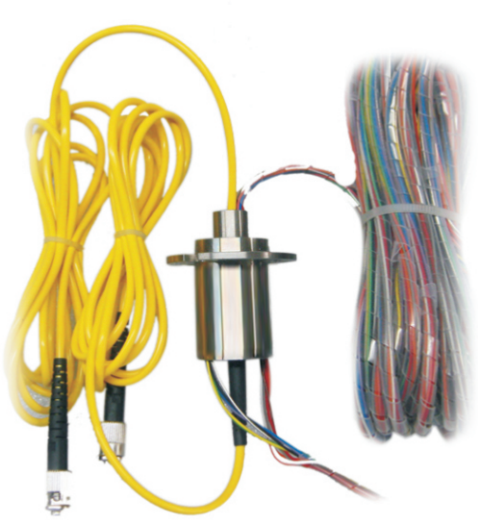
Fiber Optic Hybrid Slip Rings

Fiber optic hybrid slip rings combine an electrical slip ring with a fiber optic rotary joint, providing a multifunctional rotating interface for electrical and optical connections. These hybrid FORJ units allow the unlimited transmission of power, signal and large amounts of data from a stationary to a rotating platform, not only optimize the system configuration but also save cost.

AOOD provides wide range of electrical and optical combinations to meet various applications' needs. A highly compact miniature slip ring may be integrated with the smallest single channel FORJ to transfer low current, signal and high speed data for HD camera systems. A rugged high power electrical slip ring may be integrated with multi-channels FORJ for use in ROVs. When harsh environment operational capability is required, stainless steel housing, a fully sealed enclosure or fluid-filled pressure compensation are optional. Additionally, the hybrid optical-electrical units can be combined with fluid rotary unions to provide a complete electrical, optical and fluid rotating interface solution.



Features

- Combined electrical slip ring with fiber optical rotary joint
- Flexible transmission of power, signal and high bandwidth data through a single rotational joint
- Wide range of electrical and optical options
- Multi high power circuits optional
- Compatible with data bus protocol
- Can be combined with fluid rotary unions

Advantages

- A variety of existing hybrid units optional
- Space saving and cost saving
- High quality standards for design, manufacture and test
- High reliability under vibration and shock
- Maintenance free operation

Typical Applications

- Mobile aerial camera systems
- Surveillance systems
- Robots
- Automated machinery
- Winch and TMS applications
- Unmanned vehicles

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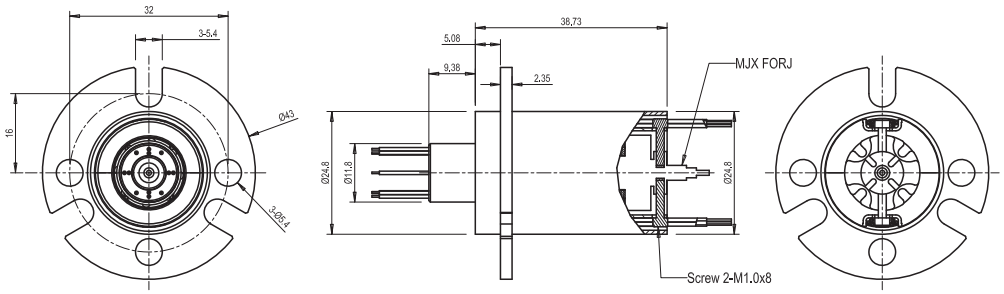
Model	Channels		Current(amps)				Voltage(VAC)	Size	RPM
	Electrical	Optical	2	5	10	15		DIA × L(mm)	
ADSR-F7-12-FORJ	12	1	12				220	24.8 x 38.7	300
ADSR-F3-24-FORJ	24	1	24				220	22 x51.5	300
ADSR-F3-36-FORJ	36	1	36				220	22 x 70	300

Remark: Above models are standard units, other combinations of electrical and optical available on request.

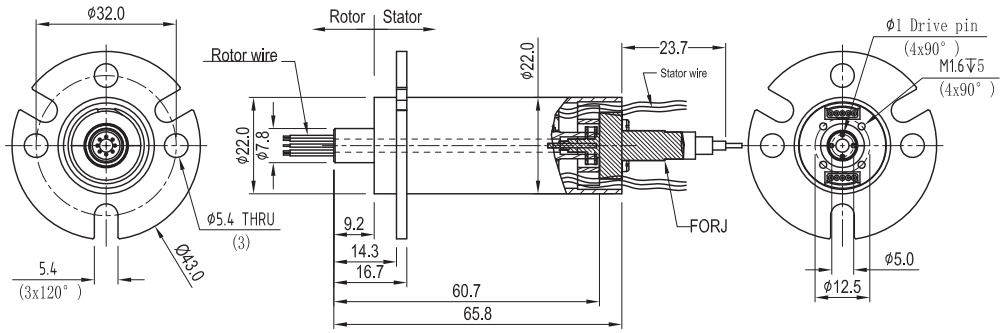
Electrical	
Electrical circuits	12 / 24 / 36 x 2 amps circuits
Rated voltage	220VAC
Insulation Resistance	200MΩ@ 500VDC
Lead Wires	300mm AWG#30 Teflon wires
Housing	Aluminium alloy
Operating Speed	300 rpm
Torque	<0.01 N*M
Life	10,000,000 revolutions
Working Temperature	-40℃~ +80℃
Storage Temperature	-45℃~ +85℃
Humidity	95±3%(30°C+5°C)
Protection	IP54

Optical	
Fiber type	SM or MM
Channels	1
Wavelength range	650-1650nm
Insertion loss	< 2 dB (typical: <0.5dB)
Insertion loss ripple	< +/-0.25 dB (typical: +/-0.15dB)
Return loss (SM)	> 40 dB (typcial: 45 dB, 23C)
Max speed	2000rpm
Pulling strength	10N
Estimated lifetime	> 500 million revolutions
Optical power handling	5mW/standard
Package styple	Pigtails on both ends
Connector types	FC,SC, ST, SMA or LC

▶ADSR-F7-12-FORJ



▶ADSR-F3-24-FORJ



▶ADSR-F3-36-FORJ