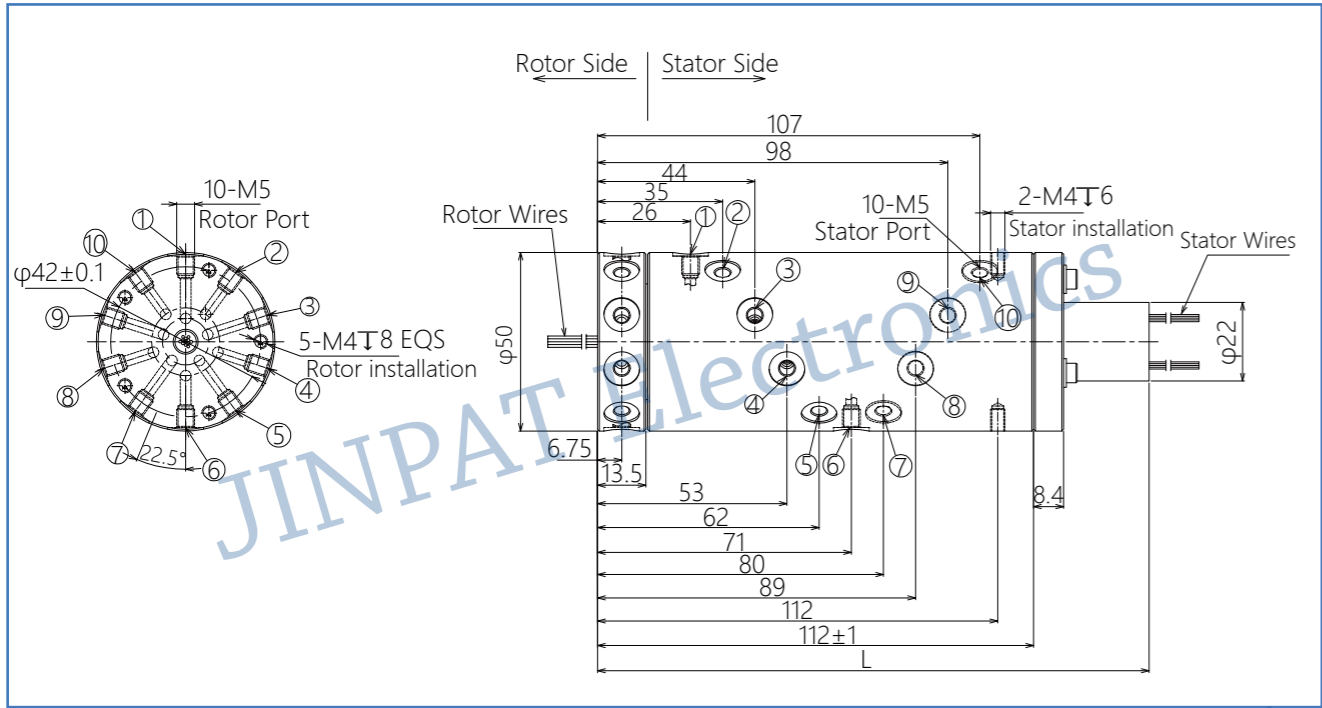


LPPL06-08A-xx02(xx Represents the Number of Circuits)

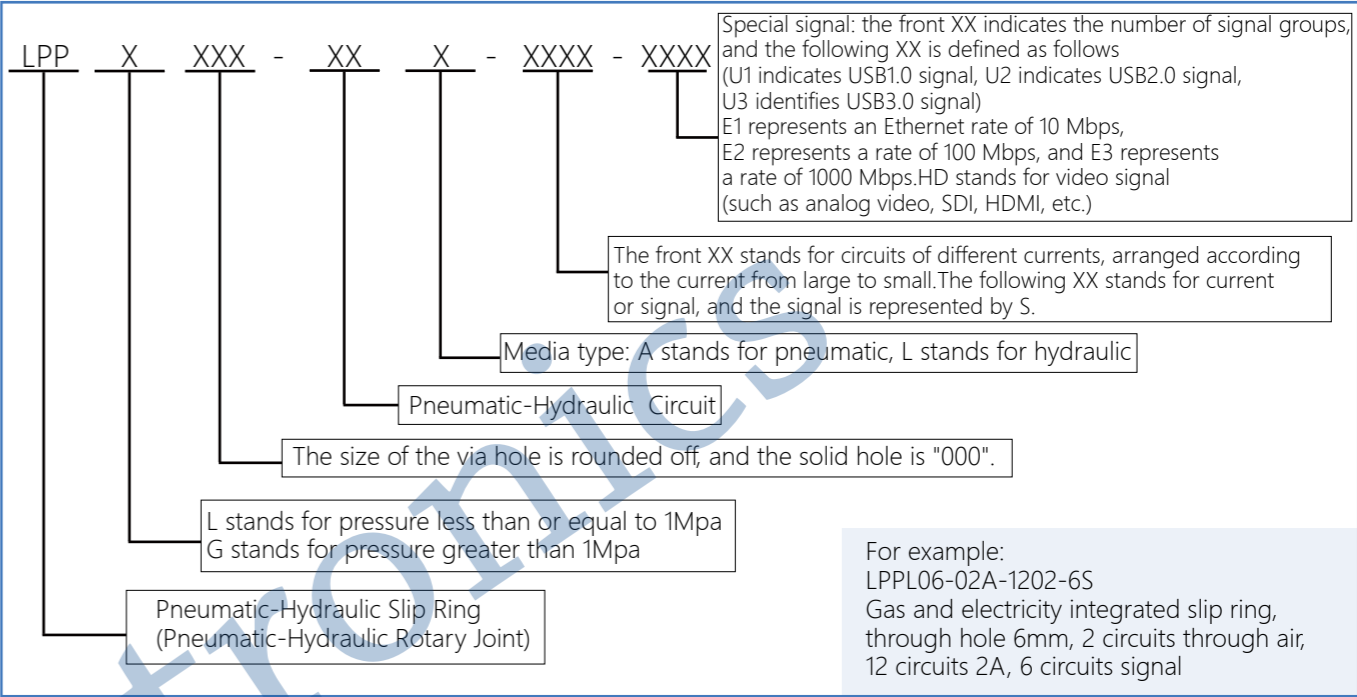
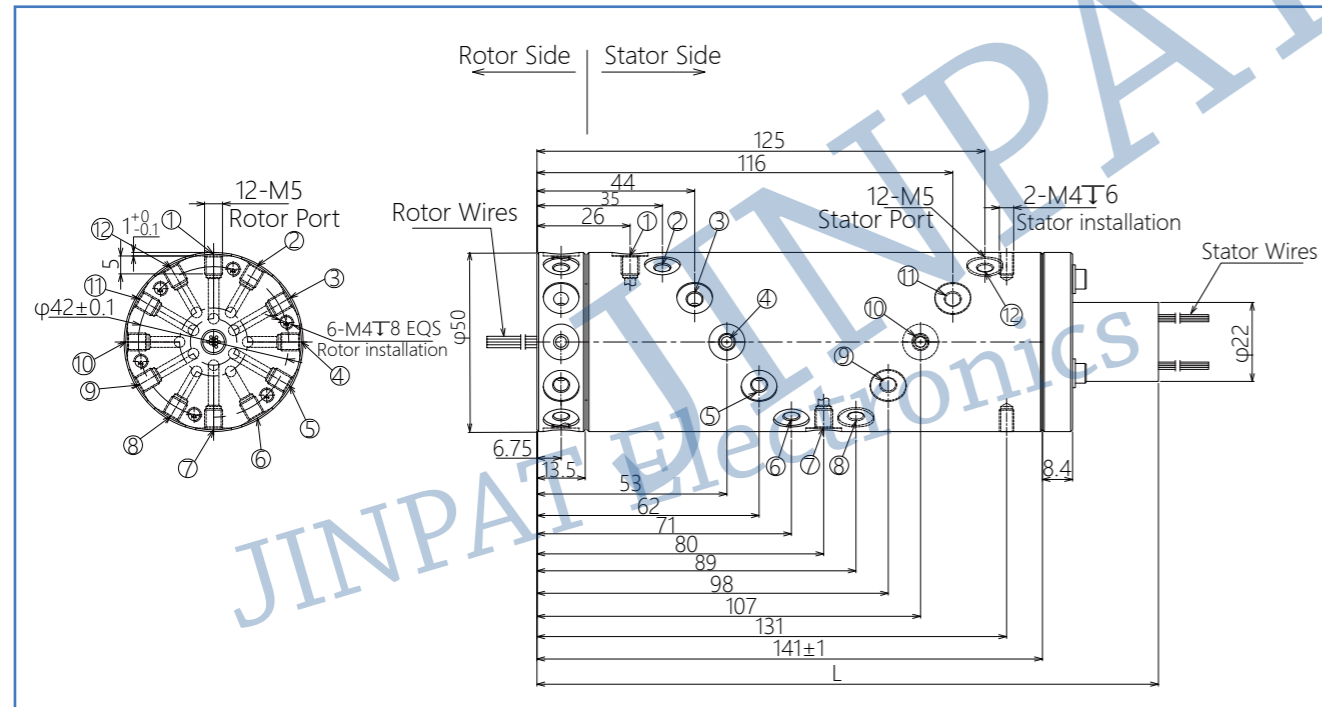


LPP Rotary Unions Outline Drawing

LPPL06-10A-xx02(xx Represents the Number of Circuits)



LPPL06-12A-xx02(xx Represents the Number of Circuits)



LPP Rotary Unions (Can Be Integrated with Electricity)									
Model	Circuits	ID (mm)	OD (mm)	Length (L)(mm)	Connector Type	Maximum Working Pressure	Working Speed	Torque	Number of Integrated Circuits ( $\leq 2A/\text{signal}$ )
LPPL06-02A	2	$\phi 6$	$\phi 40$	47	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.6N.m$	/
LPPL06-02A-1202		/		74.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.6N.m$	12
LPPL06-02A-2402		/		90.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.6N.m$	24
LPPL06-02A-3602		/		105.2	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.6N.m$	36
LPPL06-04A	4	$\phi 6$	$\phi 40$	63	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.8N.m$	/
LPPL06-04A-1202		/		90.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.8N.m$	12
LPPL06-04A-2402		/		106.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.8N.m$	24
LPPL06-04A-3602		/		121.2	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 0.8N.m$	36
LPPL06-06A	6	$\phi 6$	$\phi 40$	79	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.0N.m$	/
LPPL06-06A-1202		/		106.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.0N.m$	12
LPPL06-06A-2402		/		122.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.0N.m$	24
LPPL06-06A-3602		/		137.2	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.0N.m$	36
LPPL06-08A	8	$\phi 6$	$\phi 40$	95	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.3N.m$	/
LPPL06-08A-1202		/		122.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.3N.m$	12
LPPL06-08A-2402		/		138.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.3N.m$	24
LPPL06-10A	10	$\phi 6$	$\phi 50$	122	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.6N.m$	/
LPPL06-10A-1202		/		149.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.6N.m$	12
LPPL06-10A-2402		/		165.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 1.6N.m$	24
LPPL06-12A	12	$\phi 6$	$\phi 50$	141	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 2.0N.m$	/
LPPL06-12A-1202		/		168.3	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 2.0N.m$	12
LPPL06-12A-2402		/		184.7	M5	-1.5Kpa ~ 1Mpa	0 ~ 100rpm	$\leq 2.0N.m$	24

# Long Life Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	10 CKT	Rotating Speed	0~1200 rpm	Temperature	-10°C~+80°C
Current	1A	Contact Material	Gold-to-gold	Humidity	≤60%RH
Voltage	0~20VDC	Housing Material	Aluminum alloy	Protection Grade	IP40
Dielectric Strength	≥500VAC@50Hz	Torque	/	Others	
Insulation Resistance	≥100MΩ@500VDC	Wire Type	AWG28#		
Dynamic Contact Resistance	≤30mΩ	Wire Length	Rotor: 250±5mm Stator: 250±5mm		
				Life Span	270 million revolutions

## Features

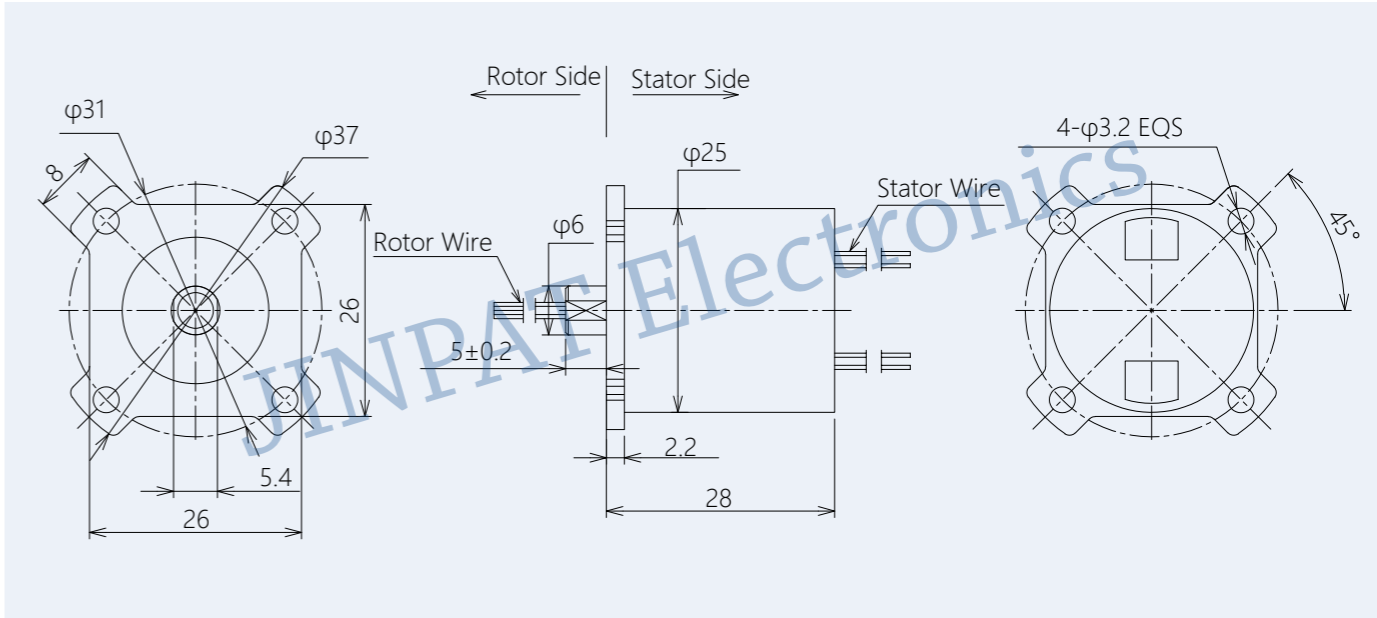
- Long life slip ring can reach a life of more than 270 million rpm under the test conditions of 5000/rpm.
- Maintenance free during life cycle.

## Advantages

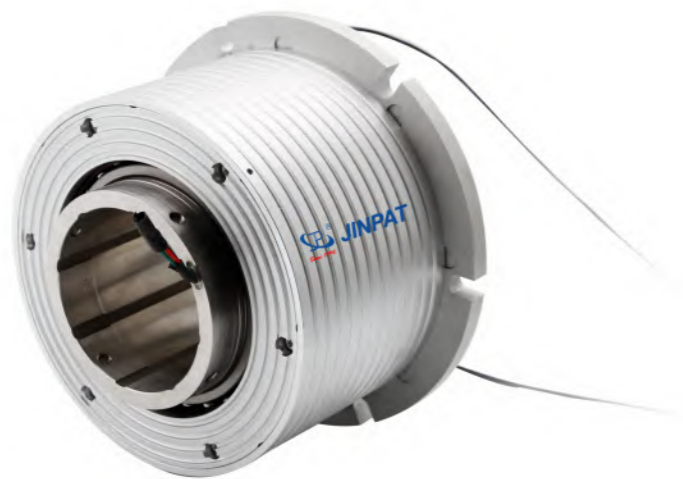
- High and low temperature resistance
- High vibration resistance, high impact
- Isolation is greater than 60db, signal transmission loss is extremely low
- Contact surface mirror running-in technology reaches the world's leading level

Long Life Slip Ring	
Model	Applications
LPC-10S	Military equipment; Laboratories and other special equipment.

