Hubbell Power Systems | Utility Automation

Sub-Transmission Optical Sensor

Optical power quality monitoring & secure automated switching for 46-69kV systems

Reliable optical sensing, fault detection and power quality monitoring for 46-69kV systems

The Hubbell Power Systems® Sub-Transmission Optical Sensor is designed for 46kV to 69kV overhead sub-transmission system applications. The sensors and RTU equipment measure bi-directional power flow, power quality and report fault events. The state-of-the-art optical design provides unmatched safety and accuracy. The optical sensor can be used standalone for monitoring for faults and power quality or can be used in conjunction with Hubbell's FlexMO motor operator and switch assemblies to provide a complete SCADA automated sectionalizing solution.

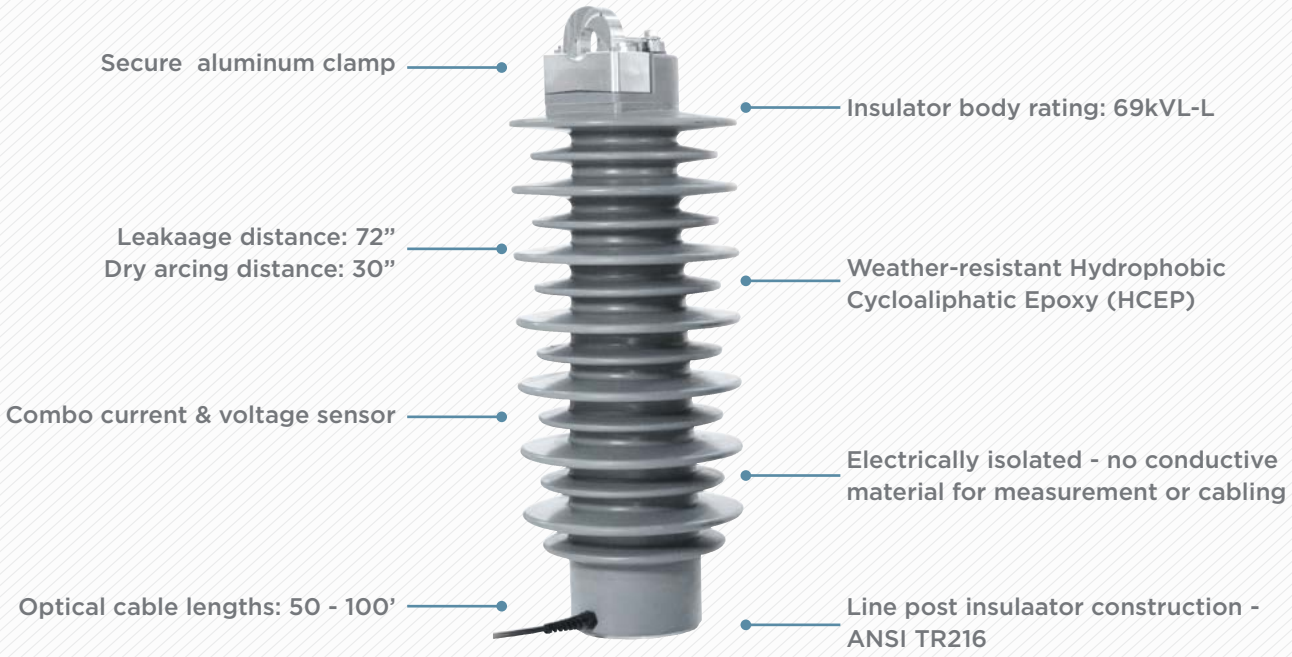
Features and Benefits

- Optical technology reduces hazards for work crews and fire ignition risks
- High accuracy, real-time monitoring of bi-directional 3-phase voltage and current data and fault events
- Designed & tested for reliability in demanding environmental conditions
- Hydrophobic Cycloaliphatic Epoxy (HCEP) – water shedding, minimizes flashover probability, reduced discharge activity, ozone and UV-resistive, superior insulation and reliability
- SCADA managed
- Auto-sectionalizing option available to further improve SAIDI

Applications

- 46kV - 69kV systems
- Sub-transmission smart switching
- Sub-transmission fault isolation and sectionalizing
- Sub-transmission SCADA automation
- Sub-transmission optical power quality monitoring and analysis
- Wildfire risk mitigation
- Renewable integration

