

CALM Buoy Swivel

Model 420

Description

The Model 420 provides a rotating connection for low power (600 V/50 A) and signal cables. Cable entry is by connectors or through integral junction boxes. It is intended for use in Catenary Anchor Leg Mooring (CALM) buoys and similar installations.

This model has no hollow bore, so it must be located at the top of a swivel stack. This also makes it the swivel of choice when a fiber optic rotary joint is required. If a hollow bore is required, use the Model 440.

The swivel is certified as a flameproof enclosure with flameproof connectors or increased safety junction boxes on the ship side (Ex de). It is certified for use with intrinsically safe circuits (Ex de[ib]). Ingress protection is IP66/IP68-20 m.

All 400 series products are intended for use in swivel stacks of Floating Production 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
- Voltages to 690 V
- Currents to 50 A
- IP66/IP68-20 m
- Temperature: -20 °C to +60 °C

Options

- Temperature sensor
- Desiccant
- Mounting pedestal
- Shaft encoder
- Extended temperature range
- Model 490 data acquisition system



Specifications

Electrical Signals	
Passes	Up to 60
Voltage	220 V max.
Current	6 A max.
Data	Ethernet 10/100 Mbps, Serial
Electrical Power	
Passes	Up to 10
Voltage	690 V max.
Current	50 A max.
Fault Current	2.2 kA rms - 1 sec
Grounding / Bonding	External ground connections
Interface	
Mounting	Flange with clearance holes
Drive	Pin in a forked torque ear. Loose couple required.
Rotation	10 rpm, max.
Torque	4 lb-ft [6 N-m]
Turret side entry	Flameproof connectors or direct cable entry
Ship side entry	Flameproof connectors or direct cable entry
Certifications	
Marine ¹⁾	ABS, DNV GL, LRS, BV
Hazardous Area ¹⁾	Ex d IIB T5 Gb ATEX, IECEX, AEx, CSA, IEC

1. Available on request.

Environmental	
Temperature	-20 °C to +60 °C (operating) -20 °C to +85 °C (storage)
Ingress	IP66 / IP68 - 20 m
Vibration	1 g in any direction
Physical	
Height	15 " - 30 " [380 mm – 760 mm]
Diameter (cover)	6.8 " [173 mm]
Diameter (mounting surface)	12 " [300 mm]
Bore diameter	Not applicable
Weight	160 lb [73 kg]
All dimensions depend on the configuration	
Material	316 / 316L stainless steel
Drawing	420-XXXX-00
Options	
Temperature sensor	PT100 typical, with transmitter for 4 - 20 mA output
Desiccant	Desiccant available on some designs
Pedestal	Designed to meet customer requirements
Shaft encoder	Most commercially available shaft encoders can be integrated
Intrinsic safety	Certified as associated apparatus
Data monitor	Model 490 Data Acquisition System
Fiber Optics	Options available, contact factory