## Outline drawings



# High speed slip ring



Electrical & Electronics			Mechanical		Environmental	
Circuits	Total	4CKT	Rotating speed	6000rpm (Ultimate speed 10000rpm)	Temperature	-10°C~+60°C
	Detail	4*1A	Contact material	Gold to gold	Humidity	≤60%RH
Voltage	450V		Housing material	Aluminum alloy stainless steel	Protection grade	/
Dielectric Strength	Between two routes ≥1000VAC@50Hz		Through hole diameter	φ80mm	Others	
Insulation resistance	≥1000MΩ@1000VDC		Wire length	Stator: 500mm Rotor: 500mm	Life span	Can be customized

## Features

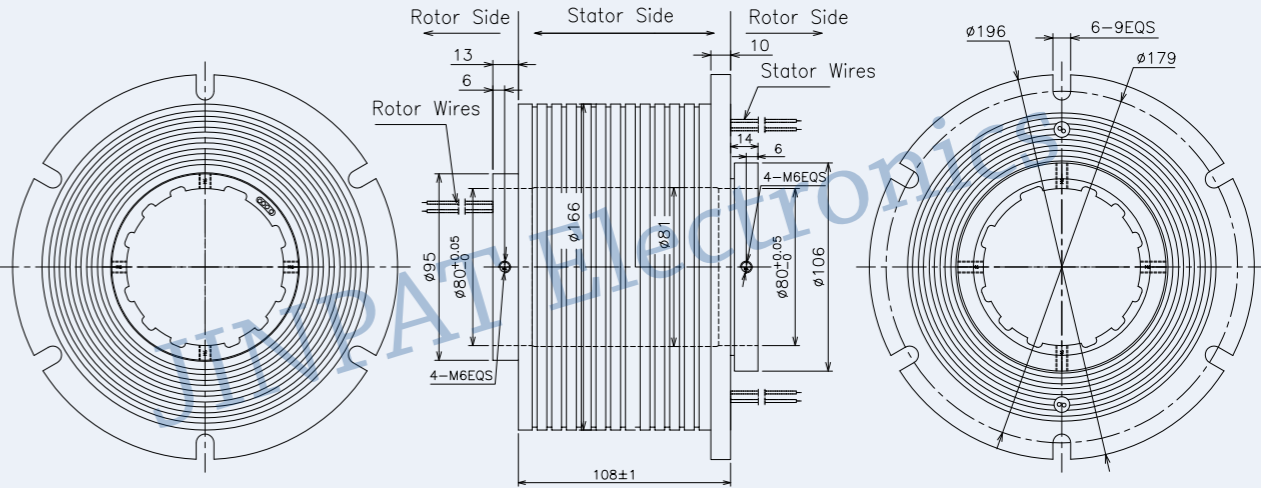
- High reliability
- Long service life
- Wide selection range of aperture
- Maintenance free

## Advantages

- Up to 20 channels
- Maximum aperture 80mm
- Maximum speed 10000rpm
- Life not less than 50 million revolutions
- If the above parameters are exceeded, customization can be discussed with the engineering team

High speed slip ring	
Model	Applications
LPT080-0401-HS10000	Centrifuge / high-speed rail wheel-rail test equipment / aero-engine test equipment / other special electromechanical equipment field

## Outline drawings



# VR Slip Ring



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	2 circuits*1.5A/1 circuit*DC/ 2 circuits*4A1 circuit*HDMI/ 1 circuit*USB2.0	Rotating Speed	0~100 rpm	Temperature	-20℃~+60℃
Current	4A	Contact Material	Gold-to-gold	Humidity	≤60%RH
Voltage	48V	Housing Material	Engineering plastic	Protection Grade	IP40
Dielectric Strength	≥200V@50Hz	Wire Type	AWG22#/AWG26# AWG28#/ AWG30#/USB2.0 /HDMI/DC	Others	
Insulation Resistance	≥50MΩ@200V			Life Span	
Electrical Noise	≤15mΩ(Signal Ring)	Wire Length	Rotor: 250±5mm Stator: 250±5mm		

## Features

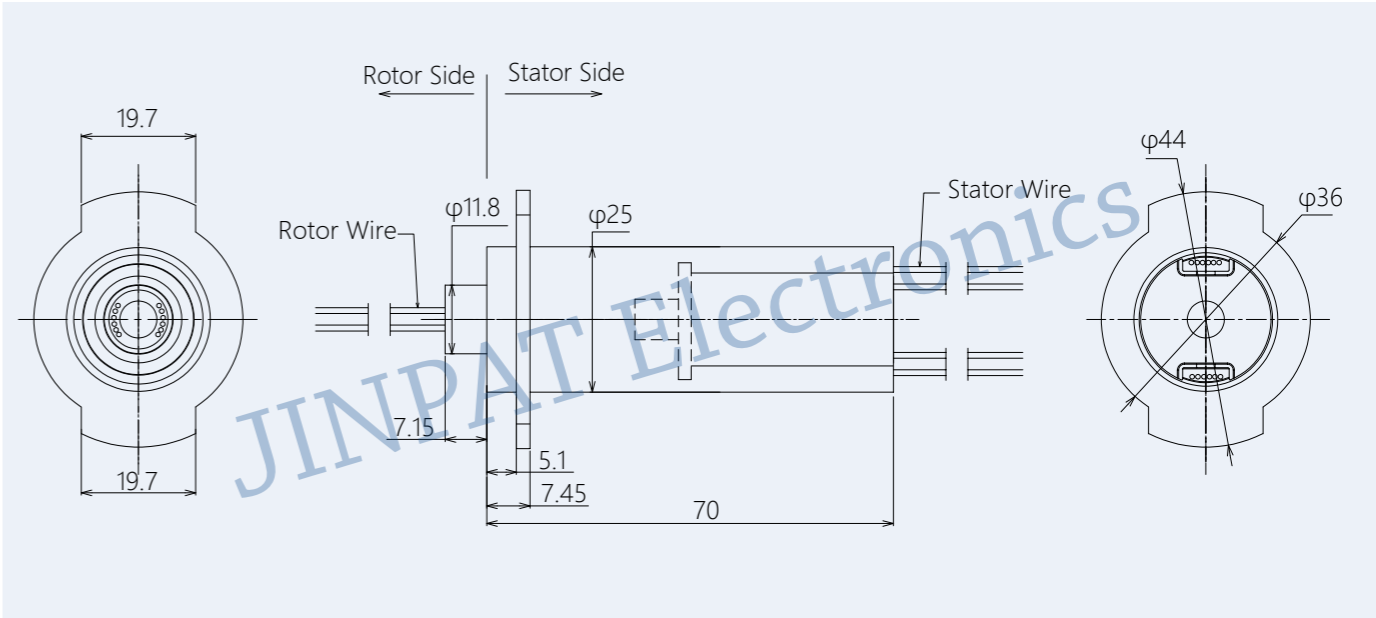
- Transmission of HDMI signal, USB2.0 signal, electric signal.
- Double slip rings integration mechanism.

## Advantages

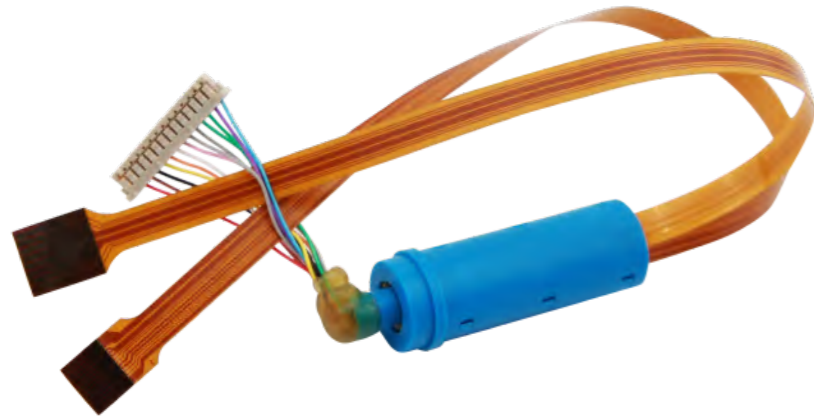
- Integrate a variety of signals, of which HDMI signal transmission rate reaches 2K@90HZ (ultra clear video), leading domestically
- Independent research and development of HDMI elbow socket

VR Slip Ring	
Model	Applications
LPC-0104-0402-HD01-U2	VR equipment; Treadmills; Game seats

## Outline drawings



## FPC Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Channel number	11CKT	Working speed	0~60rpm	Working temperature	-20℃~+60℃
Working current	9 circuits* signal 1A/ 2 circuits * 2A (customized)	Contact material	Precious metal	Working humidity	≤60%RH
Working voltage	48VAC/DC	Shell material	Engineering plastics	IP protection grade	IP40
Withstand voltage strength	≥100VAC@50Hz(S)	Torque	≤2.5mNm	Others	
Insulation resistance	≥10MΩ@100VDC(S)	Conductor specification	AWG30# teflon conductor / FPC flat cable (customized)	Life Span	10 million (customized)
Dynmaic resistance fluctuation value	≤35mΩ (1 mΩ at minimum)	Wire Length	Rotor: 33+2/-0mm Stator: 180/150±2 mm (customized)		

## Features

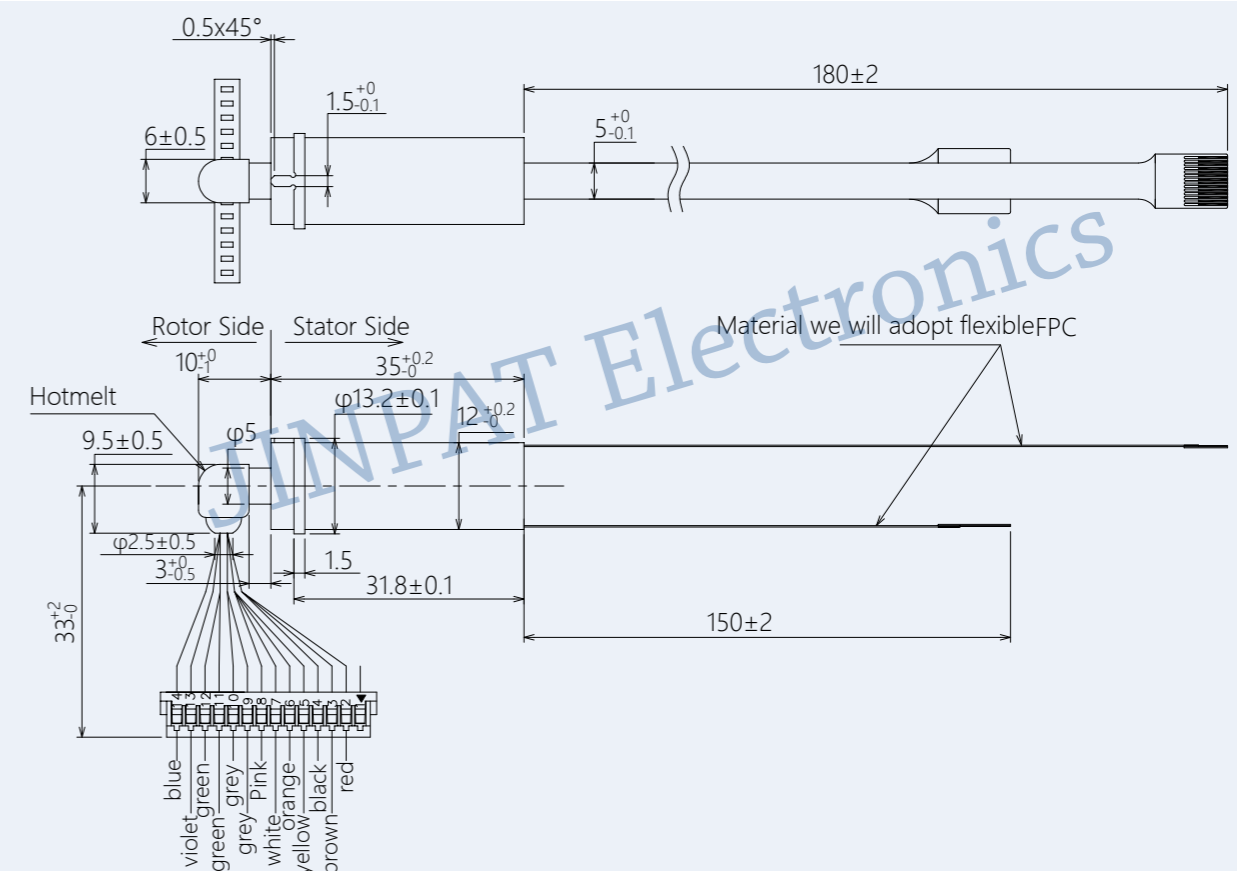
- Small power current transmission, analog and data signal
- Low torsion force and reliable transmission
- Domestic leading military high-standard surface treatment technique and precise and tight internal structure
- Gold-to-gold contact ensures stability and service life.
- FPC connection mode has excellent folding endurance and thinner thickness.

## Advantages

- As a highly reliable, optimal and flexible connection mode, FPC slip ring is featured by high wiring density, light weight and equal wiring diameter and is applicable to many products such as mobile phones, notebooks, PDA, digital cameras, LCM, etc.

Hing Precision Slip Ring	
Model	Applications
LPM-18C-0202-09S	Photographic apparatus

## Outline drawings



# High Protective Level Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	6CKT	Rotating Speed	0~60 rpm	Temperature	-20°C~+60°C
Current	5A	Contact Material	Gold-to-gold	Humidity	≤60%RH
Voltage	0~48VAC/DC	Housing Material	Aluminum alloy	Protection Grade	IP68
Dielectric Strength	≥200VAC@50Hz	Torque	/	Others	
Insulation Resistance	≥100MΩ@200VDC	Wire Type	AWG22#		
Electrical Noise	≤35mΩ	Wire Length	Rotor: 250±5mm Stator: 250±5mm		
		Life Span		Can be customized	

## Features

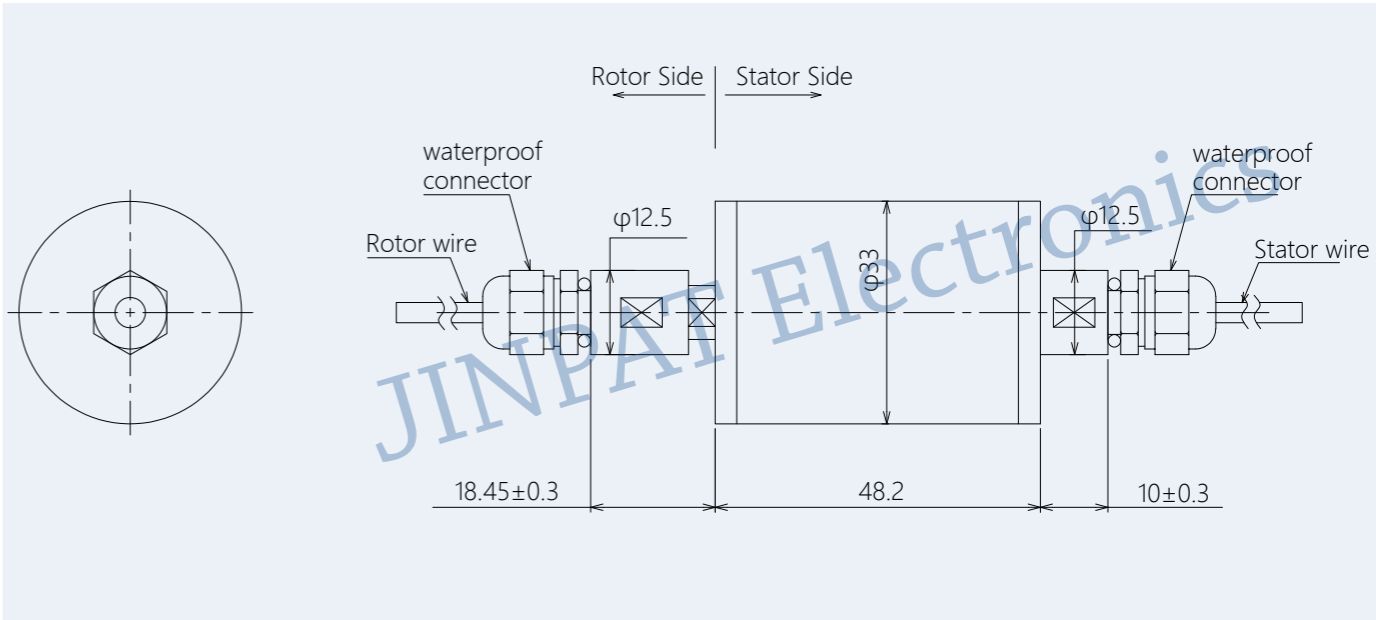
- High protection grade slip ring is specially developed for underwater, high pressure seabed and various harsh environments
- High sealing grade, protection grade reaches IP68
- Stable and reliable