Sub-Transmission Optical Sensor

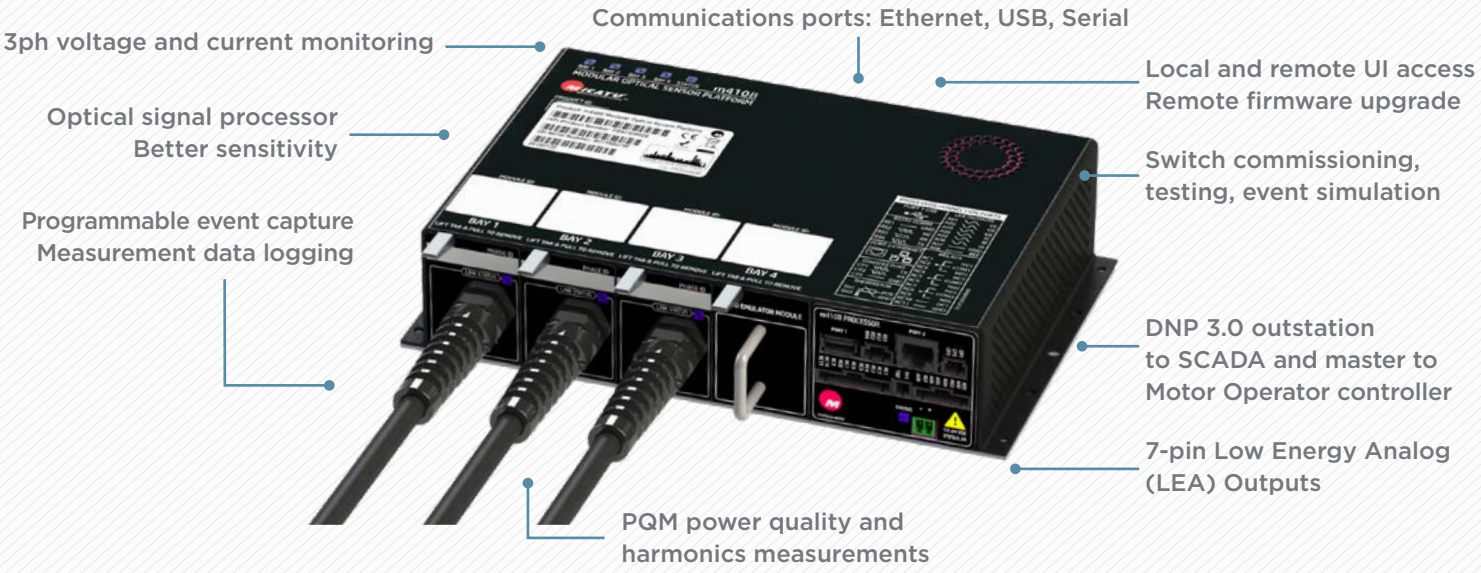


Ratings and Specifications

- Rated voltage: 72.5kV (L-L)
- Nominal (working) voltage: 69kV (L-L)
- Continuous current: 1200A
- Impulse rating: 350kV BIL (for both positive and negative impulses)
- Short-time withstand (3 sec): 38kA (symmetrical)
- Momentary peak withstand (10-cycles): 99kA
- Dry and wet (AC) withstand: 145 kV (@ 60Hz)
- Critical impulse flashover: 390 kV
- Leakage distance: 72”
- Dry arcing distance: 30”
- Partial discharge test voltages: 87kV (125% of nominal) & 91kV (125% of rated).
  PD @ 125% of nominal and rated voltage --> less than 10 pC
  PD @ operating voltage --> less than 3 pC
- Operating temperature range: -40 to +65 deg C
- Overall height: 30 in.
- Weight: 85 lbs
- Complies with industry standards:

Basic Impulse Level (BIL) Critical Impulse Flashover	MLD-2018.0001-B
Dry & Wet Withstand	MLD-2018.0001-B
Short-Time and Momentary Withstand	IEEE C37.30.1-2011
Partial Discharge and RIV	ANSI/NEMA C29.9:2017
Rain, Water Immersion	IEC 60060-1:2010, IEC 60099-4:2017
Voltage & Current Measurement Accuracy	MLD-2018.0001-B

