

Medium Voltage Switch

Model 415 / Model 417

Description

The Model 415 MV Switch is designed to connect one three phase circuit to one of two others, at up to 24 kV, using single or multicore MV power cables. Its primary purpose is to select one of two subsea cables or swivel circuits or for use as a grounding device. This is a no-load switch, so circuits must be isolated before switching. The Model 417 is rated 36 kV.

There is sufficient space inside the switch to allow for MV cable termination and routing of large cables. There are facilities for connection of cable ground conductors and ground straps from the stress control sleeves.

The switch is certified as a flameproof (Ex d) enclosure. Ingress protection is IP66 / IP68.

For power cables that include optical fibers, a fiber breakout facility is available.

All 400 series products are intended for use in 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 / marine classification
- Voltage up to 36 kV
- Current up to 365 A
- Lockable switch handle
- IP66 / IP68
- Temperature: -20 °C to +60 °C

Options

- Temperature sensor / Heater
- Handle position sensor
- Auxiliary contacts
- Optical fiber breakout
- Extended temperature range
- Current Transducers / PD detection

MEDIUM VOLTAGE SWITCH



MODEL 415/417

Specifications

Electrical	
Terminals	3
Voltage	24 kV – Model 415 36 kV – Model 417
BIL	95 kV – Model 415 145 kV – Model 417
Current	400 A
Fault current	20 kA - 1 sec.
Terminals	Typical configuration: 9 1/C cable entries, 9 terminals. 3C cables can be accommodated in a taller housing. M12 hardware, lugs and stress control sleeves supplied.
Grounding/bonding	Grounding balls on terminals Internal ground bar for stress control sleeves External ground connection
Interface	
Mounting	Three sets of M20 blind holes, 120° apart Custom bolt patterns available
Access	Domed cover, vertical lift 1450 lbs [570 kg]
Cable entry	Cable glands or transits
Certifications	
Marine ¹⁾	DNV GL, ABS, LRS or BV
Hazardous Area ¹⁾	Ex d IIB T5 Gb ATEX, IECEX, AEx, CSA, IEC
Environmental	
Temperature	-20 °C to +60 °C (operating) -20 °C to +85 °C (storage)
Ingress	IP66
Ship motion	1 g in any direction

1. Available on request.

Physical	
Height	53" [1350 mm]
Diameter	60" [1524 mm]
Weight	4060 lbs [1840 kg]
Dimensions shown are typical of 24 kV version	
Material	316 / 316L stainless steel
Drawing	415-7XXX-00 / 417-7XXX-00
Options	
Heater	Self-regulating heater 120 V or 220 V, 100 W Other wattages available
Temperature sensor	PT100 typical with transmitter for 4-20 mA output
Ingress protection	IP68
Remote control	Servo actuated, auxiliary contacts
Optical	Fiber breakouts and bushing brackets or splice trays are available for cables having optical fibers
Current Transducers	Current transducers can be supplied for remote monitoring of current
PD sensor	Partial discharge sensors can be supplied
Accessories	Supply of stress control sleeves, lugs, glands, reducers, plugs as required
Extended ratings	Voltages to 36 kV Current up to 1000 A -40 °C to +70 °C

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

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