## Advantages

- Support signal and power transmission
- All stainless steel full seal design, professional sealing program
- To meet the long-term underwater or corrosive environment, the theoretical value of working water depth is more than 300 meters

High precision Slip Ring	
Model	Applications
LPC-18A-0605-IP68	Ships; Port Equipment; Underwater Operations Equipment; Offshore Oil Platforms; Deep Sea Submersibles; Underwater Vehicles

## Outline drawings



# High Speed Slip Ring / High Temperature Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of Circuits	8CKT	Rotating Speed	0~18000 rpm	Temperature	-55℃~+210℃
Current	2A	Contact Material	Gold-to-gold	Humidity	≤60%RH
Voltage	40VAC/DC	Housing Material	Aluminum oxide white	Protection Grade	IP40
Dielectric Strength	≥500VAC@400Hz	Torque	≤0.1N*M	Others	
Insulation Resistance	≥600MΩ@200VDC	Wire Type	AWG28#	Life Span	Can be customized
Electrical Noise	≤10mΩ	Wire Length	Rotor: 250±5mm Stator: 250±5mm		

## Features

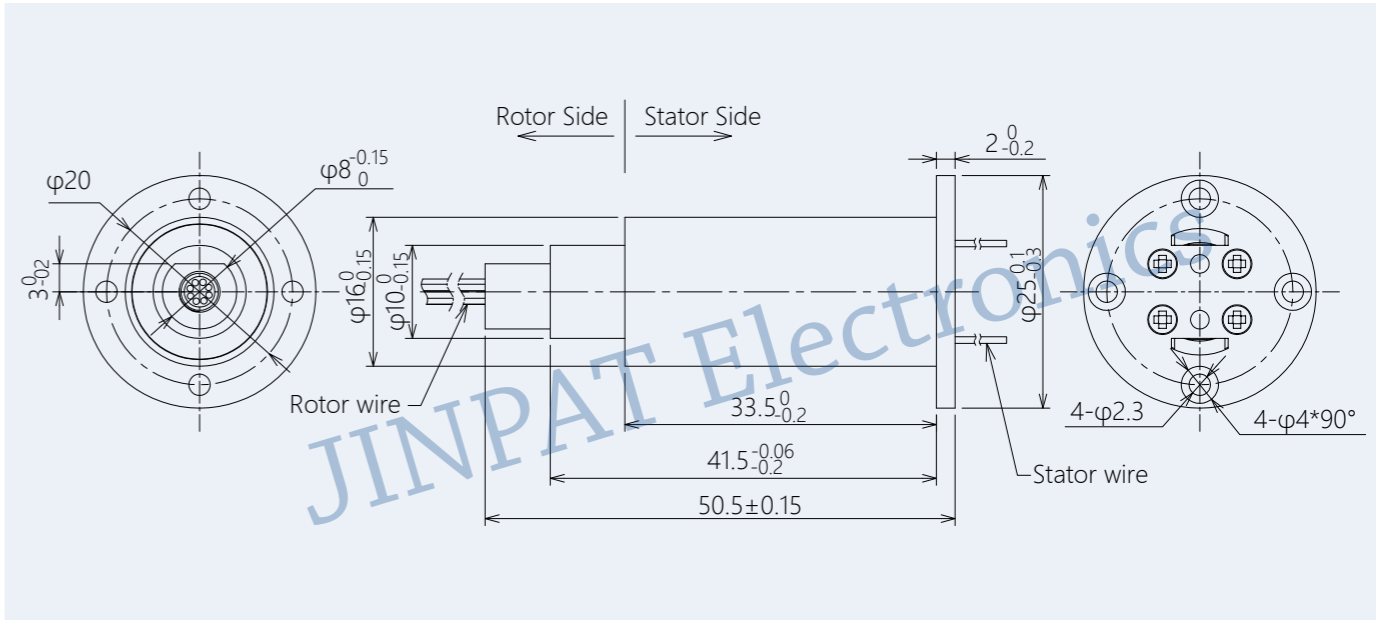
- High speed reaches 0~10000/rpm
- Instantly reach 18000/rpm
- High temperature use up to 210 ° C

## Advantages

- Using special molding process and super wear resistant materials
- Solve the influence of vibration and temperature changes on the signal at high speed
- Simultaneously meet high vibration performance indicators in harsh environments

High Speed Slip Ring / High Temperature Slip Ring	
Model	Applications
FGCK-P155-2-K12	Testing; Aviation; Oil Exploration, etc.

## Outline drawings



# Marine Winch Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	6CKT	Rotating speed	0~100rpm	Temperature	-20°C~+75°C
Current	2×50A+4×Fiber Optics	Contact material	Copper graphite	Humidity	≤90%RH
Voltage	4000VAC	Housing material	Stainless steel 316	Protection Grade	IP65
Dielectric strength	≥8000VAC@50Hz ≥1000VAC@50Hz (signal)	Wire type	AWG7# Teflon 4-channel single-mode armored fiber	Others	
Insulation resistance	≥1000MΩ@500VDC ≥100MΩ@300VDC (signal)	Wire length	2M		
				Life span	Can be customized

## Features

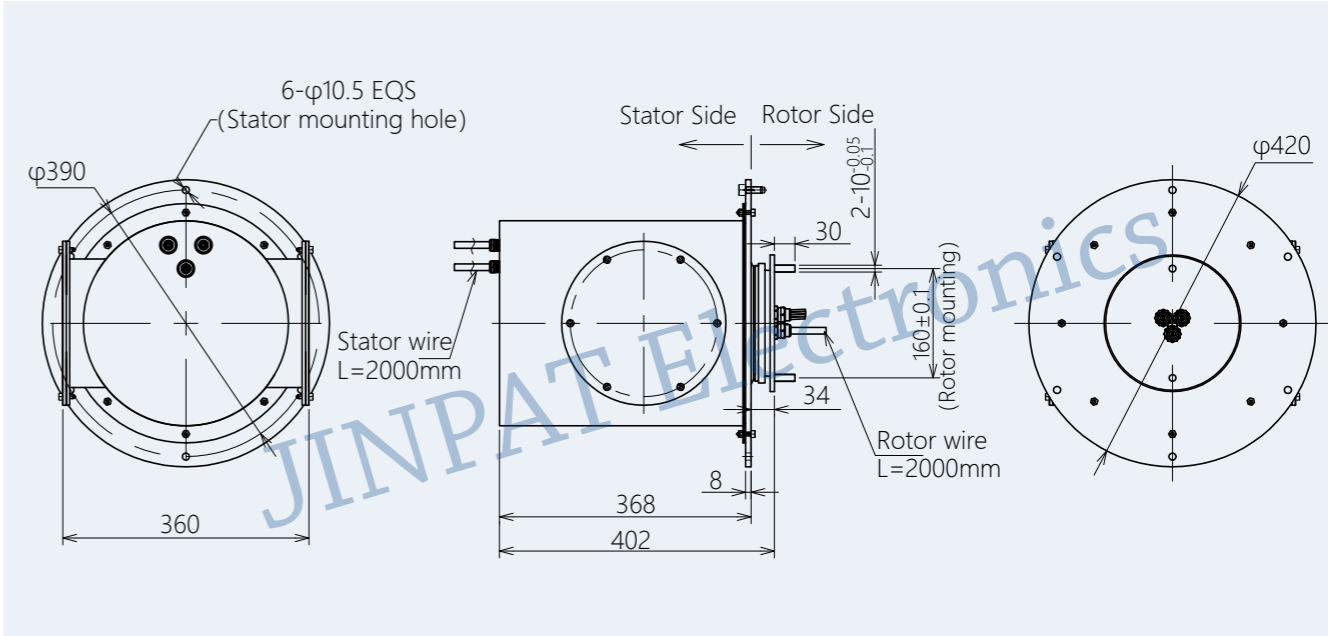
- 4,000V high voltage, transmits power and fiber optic signal
- Reliable and stable channel transmission
- Super long service life, regular maintenance

## Advantages

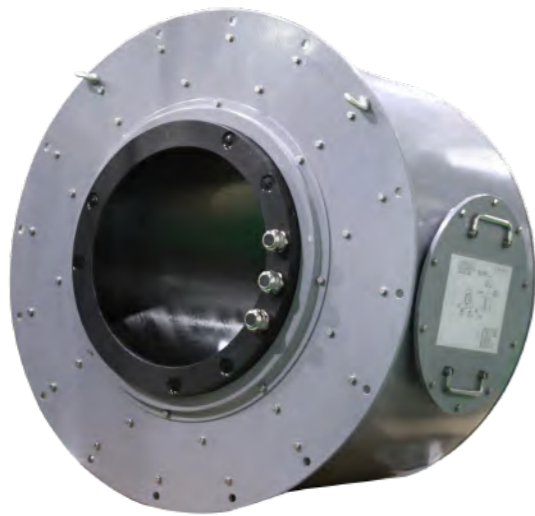
- Long distance transmission reaching 4km
- High data transmission rate, low loss and no interference
- High protection level, strong corrosion-resistance, shock-resistance and vibration-resistance, fits in harsh maritime environment

Large Current Slip Ring	
Model	Applications
LPA000-0250-FO04	15T cable towing winch

## Outline drawings



# Platform Winch Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	4CKT	Rotating speed	0~1rpm	Temperature	-10℃~+60℃
Current	3×350A+1×PE	Contact material	Copper graphite	Humidity	≤90%RH
Voltage	380VAC	Housing material	Q235	Protection Grade	IP56
Dielectric strength	≥1500VAC@50Hz	Wire type	95mm <sup>2</sup> soft rubber wire	Others	
Insulation resistance	≥1000MΩ@500VDC	Wire length	/	Life span	Can be customized

## Features

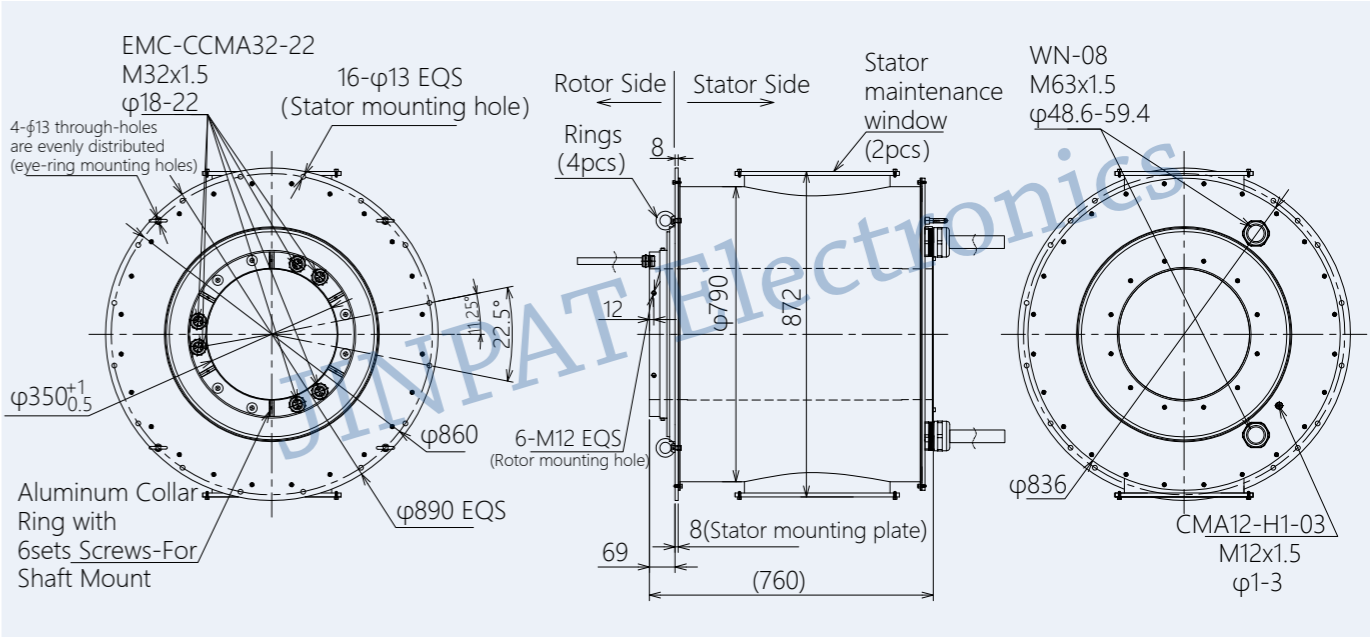
- Bore diameter 350mm
- Adopt imported graphite brush
- Super long service life, regular maintenance

## Advantages

- 350mm large through-bore diameter, high-power transmission
- High data transmission rate, low loss and no interference
- High protection level, strong corrosion-resistance, shock-resistance and vibration-resistance, fits in harsh maritime environment

Large Current Slip Ring	
Model	Applications
LPA350-03350-01PE	1200T wind turbine installation platform winch

## Outline drawings



# Marine Crane Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	14CKT	Rotating speed	0~5rpm	Temperature	0°C~+50°C
Current	3×400A+1×PE+10S	Contact material	Precious metal/ copper graphite	Humidity	≤95%RH
Voltage	690VAC	Housing material	Q235	Protection Grade	IP44
Dielectric strength	≥2500VAC@50Hz ≥1000VAC@50Hz (signal)	Wire type	70mm <sup>2</sup> soft rubber wire/1mm <sup>2</sup> Teflon	Others	
Insulation resistance	≥500MΩ@1000VDC ≥500MΩ@500VDC (signal)	Wire length	Without cable	Life span	Can be customized

## Features

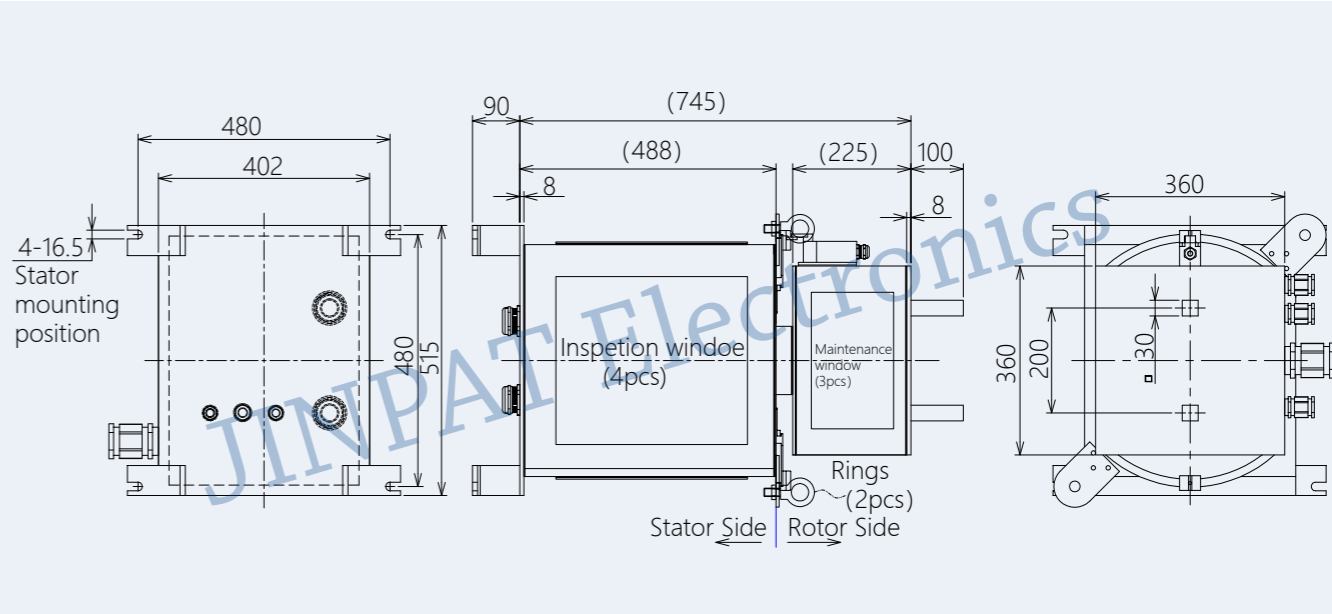
- 400A large current
- Super long service life, regular maintenance
- Protection grade IP44