M410 RTU Controller and Power Quality Monitor

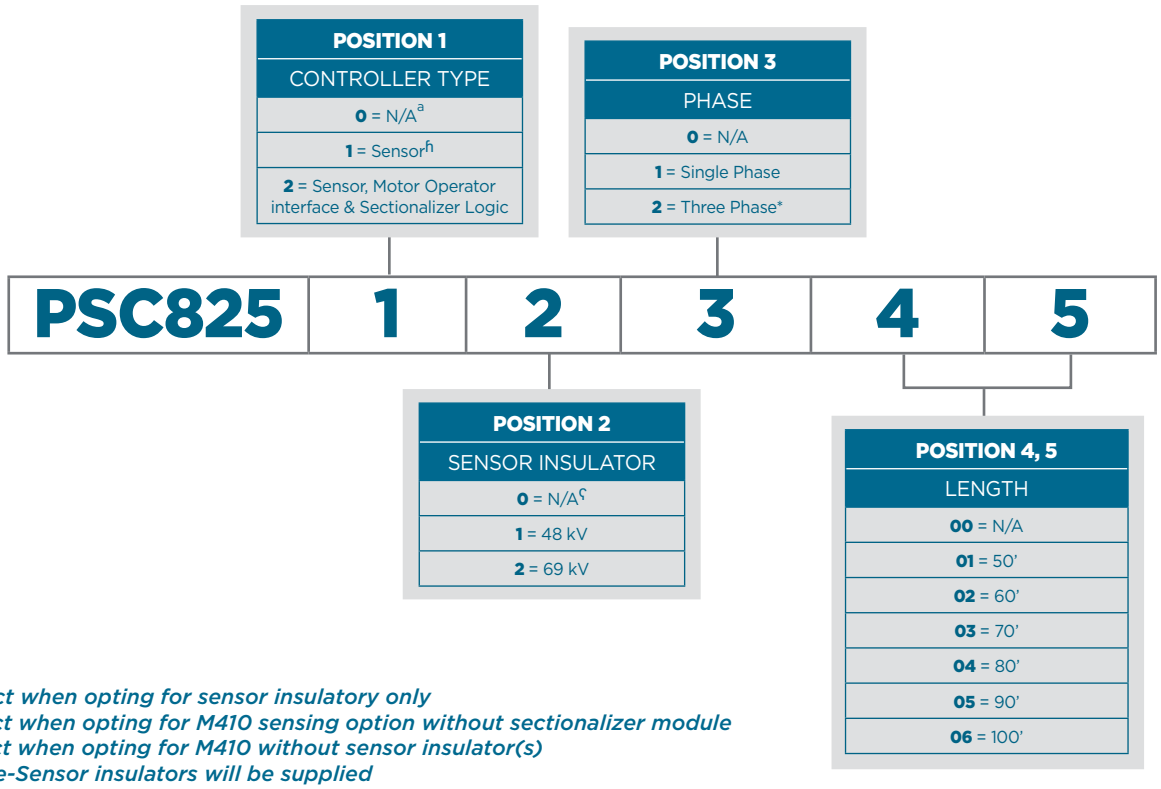


Ratings and Specifications

- Operating temperature range: -30 to +85 deg C
- Power: 12 to 24 VDC
- Communications ports: USB, Ethernet, Serial
- Communications protocol: DNP 3.0 master, slave
- Analog measurements: current, voltage (L-N and L-L), MW, MVAR, power factor, phase angle, VA angle, fault current, frequency, sensor temperature, switch peak current, switch cycle time
- Binary status and alarms: fault indication, switch position status, switch mode, switch health, loss of AC, tamper, sensor status
- Voltage and current measurement accuracy: +/- 1% or better for voltage & current (up to rated symmetrical fault currents)
- Sampling rate: 128 samples/cycle

Part/Catalog Numbering/Configurator

Position	1	2	3	4	5
PSC825	X	X	X	X	X



[a] *Select when opting for sensor insulatory only*
[h] *Select when opting for M410 sensing option without sectionalizer module*
[c] *Select when opting for M410 without sensor insulator(s)*
* *Three-Sensor insulators will be supplied*

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