

Fiber Optic Rotary Joint

Model 285 / 286

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environments and is a leading manufacturer of high performance and high quality fiber optic rotary joints. Contact Focal for assistance in selecting the best solution for your requirements.



The FO285 (single-channel singlemode) and the FO286 (single-channel multimode) are passive and bidirectional, and allow the transfer of optical signals across rotational interfaces. Both models also offer other benefits of fiber optics, including low spark hazard.

With a body diameter of only 9.4 mm and lengths of 28 mm and 21 mm for the FO285 and FO286 respectively, both units are ideally suited to applications where size and weight are critical issues.

Both models can be combined with our electrical and / or fluid slip rings, providing a single, compact package for optical signals, electrical power and fluid transfer.

Features

- Provides rotary coupling for a singlemode or multimode fiber link
- Passive bidirectional device
- Alternative drive coupling and mounting arrangements are available (consult factory for specification details)
- Stainless steel, aluminum or anodized aluminum housing
- Ruggedized design
 - MIL-STD-167-1 ship vibration
 - MIL-STD-810 functional shock (40 g)

Benefits

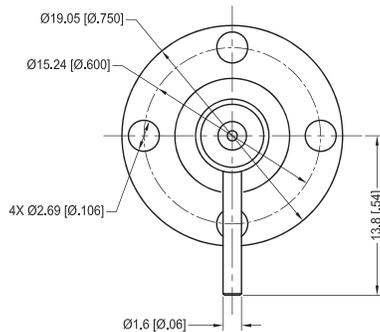
- Can be integrated into existing slip ring designs
- Passive bidirectional optical transmission
- Can be combined with our electrical slips and fluid unions, as well as Moog Focal's digital fiber telemetry solutions
- Long life

Applications

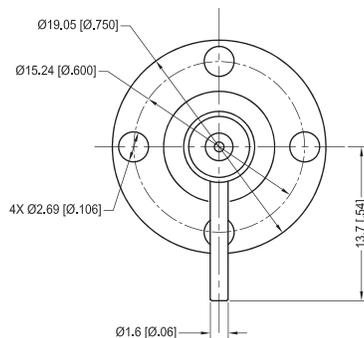
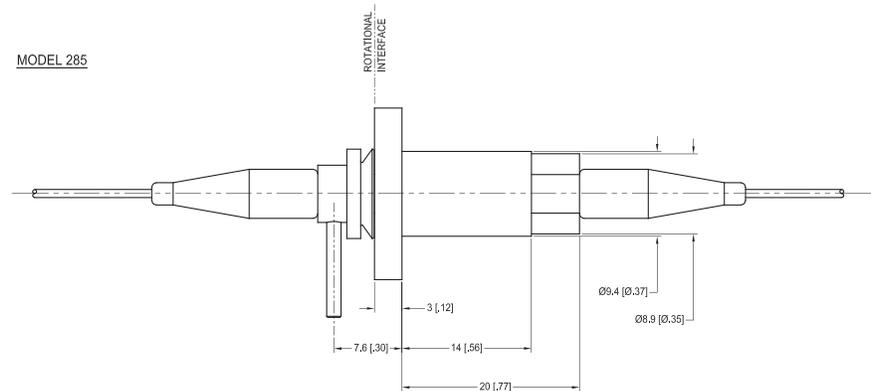
- Unmanned ground vehicles
- Robots
- Surveillance systems
- Industrial automation
- Unmanned aerial vehicles and sub-systems

Specifications

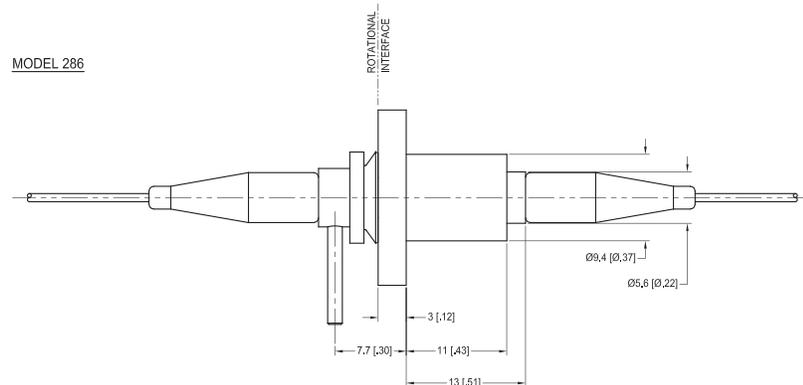
FO285/286 Specifications		
	FO285 (Singlemode)	FO286 (Multimode)
Fiber Size (Microns)	9/125 SMF-28. Consult factory for other SM fiber types	50/125 or 62.5/125. Consult factory for other sizes
Approximate Mass/Material (without connectors)	Stainless steel: 16g (pigtailed with connectors)	Aluminum: 7g, or Stainless steel: 14g (pigtailed with connectors)
Insertion Loss	Typical < 1.5 dB, Maximum < 3.5 dB	Typical < 1.5 dB, Maximum < 2.5 dB
Rotation Variation	Typical < 0.5 dB, Maximum < 1.5 dB	Typical < 0.5 dB, Maximum < 1.0 dB
Back Reflection	Typical 22 dB, Minimum 18 dB Optional: Typical 40 dB, Minimum 35 dB.	Typical 22 dB, Minimum 18 dB
Wavelengths	Suitable for operation over full CWDM band (18 wavelengths from 1271nm to 1611nm in 20nm increments), tested at 1310nm and/or 1550nm. Consult factory for other wavelengths such as 900-1100nm band (tested at 1060nm)	Suitable for operation in 850nm and 1300nm multimode bands or 1300nm and 1550nm multimode bands. Consult factory for other wavelengths such as 900-1100nm band (tested at 1060nm)
Rotational Speeds	To 1000 rpm. Higher rotational speeds should be discussed with the factory	
Temperature	-55° C to + 75 °C. Consult factory for extended range	
Vibration	Per MIL-STD-167-1A	
Shock	40 g/11 ms sawtooth per MIL-STD-810 Method 516	
Terminations	Pigtailed with cable and terminated with connectors to meet customer's requirements.	
Pigtail Length	Up to 3 meters standard. Consult factory for longer lengths	



MODEL 285



MODEL 286



Also available with right angle. Please contact factory for details.

All specifications and information are subject to change without notice. Please contact Focal for the latest updates.

Dimensions in mm [inches]