## Advantages

- Simultaneous transmission of high power and signals
- Adopts imported graphite brush, stable performance
- Strong corrosion-resistance, shock-resistance and vibration-resistance, fits in harsh maritime environment

Large Current Slip Ring	
Model	Applications
LPA000-03400-01PE-10S	35T Marine Crane

## Outline drawings



# Entertainment Equipment Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	53CKT	Rotating speed	0~15rpm	Temperature	-10°C~+80°C
Current	14×500A+12×50A+9×2A+2×Gigabit Ethernet	Contact material	Precious metal/copper graphite	Humidity	≤85%RH
Voltage	380VAC	Housing material	Q235	Protection Grade	IP51
Dielectric strength	≥1500VAC@50Hz ≥300VAC@50Hz (signal)	Wire type	95/25mm² rubber wire/ AWG26#	Others	
Insulation resistance	≥500MΩ@1000VDC ≥100MΩ@300VDC (signal)	Wire length	/	Life span	Can be customized

## Features

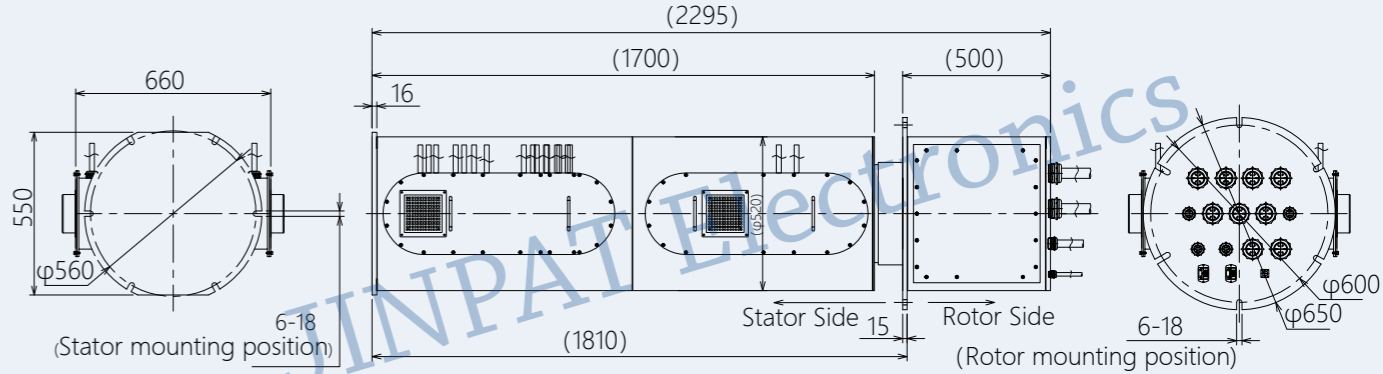
- Built-in ventilation system, low temperature rise
- Adopts imported graphite brush
- Precise rotate angel, great transmission performance, smooth and reliable operation

## Advantages

- Simultaneous rotary transmission of high power and signals
- Independent module design to eliminate interference
- Multi-channel for large current, outer height up to 2.3m, module assembling

Large Current Slip Ring	
Model	Applications
LPA000-14500-1250-0902-02E3	Dynamic 5D Cinema

## Outline drawings



# Floating Crane Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	40CKT	Rotating speed	0~5rpm	Temperature	-20℃~+50℃
Current	9×800A+1×PE+30×20A+4×fluid	Contact material	Precious metal/copper graphite	Humidity	≤95%RH
Voltage	440VAC/230V	Housing material	Q235	Protection Grade	IP22
Dielectric strength	≥2500VAC@60Hz ≥500VAC@60Hz (signal)	Wire type	150mm <sup>2</sup> rubber wire/ AWG12# Teflon	Others	
Insulation resistance	≥500MΩ@1000VDC ≥500MΩ@500VDC (signal)	Wire length	/	Life span	Can be customized

## Features

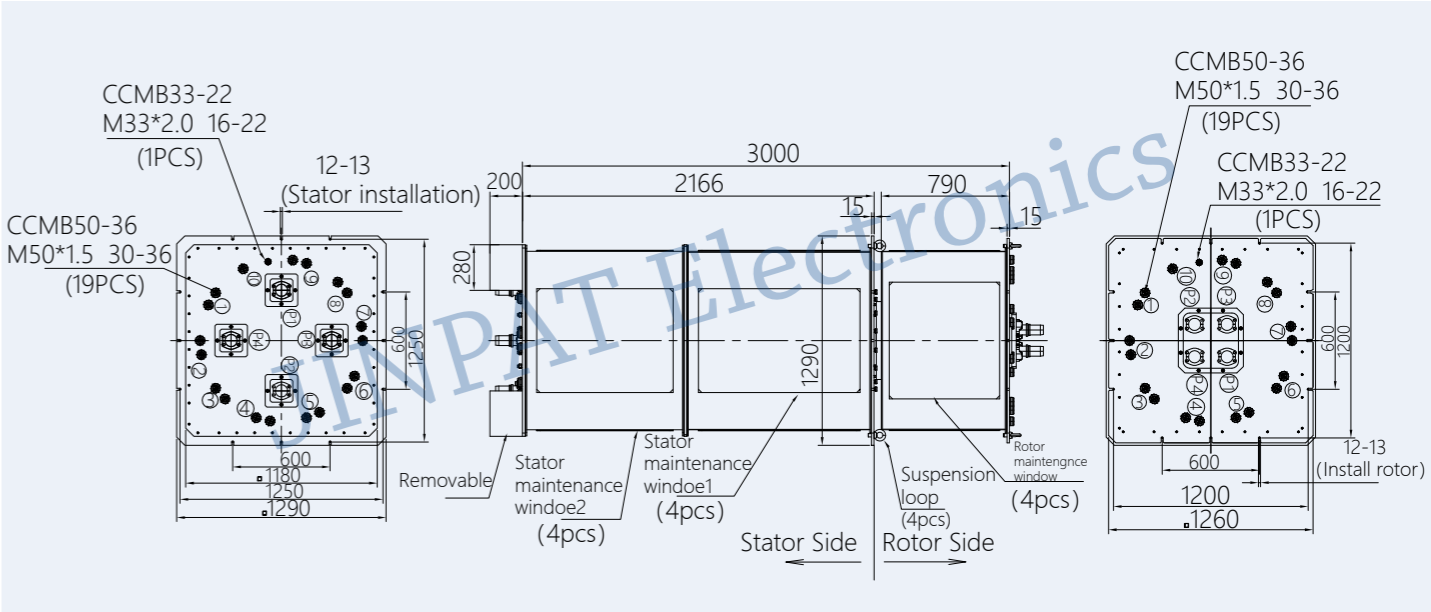
- Large size, outer configuration 1.3\*1.3\*3M
- Super long service life, regular maintenance
- Excellent transmission performance, smooth operation, good isolation with hydraulic channel and pneumatic channel

## Advantages

- Simultaneous rotary transmission of high power, signals, gas and fluid.
- Adopts imported graphite brush with stable performance
- Large pipe diameter high temperature rotary joint, can endure high temperature up to 150℃, 65mm pipe diameter

Large Current Slip Ring	
Model	Applications
LPA000-09800-01PE-3020-04L	Floating Crane

## Outline drawings



# Ship Electric Propeller Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	62CKT	Rotating speed	0~3rpm	Temperature	-5°C~+45°C
Current	6×200A+6×18A +44× signal +1×air+5×liquid	Contact material	Precious metal/ copper graphite	Humidity	≤95%RH
Voltage	440VAC/220VAC /24DAC	Housing material	Stainless steel 304	Wire length	custom
Dielectric strength	≥2500VAC@50Hz ≥500VAC@50Hz (signal)	Wire type	70mm2 marine shielded cable CBPJP 85-SC/3*2.5mm <sup>2</sup> Marine cable CBPJP 85-SC/12*0.22mm <sup>2</sup> Marine cable CBJPJ 85-SC/12*0.22mm <sup>2</sup> Marine cable CBJPJ 85-SC	Protection Grade	IP65
Insulation resistance	≥500MΩ@1000VDC ≥500MΩ@500VDC (signal)			Others	
				Life span	Can be customized

## Features

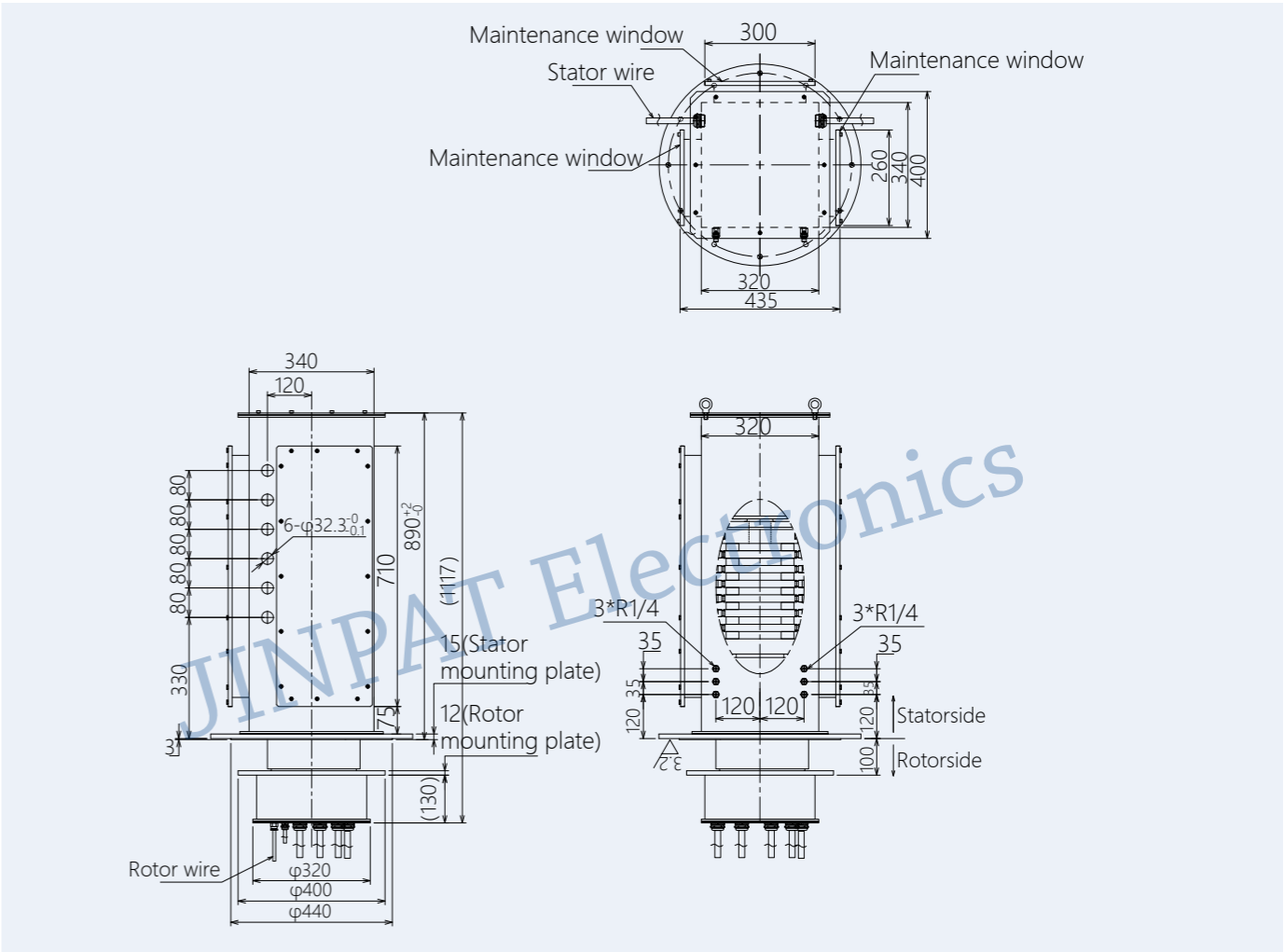
- Long life and easy maintenance
- High rotation precision, excellent transmission performance, stable and reliable operation
- Diverse form factor to support more installation requirements

## Advantages

- Power can be 3MW, 6MW, 7.5MW, etc.
- High-power, signal and gas-liquid rotary joint hybrid transmission
- IP65 protection level

Large Current Slip Ring	
Model	Applications
LPA000-06200-0618-44S-01A-05L	200kW ship electric propeller

## Outline drawings



# Wind Turbine Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	19CKT	Rotating speed	0~30rpm	Temperature	-40°C~+80°C
Current	7×22A+12× signal	Contact material	Fiber brush	Humidity	≤60%RH
Voltage	400VAC/24VDC	Housing material	Aluminium alloy	Protection Grade	IP54
Dielectric strength	≥1000VAC@50Hz (current) ≥300VAC@50Hz (signal)	Wire type	AWG14#	Others	
Insulation resistance	≥500MΩ@500VDC (current) ≥100MΩ@300VDC (signal)	Wire length	Rotor: 250 mm Stator: 1,500 mm		
				Life span	80 million or higher

## Features

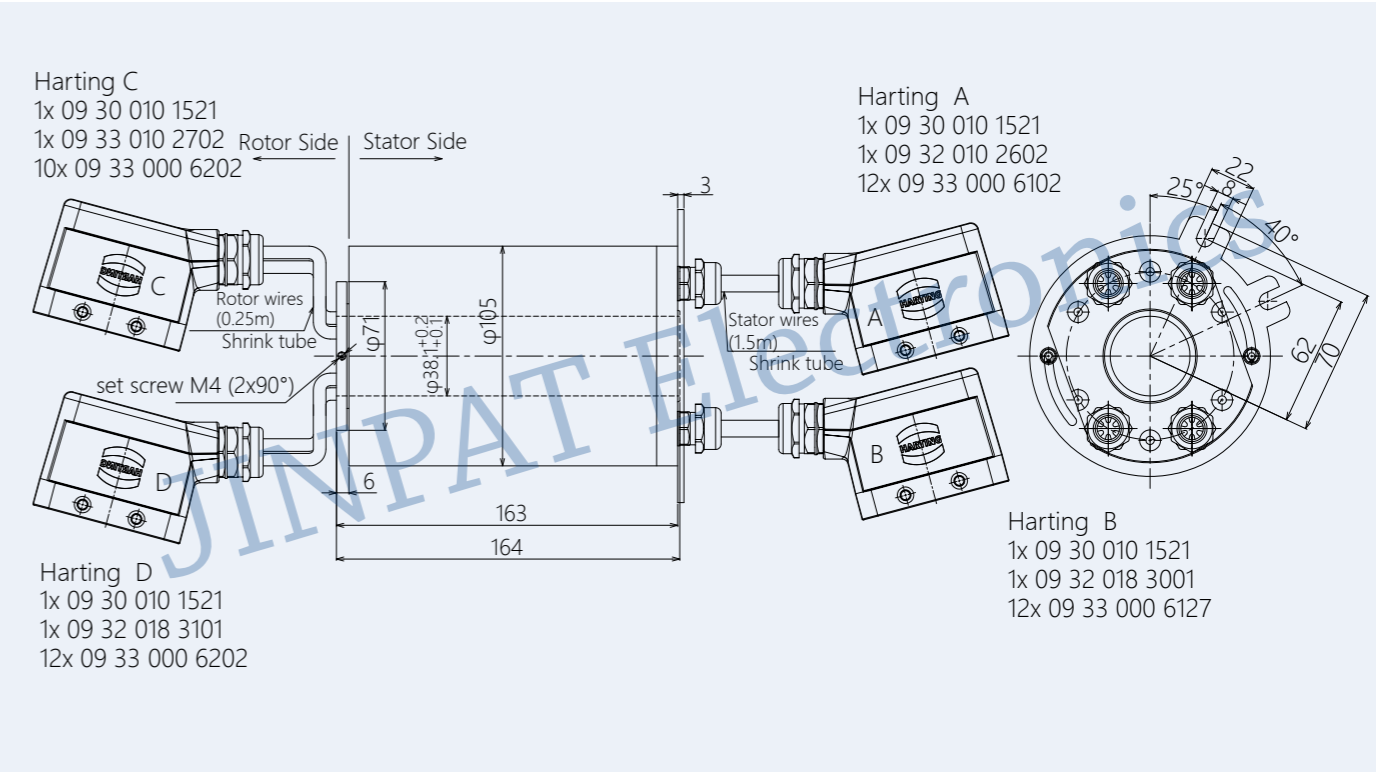
- Transmission power and signal
- Ultra-long service life, free maintenance and strong vibration resistance
- Multiple fiber contacts, military electroplating, wear-resistant, small contact resistance
- Harting joint installation to facilitate mounting and dismantling.

