

# Low Voltage Electrical Power Swivel

Model 450

**Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environment applications and is a leading manufacturer of high performance and high quality swivels. Contact Focal for any assistance in selecting the best solution for your requirements.**

## Description

The Model 450 provides a rotating connection for low voltage power. It has a hollow bore between 1.4 m and 2.5 m. The shaft is generally configured with hanging turret side cable pigtails that are factory installed, which can be replaced in the field by Focal. On the ship side, the slip ring is fitted with junction boxes.

The swivel is certified as a purged/pressurized (Ex p) enclosure. For units fitted with junction boxes, these can be either a part of the Ex p enclosure or Increased safety (Ex e). The purge controller, compressed air treatment system and the necessary piping is supplied with the slip ring. Ingress Protection rating is IP66.

All 400 series products are intended for use in Floating Product Systems (FPS). They are well suited for any application requiring a product that can withstand harsh marine conditions or require long life with minimal maintenance intervals. Designed and manufactured in our ISO 9001 facility under our project management system, products have a two year warranty and are provided with a complete document package.

All products can be modified to meet specific requirements. Installation, commissioning and service is available. Contact the factory for details.

## Features

- 316 stainless steel housing
- Hazardous area certified / maritime classification
- Hollow bore
- IP66
- Temperature: -20 °C to +60 °C

## Options

- Temperature sensor / Heater
- Shaft encoder
- Extended temperature range
- Current transformers
- IP68-20 m
- Model 490 Data Acquisition System
- Model 491 conduit assemblies



# Specifications

Electrical Power	
Passes	Up to 50
Voltage	1000 V max
Current	Up to 1000 A/pass
Fault Current	50 kA - 1 sec
BIL	8 kV
Grounding / Bonding	External ground connection
Interface	
Mounting	Pedestal, designed to meet customer requirements
Access	Hatches
Drive	Torque ears, dimensioned as required Torque arm(s) by others, loose couple required.
Rotation Rate	1 rpm, max
Torque	Depends on configuration
Cable Entry	Cables enter the enclosure directly through cable glands. Terminals are accessible via a hatch on the ship side
Air Filter / Dryer	Cleans and dries an instrument air supply for the purge/pressurization system and provides a nitrogen backup
Certifications	
Marine <sup>1)</sup>	DNV GL, ABS, LRS or BV
Hazardous Area <sup>1)</sup>	Ex p IIB T5 Gb ATEX or IECEx

1) Available on request.

Environmental	
Temperature	-20 °C to +60 °C (operating) -20 °C to +85 °C (storage)
Ingress	IP66
Vibration	1 g in any direction
Physical	
Height	26 ft [8 m] max
Diameter	16 ft [4.9 m] max
Bore diameter	8.2 ft [2.5 m] max
Weight	Depends on configuration
All dimensions depend on the configuration	
Material	316 / 316L stainless steel
Drawing	450-XXXX-00
Options	
Temperature Sensor	PT100 typical with transmitter for 4-20 mA output
Heater	Self-limiting heater, 120 V or 220 V, 100—500 W. T4 temperature class
Ingress Protection	IP68 – 20 m
Shaft Encoder	Most commercially available shaft encoders can be integrated
Current Transducers	Current transducers can be supplied for remote monitoring of current
Data Monitoring	Model 490 Data Acquisition System
Conduit	Model 491 for physical protection of special cables
Special Design	Custom certification for higher voltages and currents, different enclosure sizes



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

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