## Advantages

- Powers can be small or 1.25 MW, 1.5 MW, 2.0 MW, 3.0 MW, etc.
- Independent module design to avoid interference
- Temperature control system is optional.

Wind Turbine Slip Ring	
Model	Applications
SPT038-0722-12S	wind turbine generator

## Outline drawings



# Construction Machinery Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	14CKT	Rotating speed	0~100rpm	Temperature	-30°C~+80°C
Current	3×30A+9S+2×CANBUS+1×throttle signal	Contact material	Precious metal	Humidity	≤95%RH
Voltage	36VDC	Housing material	Aluminum alloy	Protection Grade	IP65
Dielectric strength	≥500VAC@50Hz	Wire type	4.0/0.75mm <sup>2</sup> FLRY-B/CANBUS	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Stator side:2.4m/ CANBUS 3.4m Rotor side:1.7m	Life span	Can be customized

## Features

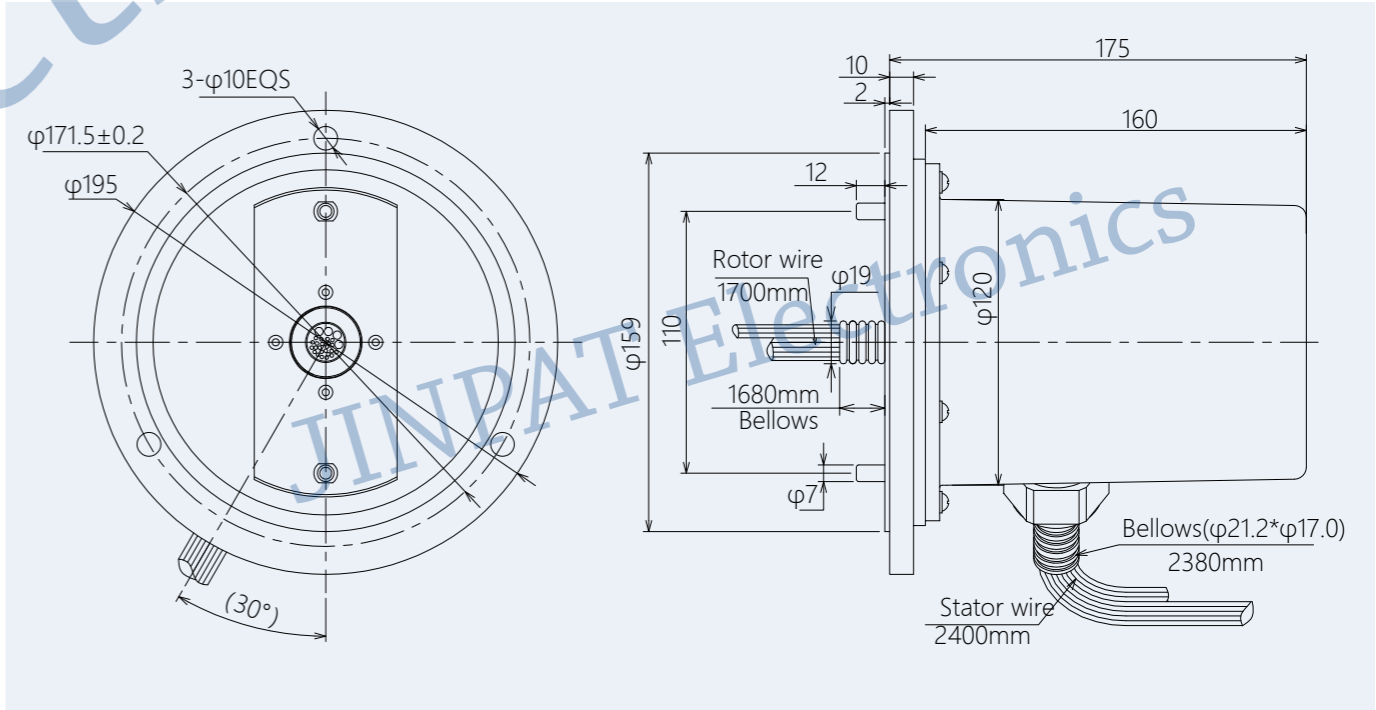
- Simultaneous transmission of power and signal
- Standard installation, protection grade IP67
- Maintenance-free

## Advantages

- Excellent water-proof performance, protection grade up to IP67, fits to work in outdoor environment
- Multiple channels for power, general signals, throttle signal and CANBUS signal, etc. Able to integrate encoder.
- Meet the requirements of crane models with 12T~350T lifting capacity

Construction Machinery	
Model	Applications
LPTS000-0330-1105	25T Truck Crane

## Outline drawings



# Construction Machinery Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	14CKT	Rotating speed	0~100rpm	Temperature	-30℃~+80℃
Current	3×30A+9S+2×CANBUS	Contact material	Precious metal	Humidity	≤95%RH
Voltage	36VDC	Housing material	Aluminum alloy	Protection Grade	IP65
Dielectric strength	≥500VAC@50Hz	Wire type	4.0/0.75mm²FLRY-B /CANBUS	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Stator: 2.4m Rotor: 1.7m CANBUS: 3.4m		
				Life span	Can be customized

## Features

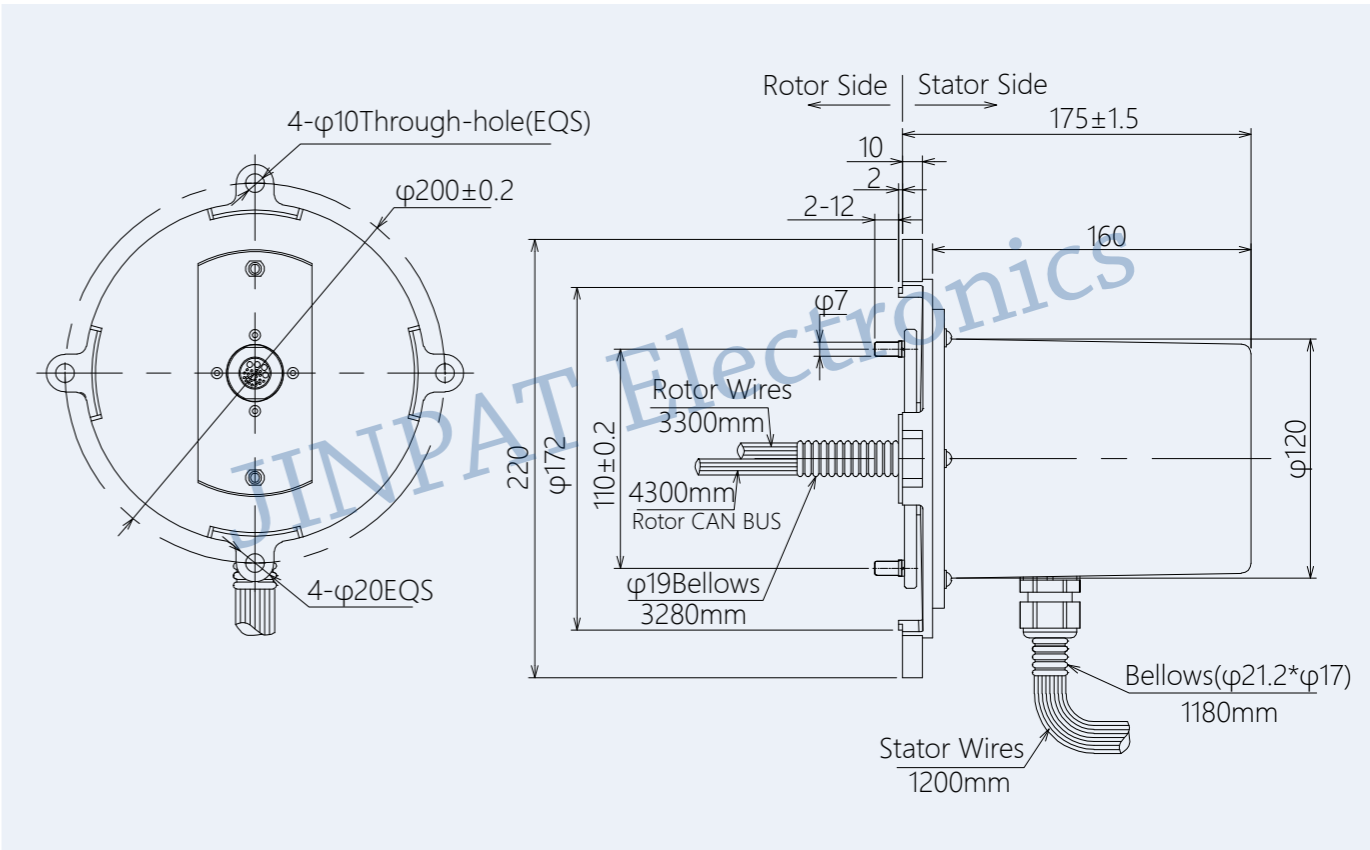
- Simultaneous transmission of power and signal
- Up-side-down installation, protection grade IP67
- Maintenance-free

## Advantages

- Excellent water-proof performance, protection grade up to IP67, fits to work in outdoor environment
- Multiple channels for power, general signals, throttle signal and CANBUS signal, etc. Able to integrate encoder.
- Meet the requirements of crane models with 12T~350T lifting capacity

Construction Machinery	
Model	Applications
LPTS000-0330-1105	50T crane truck

## Outline drawing



# Construction Machinery Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	16CKT	Rotating speed	0~100rpm	Temperature	-40℃~+85℃
Current	5×30A+12×5A+1× Angle signal	Contact material	Precious metal	Humidity	≤95%RH
Voltage	36VDC	Housing material	Aluminum alloy	Protection Grade	IP65
Dielectric strength	≥500VAC@50Hz	Wire type	4.0/1.0mm <sup>2</sup> FLRY-B	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Stator :700mm Rotor :1200mm	Life span	Can be customized

## Features

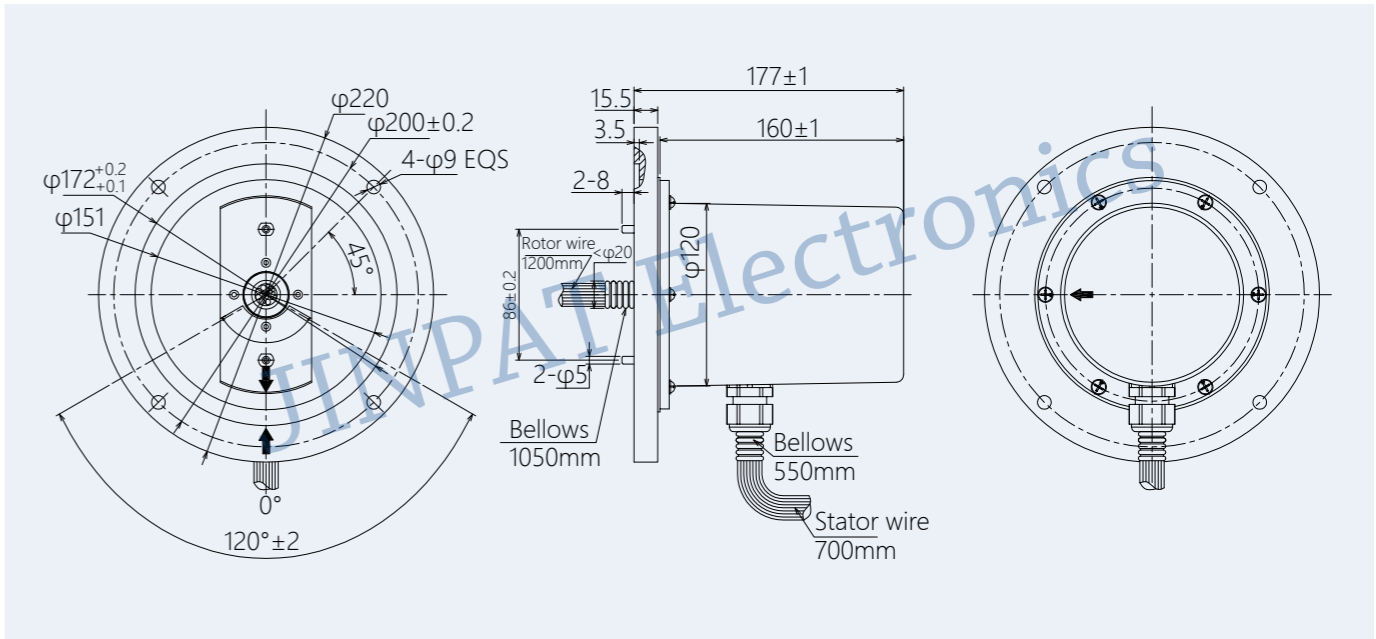
- Simultaneous transmission of power and signal
- Integrated angle loop signal
- Standard installation, protection grade IP67
- Maintenance-free

## Advantages

- National patent winning angle signal transmission structure
- Excellent water-proof performance, protection grade up to IP67, fits to work in outdoor environment
- Multiple channels for power, general signals, throttle signal, CANBUS signal and angle loop signal, etc. Able to integrate encoder.
- Meet the requirements of crane models with 20T~80T lifting capacity

Construction Machinery	
Model	Applications
LPTS000-0340-1305	20~80T crane truck

## Outline drawing



# Construction Machinery Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	12CKT	Rotating speed	0~100rpm	Temperature	-30°C~+80°C
Current	4×30A+2×10A+3×5A+4×CANBUS+1×Throttle signal	Contact material	Precious metal	Humidity	≤95%RH
Voltage	36VDC	Housing material	Aluminum alloy	Protection Grade	67
Dielectric strength	≥500VAC@50Hz	Wire type	4.0/2.0/0.75mm²FLRY-B/CANBUS	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Stator side:3500mm Rotor side:1500mm	Life span	Can be customized

## Features

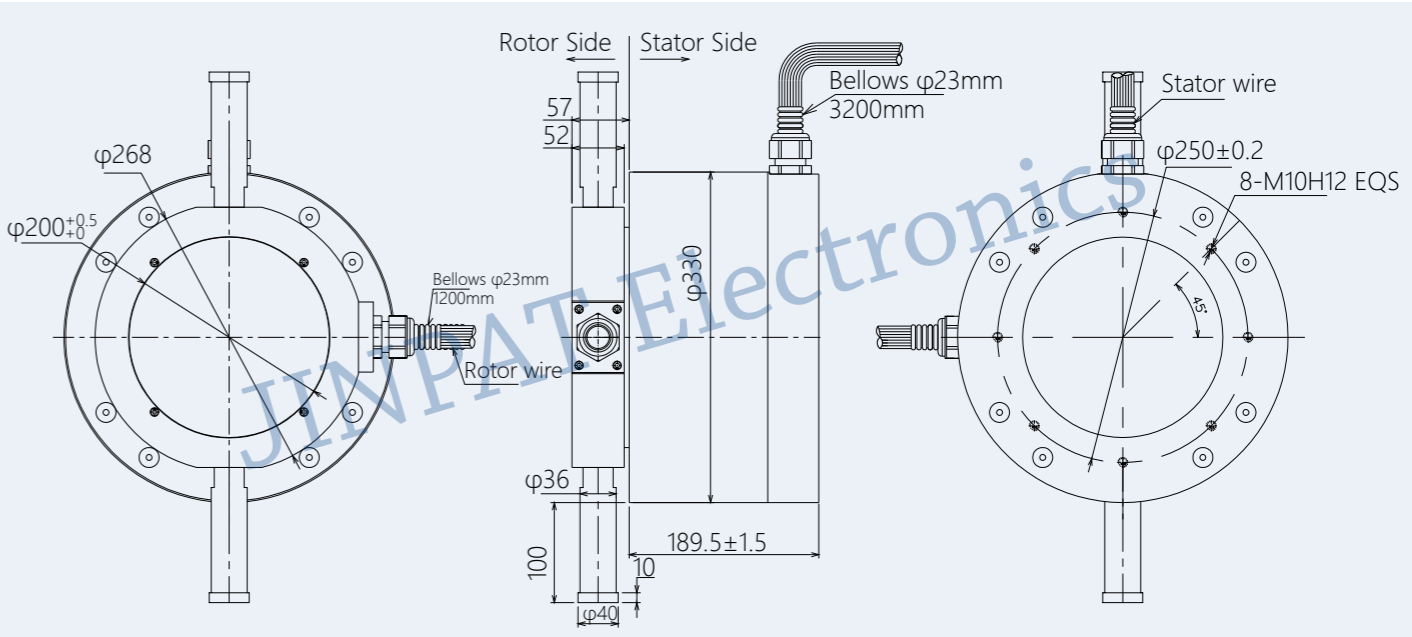
- Simultaneous transmission of power and signal
- Large through-bore design
- Standard installation, protection grade IP67
- Maintenance-free

## Advantages

- Excellent water-proof performance, protection grade up to IP67, fits to work in outdoor environment
- Multiple channels for power, general signals, throttle signal and CANBUS signal, etc.
- Meet the requirements of crane models with 12T~350T lifting capacity
- Large through-bore series, bore diameter 200mm

Construction Machinery	
Model	Applications
LPT200-0430-0210-06S	100T All terrain crane

## Outline drawings



# Construction Machinery Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	18CKT	Rotating speed	0~100rpm	Temperature	-30℃~+80℃
Current	4×40A+12S+2×CANBUS	Contact material	Precious metal	Humidity	≤95%RH
Voltage	220VAC	Housing material	Aluminum alloy	Protection Grade	65
Dielectric strength	≥500VAC@50Hz	Wire type	4.0/1.0mm <sup>2</sup> FLRY-B /CANBUS	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Stator side:2500mm Rotor side:2500mm		
				Life span	Can be customized

## Features

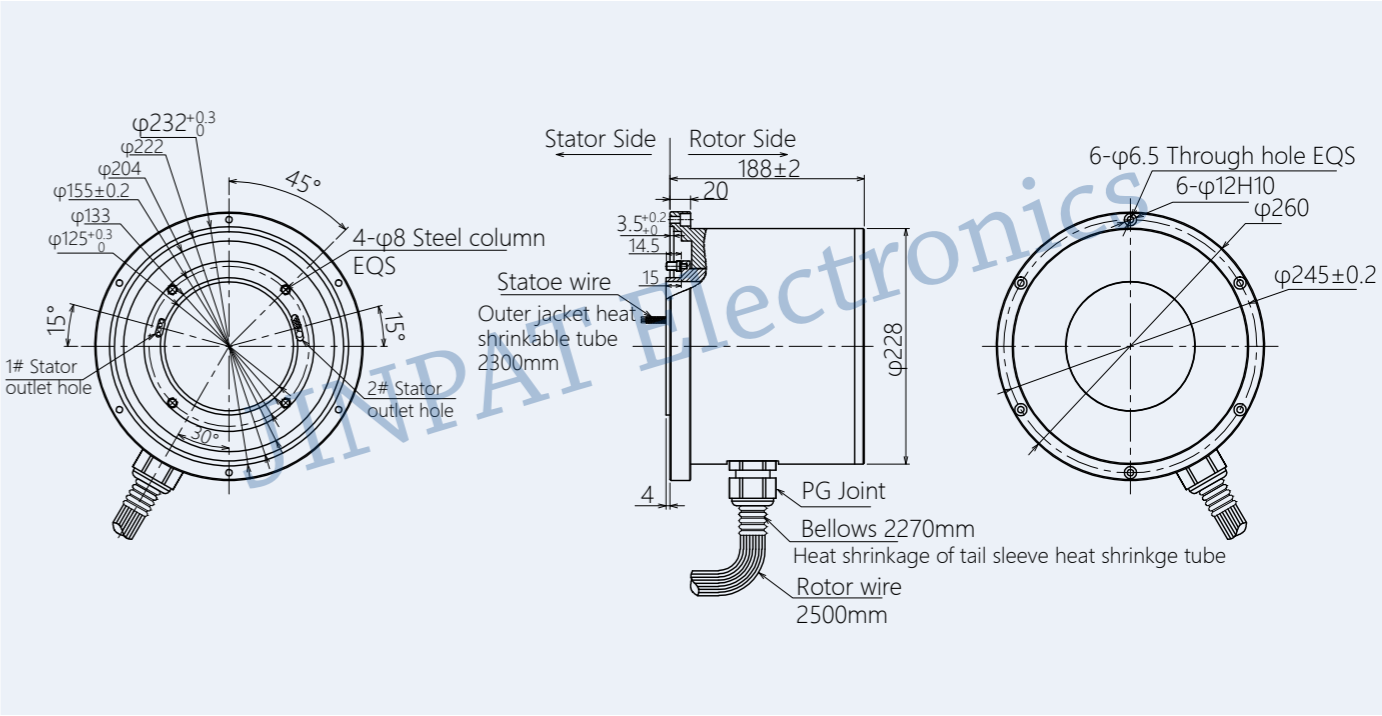
- Simultaneous transmission of power and signal
- Large through-bore design
- Standard installation, protection grade IP67
- Maintenance-free

## Advantages

- Excellent water-proof performance, protection grade up to IP67, fits to work in outdoor environment
- Multiple channels for power, general signals and CANBUS signal, etc.

Construction Machinery	
Model	Applications
LPTS000-0440-14S	Aerial ladder fire truck

## Outline drawings



# Turntable Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	135CKT	Rotating speed	0~300rpm	Temperature	-20°C~+60°C
Current	4x15A+22x10A+13x5A+72x2A+2E2+3x1553B	Contact material	Precious metal/ Gold to Gold	Humidity	≤60%RH
Voltage	400VAC/48VDC	Housing material	Aluminum alloy	Protection Grade	IP44
Dielectric strength	≥1000VAC@50Hz ≥300VAC@50Hz (signal)	Wire type	AWG14/17/22 /26# 2-core shielded twisted pair wire/ 1553B/network cable	Others	
Insulation resistance	≥500MΩ@500VDC ≥100MΩ@300VDC (signal)			Life span	Can be customized
Electrical noise	≤10mΩ(at 50rmp)	Wire length	Rotor side: 1.5m Stator side: 1.5m		

## Features

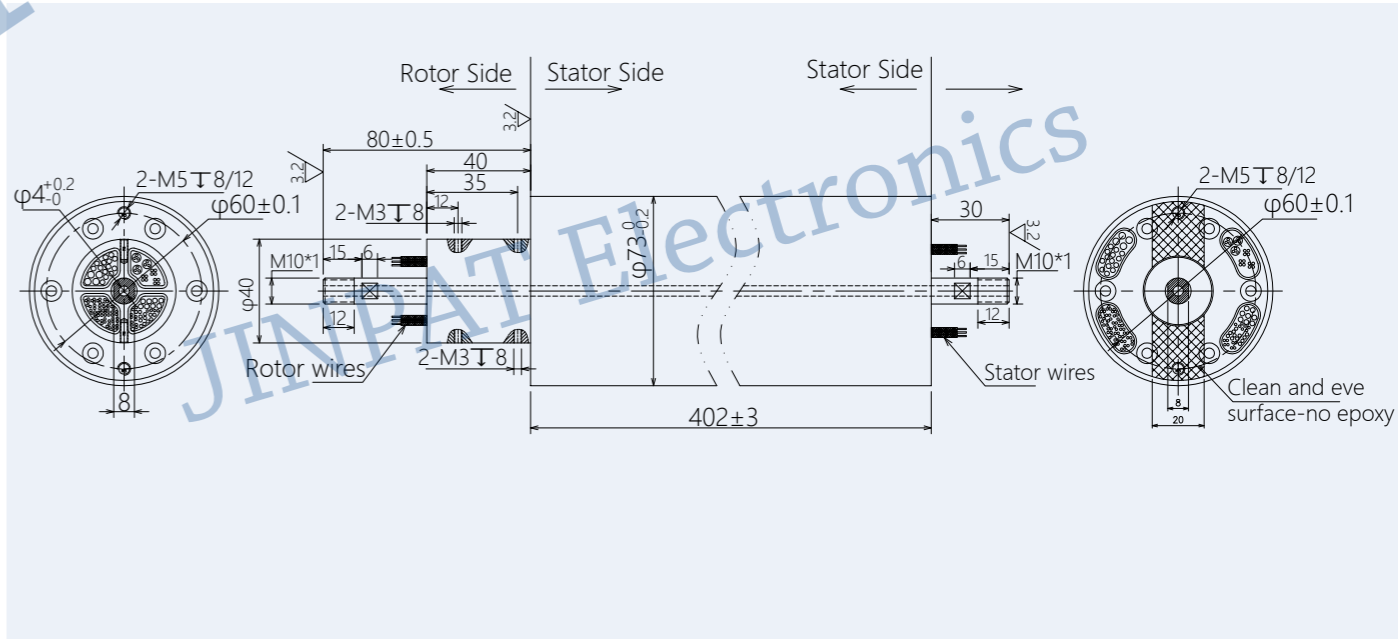
- Simultaneous transmission of power and signal
- Adopts gold-to-gold contact to transmit signal
- Long service life, maintenance-free
- Compact structure, main shaft is equipped with 4mm gas channel

## Advantages

- Able to integrate up to 135 channels
- Module design, guarantees consistency of the products
- Compact structure, small size
- Adopt special soft wire

Turntable Slip Ring	
Model	Applications
LPT004-073-0415-2210-1305-7202-02E2-03S	2D simulation turntable

## Outline drawings



# Turntable Slip Rings

Electrical & Electronics		Mechanical		Environmental	
Number of circuits	104CKT	Rotating speed	0~100rpm	Temperature	-20°C~+60°C
Current	40x20A+64x5A	Contact material	Precious metal	Humidity	≤70%RH
Voltage	380VAC/24VDC	Housing material	Aluminum alloy	Protection Grade	IP56
Dielectric strength	≥1000VAC@50Hz ≥300VAC@50Hz (signal)	Wire type	AWG12#Teflon /0.3mm2 8-core shielded twisted pair wire	Others	
Insulation resistance	500MΩ@500VDC 100MΩ@300VDC (signal)	Wire length	Rotor side : 12m Stator side: 3m	Life span	Can be customized
Electrical noise	≤70mΩ(at 50rpm)				

## Features

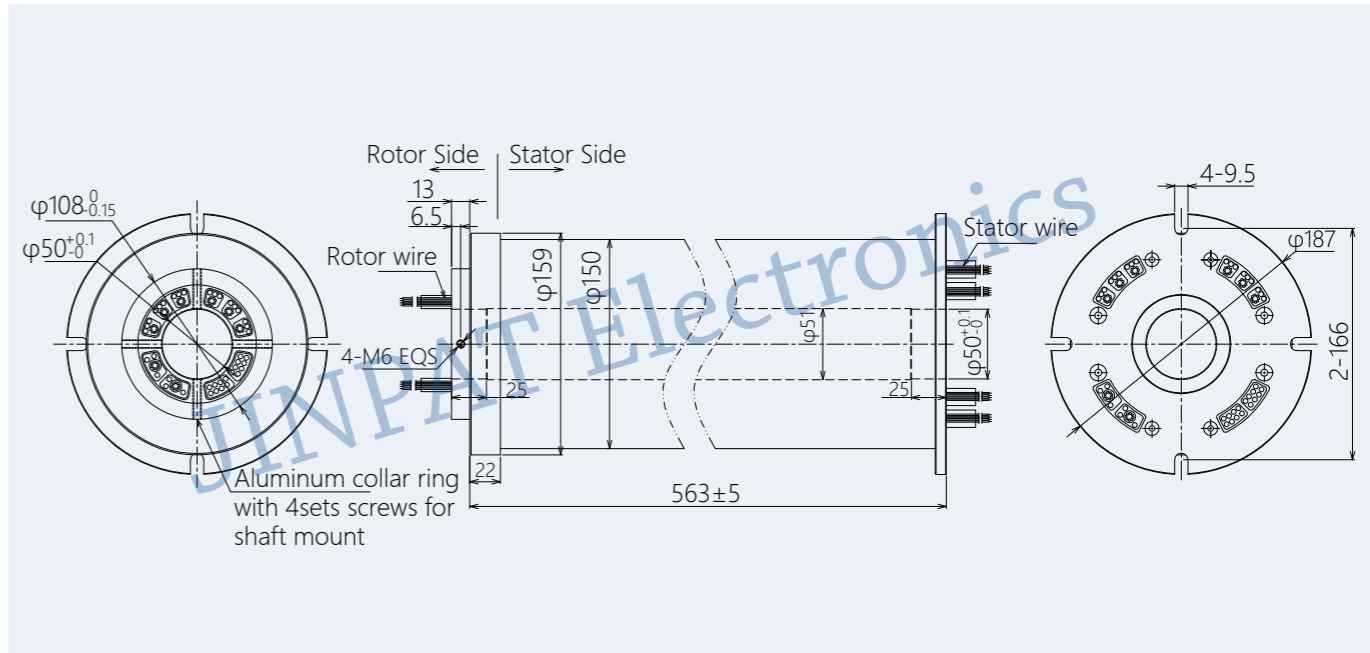
- Simultaneous transmission of low-power and signal
- Protection grade IP56
- Arranges wire exits according to the stations
- Maintenance-free

## Advantages

- Able to integrate up to 240 channels
- Module design, guarantees consistency of the products
- Compact structure, small size
- Adopts special soft wire

Turntable Slip Ring	
Model	Applications
LPT050-4020-6405	8-station CNC polishing machine

## Outline drawings



# Explosion-proof Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	11CKT	Rotating speed	0~5rpm	Temperature	T3
Current	6x200A+1xPE+5x63A	Contactmaterial	Precious metal/ copper graphite	Humidity	≤60%RH
Voltage	440VAC	Housingmaterial	Stainless steel 304	Protection Grade	IP65
Dielectric strength	≥2500VAC@60Hz ≥1000VAC@50Hz (signal)	Wire type	70mm²/AWG6# Teflon	Others	
Insulation resistance	≥500MΩ@1000VDC ≥500MΩ@500VDC (signal)	Wire length	/		
				Life span	Can be customized

## Features

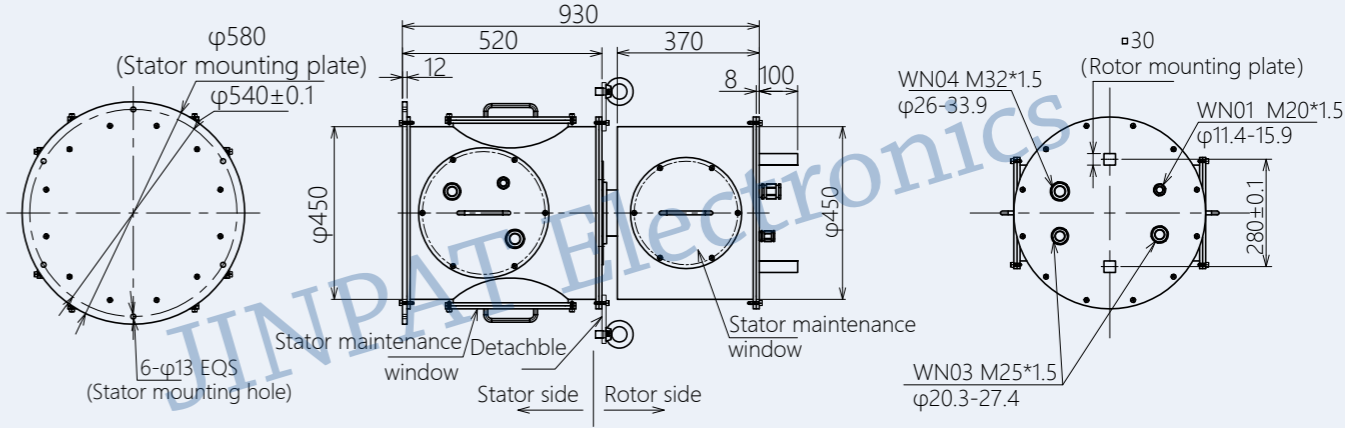
- Simultaneous transmission of high power and signal
- Explosion-proof classification: Ex d IIB
- Temperature group: T3 (200°C)
- Adopts imported graphite brush
- Adopts stainless steel 304 as housing material

## Advantages

- Explosion-proof slip ring is highly safe and reliable, which fits to work in explosive environments like oil exploitation platform, dust workshop, chemical equipment and spraying atmosphere, etc.

Explosion-Proof Slip Ring	
Model	Applications
LPA000-05200-01PE-0563Ex	Offshore oil exploitation platform

## Outline drawings



# Explosion-Proof Slip Rings

Electrical & Electronics		Mechanical		Environmental	
Number of circuits	7CKT	Rotating speed	0~20rpm	Temperature	T3
Current	7x10A	Contact material	Precious metal	Humidity	≤60%RH
Voltage	220VAC	Housing material	Aluminum alloy	Protection Grade	IP65
Dielectric strength	≥1000VAC@50Hz	Wire type	W7F46PP-11.80mm 7-core fluoroplastic F46 double steel wire armor	Others	
Insulation resistance	≥500MΩ@500VDC	Wire length	Rotor side:300mm Stator side:300mm	Life span	Can be customized

## Advantages

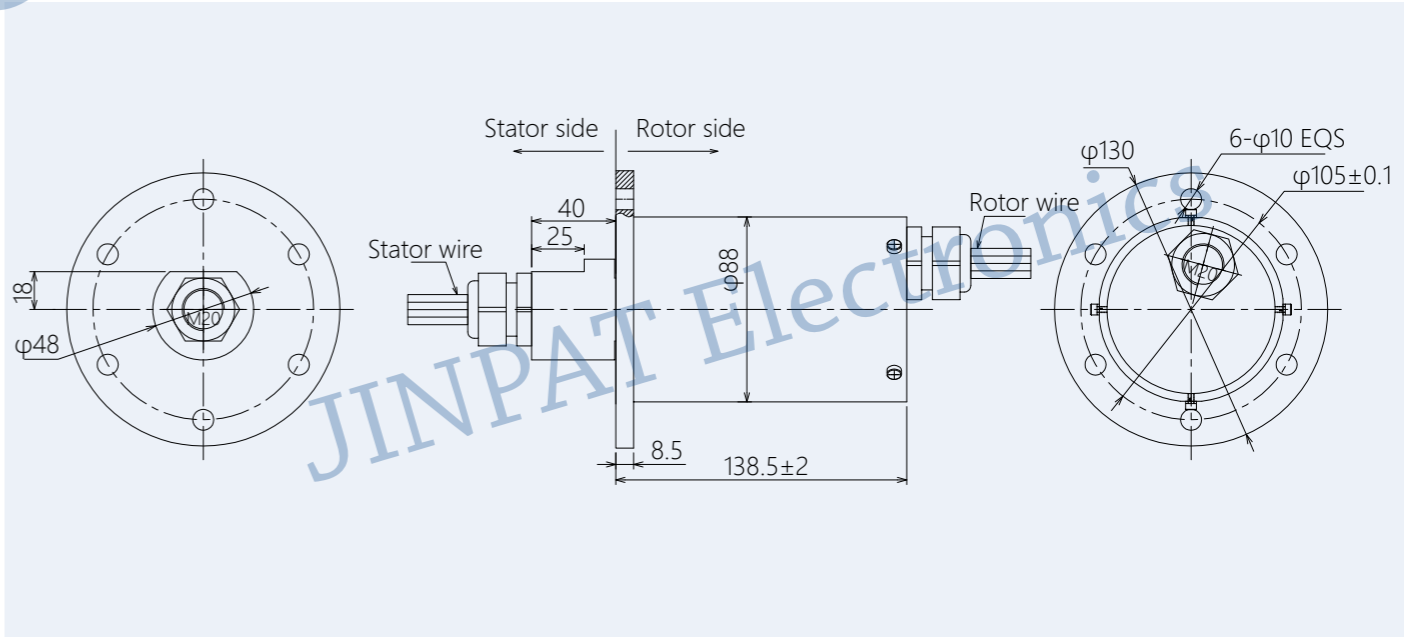
- Transmits signal
- Explosion-proof classification: Ex d IIB
- Temperature group: T4 (135℃)

## Features

- Explosion-proof slip ring is highly safe and reliable, which fits to work in explosive environments like oil exploitation platform, dust workshop, chemical equipment and spraying atmosphere, etc.

Explosion-Proof Slip Ring	
Model	Applications
LPT000-0710EX	Shale gas exploitation platform

## Outline drawings



# Integral Pancake Slip Rings



Electrical & Electronics		Mechanical		Environmental	
Number of circuits	6CKT	Rotating speed	0~100rpm or higher	Temperature	-40°C~+80°C
Current	10A/signal(optional)	Contact material	Precious metal	Humidity	≤60%RH
Voltage	240VAC/DC	Housing material	Aluminum alloy	Protection Grade	IP51
Dielectric strength	500VAC@50Hz	Torque	0.3N.m(for reference)	Others	
Insulation resistance	≥500MΩ@500VDC	Wire type	Optional		
Electrical noise	≤30mΩ(at 50rpm)	Wire length	Stator side: 300mm Rotor side: 300mm		
				Life span	Can be customized

## Features

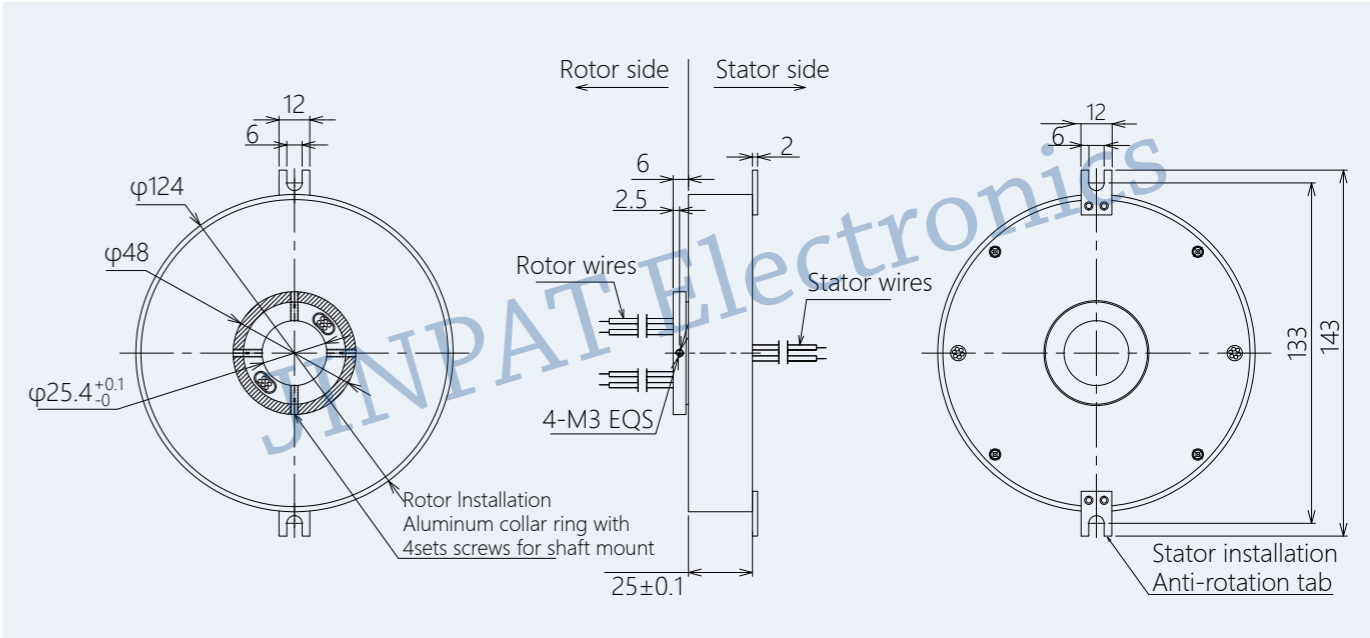
- 6 channels for current, 10A each
- Two precise rolling bearings contribute to low torque
- Demonstrates high precision, excellent transmit performance, smooth and reliable operation

## Advantages

- Super thin, only 25mm, especially designed for applications with limited axial installation space, maintenance-free
- Low torque, two precise bearings, smooth operation
- Adopts advanced imported brush shrapnel to achieve longer service life

Integral Pancake Slip Rings	
Model	Applications
LPK025-0610	Industrial Automation

## Outline drawings





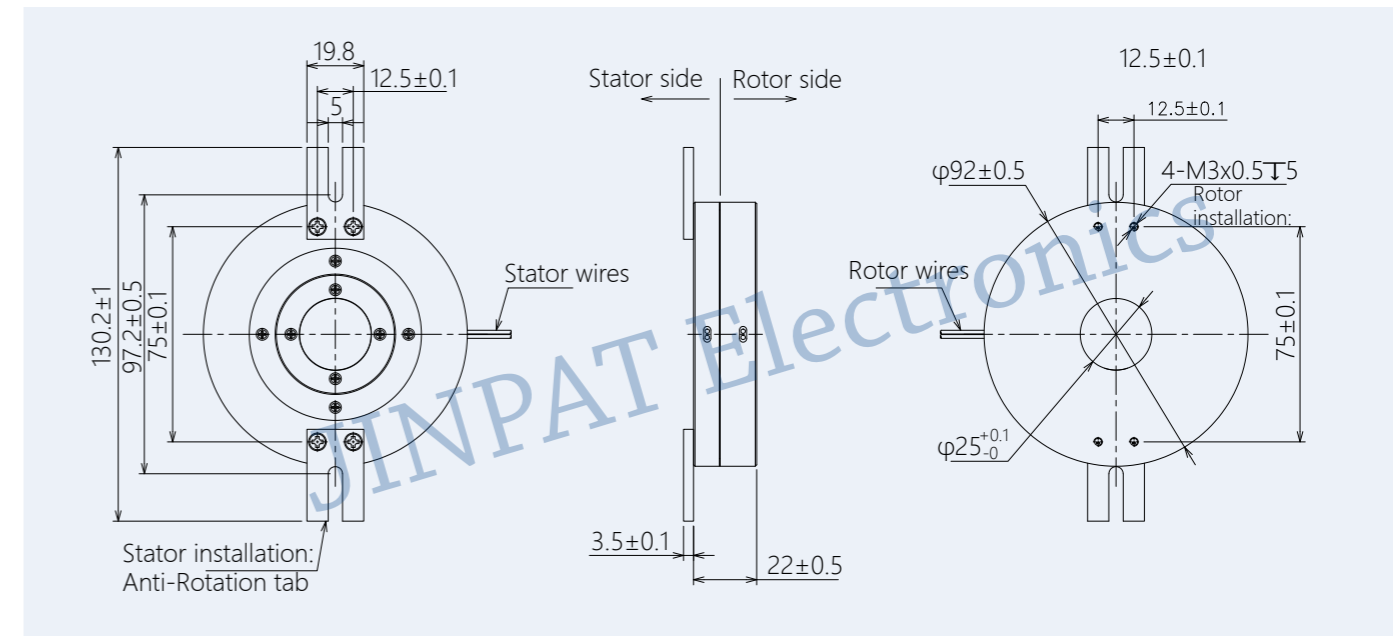
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- Sing-row rolling bearing, high protection grade
- Simultaneous transmission of power and signal
- Compact structure to fit in small application with limited installation space
- Maintenance-free, low torque
- Demonstrates high precision, excellent transmit performance, smooth and reliable operation

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- Super thin, only 22mm, especially designed for applications with limited axial installation space, maintenance-free
- High protection grade up to IP54, especially designed for humid, dusty and heavily polluted environments.
- Gold-to-gold contact guarantees low friction and long service life
- For the excellent performances, the slip rings are applied in vehicle onboard equipment system, and win favorable reputation in the market

## Outline of the course



# LPPG Pneumatic Hydraulic Rotary Joints



Electrical & Electronics		Mechanical		Environmental	
Number of channels	4CKT	Rotating speed	0 ~ 60rpm	Temperature	-40°C~+60°C or as requested
Gas pipe outer diameter (mm)	φ10mm			Humidity	≤60%RH
Maximum operating pressure	25Mpa	Housing material	Metal	Protection grade	IP67
Medium	Compressed air, inertgas, cool water and hydraul coil, etc.			Others	
				Life span	Can be customized

## Features

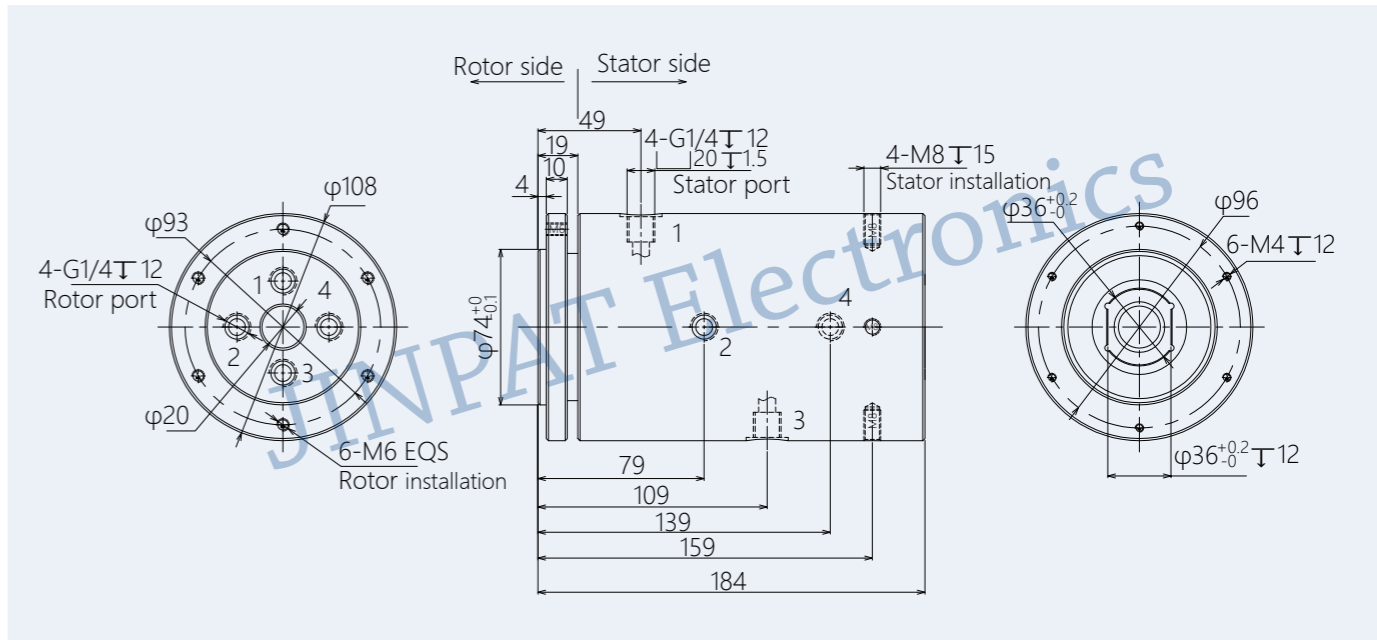
- Medium: compressed air, inert gas, cool water and hydraulic oil, etc.
- G1/4 connector, optional size
- Maximum operating pressure up to 25Mpa (higher operating pressure customizable)

## Advantages

- Able to transmit various media while implementing 360°rotation
- Able to function smoothly and normally in harsh environments like humid atmosphere and undersea.
- Adopts top German dynamic rotary sealing structure, achieves ideal intact sealing in a efficient way

LPG Pneumatic Hydraulic Rotary Joints	
Model	Applications
LPG020-04A	Construction Machinery

## Outline drawings



# Gas-Liquid Electric Integrated Slip Rings



Hydraulic Slip Ring		Mechanical		Electrical & Electronics	
Number of channels	4 (Can be customized)	Rotating speed	0 ~ 100rpm	Number of circuits	12
Gas pipe outer diameter (mm)	φ10mm	Contact material	Precious metal	Current	240A, 10xsignal
Maximum operating pressure	5Mpa (Can be customized)	Housing material	Metal (optional)	Voltage	240V AC/DC
Medium	Compressed air, inert gas, cool water and hydraulic oil, etc.	Wire type	AAWG20#/AWG14# Teflon wire	Dielectric strength	≥500VAC@50Hz
Environmental		Wire length	300mm (optional)	Insulation resistance	500mΩ@500VDC
Temperature	-20℃ ~ +60℃	Others			
Humidity	≤60%RH	Life span	Can be customized	Electrical noise	≤30mΩ
Protection grade	IP65 (optional)				

## Features

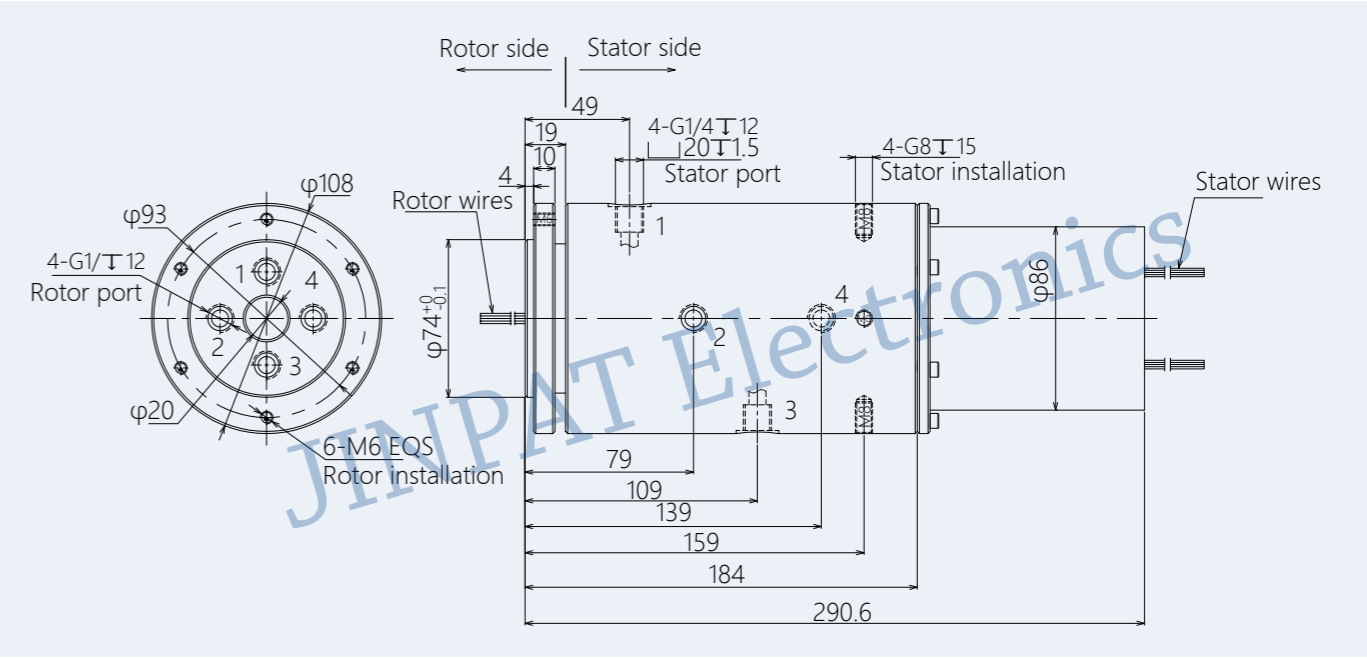
- Transmits power, encoder signal, electromagnetic valve signal, switch signal,RS422, RS485, Can-Bus, Ethernet signal and USB signal, etc.
- Medium: compressed air, nitrogen, cool water and hydraulic oil, etc.
- Transmits graphic and video signal, even high-definition signal while implementing 360°rotation.

## Advantages

- Able to function smoothly and normally in harsh environments like humid atmosphere and undersea.
- Able to transmit power and various signals simultaneously.
- Adopts top German dynamic rotary sealing structure, achieves ideal intact sealing in a efficient way

Gas-Liquid Electric Integrated Slip Ring	
Model	Applications
LPT-000-0240-10S-04A	Automation Equipment

## Outline drawings



Hydraulic Slip Ring for Automation Machinery

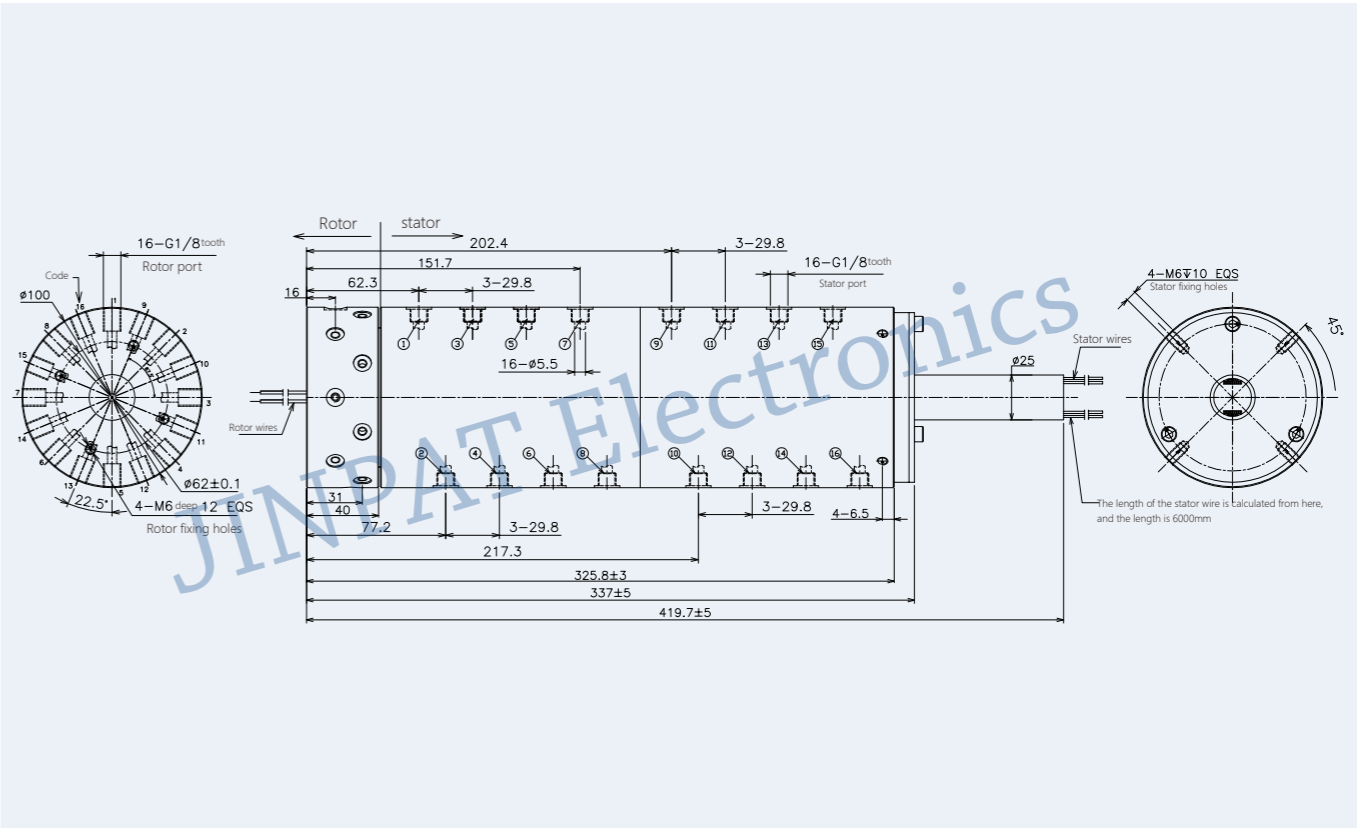


Features

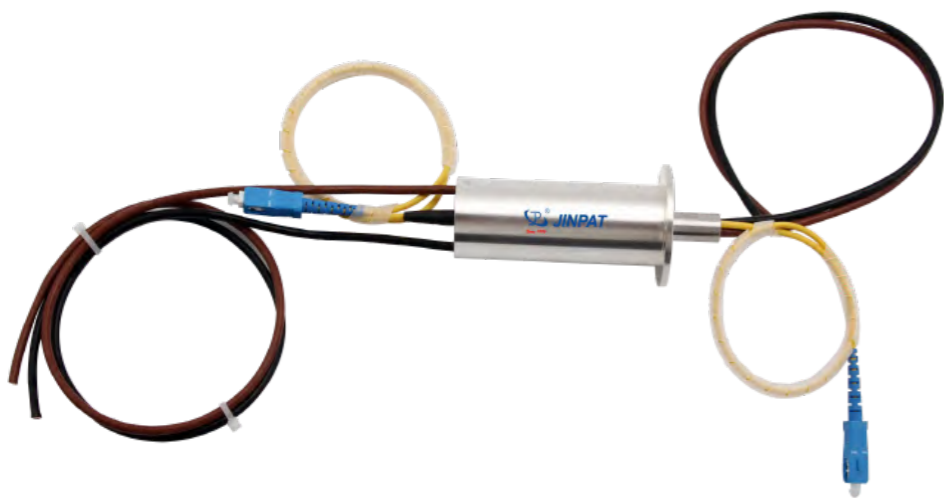
- Integrated Slip Ring integrated with gas-liquid electric has three structures to choose from. The first type is that the gas-liquid module uses one main shaft each, and the two are connected by bolts, which is also the most common type of all gas-liquid electric integrated slip rings. The second type is that the gas-liquid module and the electric slip ring module share one main shaft, which is suitable for gas-liquid integrated slip rings with fewer gas-liquid module channels. The third type is a double-layer structure slip ring, The gas-liquid module is located at the center or outside of the slip ring, which has high flexibility. When the gas-liquid module is in the outer layer, the number of gas-liquid module channels supports multiple choices.

Outline drawings

Electronic & Electric			Mechanical	
Circuits	Total	48 CKT	Working Speed	0~10rpm
	Detail	16* (2*1A+shield)	Contact Material	Gold to Gold
Rating Voltage		0~24V	Housing Material	Aluminum Alloy
Dielectric Strength		≥500VAC@50Hz(Power ) ≥100VAC@50Hz (signal)	Lead Wire Length	Stator:6000mm Rotor:13000mm
Insulation Resistance		≥100MΩ@500VDC(Power) ≥10MΩ@100VDC (signal)	Rotay Unions & Joints Spec	
Environmental			Passages	1~16
Working T emperature		-20°C~+60°C	Joint thread	G1/8"
			Trachea size	Φ4-Φ8
Working Humidity		≤60%RH	Orifice flow	Φ5.5
IP	IP40		Medium Type	Air
			Max.Operating Pressure	10 bar



Electric Optical Slip Ring



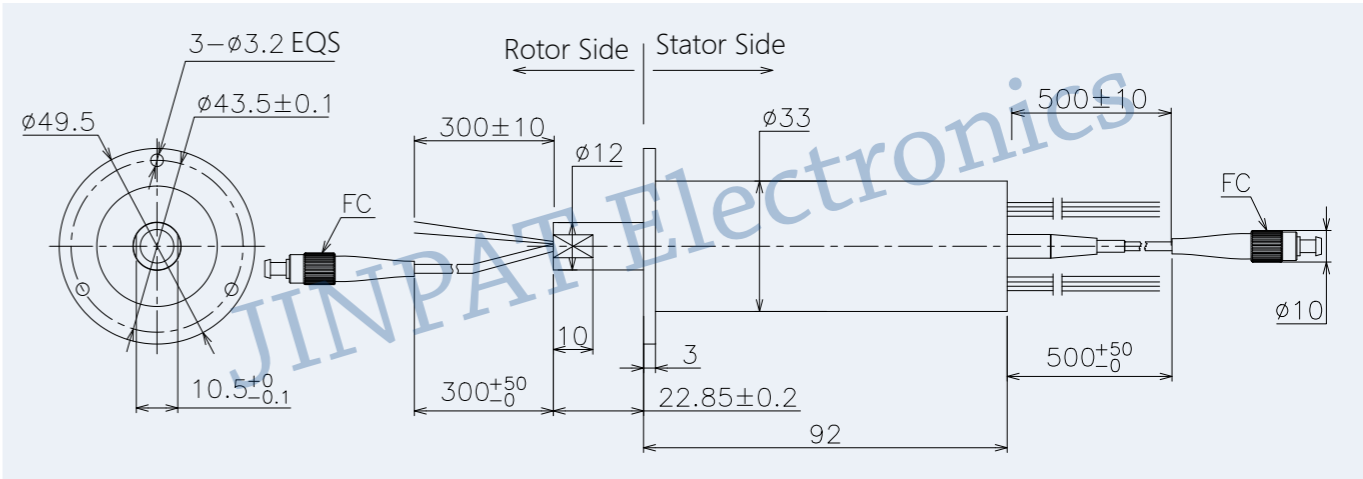
Electronic & Electric			Specifications	
Circuits	Total	2 CKT	Fiber types	SM
	Detail	2x36A	Joint	FC
Rating Voltage		0~4000VAC / DC	Working wavelength	1310-155nm
Dielectric Strength		≥600VAC@50Hz(power)	Insertion loss	<2dB
Insulation Resistance		≥100MΩ@600VDC(power)	Insertion loss ripple	<0.5dB
Mechanical			Return loss	≥40dB
			Max Optical power	23dBm
			Bend radius	50mm
Housing material		Aluminum alloy	Fiber length	Stator:300 <sup>+50</sup> <sub>-0</sub> mm Rotor:500 <sup>+50</sup> <sub>-0</sub> mm
Wire length		Stator:500±10mm Rotor:500±10mm	Environmental	
Rotating speed		0~200rpm		
Contactmaterial		Gold to gold	Working Temperature	-20℃~+60℃
			Working Humidity	≤60%RH

Features

- JFiber optic and power integrated slip ring has the advantages of both traditional conductive slip ring and fiber optic slip ring;
- JINPAT photoelectric integrated slip ring can provide single channel or multi channel, single-mode or multi-mode fiber slip ring according to the specific conditions of the application terminal;
- Electrical slip ring support power and more than 30 kinds of electrical signals, which can be customized, with optional capsule slip ring, through bore slip ring and high current slip ring;
- JINAPT Electronics has the ability to produce more than one thousand pieces of fiber optic slip rings below 7 channels per year, with strong independent supporting ability!

Electric Optical Slip Ring for	
Model	Applications
LPC-D33-0236-01FO	Special communication equipment/ precision instruments and meters/ medical equipment/ heavy equipment/ laser processing equipment

Outline drawings



## Typical Application of JINPAT Slip Rings



Video Surveillance



VR



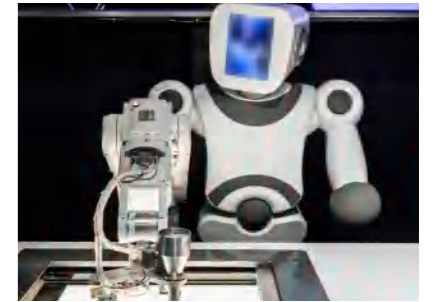
Drone



Radar Antenna



Electro-Optical Pod



Robot



Construction Machinery



Automation Equipment



Offshore Equipment



Wind power equipment



Entertainment Equipment



Medical

JINPAT slip rings have been sold to more than 100 countries and JINPAT has established long-term friendly cooperative relations with many well-known research institutions, universities and multinational companies.

In order to better serve customers, JINPAT is looking for distributors around the world.

Russia: [www.electricslipring.ru](http://www.electricslipring.ru)

India: [www.electricalslipring.in](http://www.electricalslipring.in)

Japan: [www.sliprings.jp](http://www.sliprings.jp)

