

Reliability • Accuracy • Precision • Harmonics

ADVANCED OPTICAL SENSOR PRODUCT LINE

Medium Voltage and Current Sensors for Overhead, Underground & Substation Distribution delivering unrivaled reliability, accuracy, precision, and safety





MICATU Optical Sensors have revolutionized our grid monitoring, providing unmatched accuracy and real-time data. Their reliability benefits have minimized downtime and maximized system uptime, ensuring a consistently stable power supply for our customers.

— Electric Utility Manager, Cooperative Electric Utility



PROCESSOR

M410B

The Data Processor supports multiple digital, analog, relay, as well as communication port inputs and outputs. All sensor modules are hot-swappable with field upgradeable hardware and software. The M410B allows for “future proofing” via multiple communication protocols, wired or local data collection, external memory and daisy chaining of multiple M410B’s for high availability (HA) applications and multiple substation feeder monitoring.

SPECIFICATIONS

M410B PROCESSOR COMMUNICATION PORTS

- Universal Serial Bus Host (USB-A)
- RS232 Serial Port
- RJ45 Ethernet
- Console Port
- 2 Wire Thermistor Output
- 8 Pin Low Energy Analog Outputs

ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 5% to 95%

POWER REQUIREMENTS

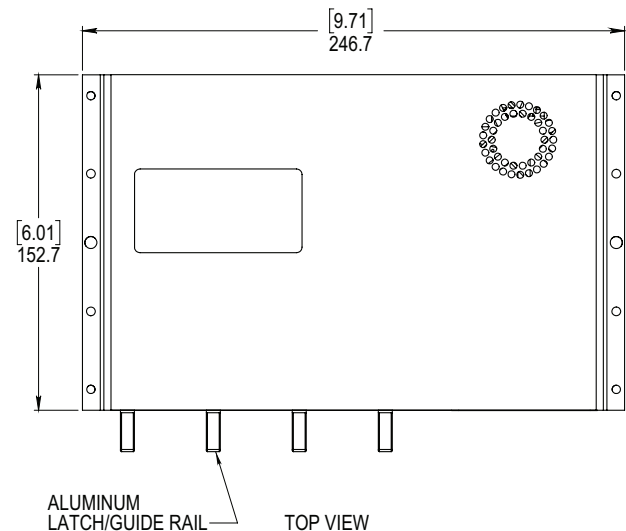
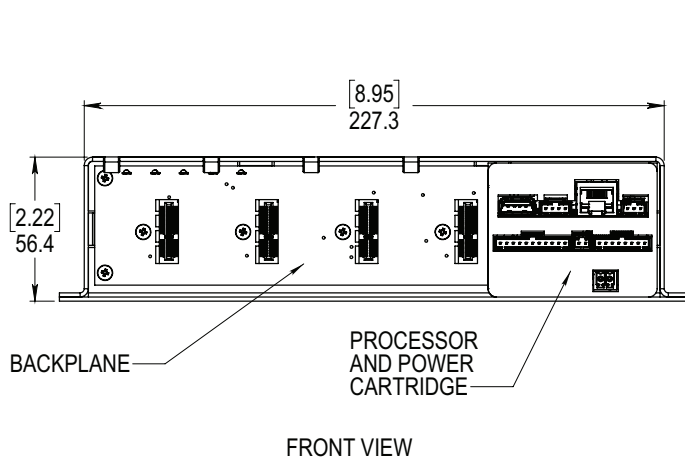
- 12 to 24 VDC (standard M410B Power Module)
- 48 VDC (Optional M410B Power Modules)
- 120 VAC (Optional M410B Power Modules)

SUPPORTED WIRELESS COMMUNICATION PROTOCOLS INCLUDES

- SCADA Communications (Over TCP/IP):
- IEC 60870-5-101, 60870-5-104
- DNP 3.0 (Standard & Configurable Points Lists)
- 0-10v RMS Low Energy Analog Outputs

ANALOG OUTPUT MODULES

M410, which can be remotely accessed for programming and monitoring.





OVERHEAD

OLH235

The MICATU OLH235 combination current and voltage sensor has been designed to install directly on conductor wire or round bus bar using two aluminum anti-rotation wire clamps. Installation time on a typical three-phase system, is less than three hours, resulting in significant deployment savings.

SPECIFICATIONS

OLH235 SENSOR

- Insulator Body rating 38kV
- Optical Cable Length – 55ft (17m)
- Accuracy Class: $\pm 0.5\%$ *
- Voltage: 4kV to 38kV
- Weight: 9.52 kg (21 lbs.)
- BIL: 200kV Full-Wave Lightning Impulse
- Transients: 10 dB (10x steady state condition) minimum
- Harmonics: Voltage to the 50th; Current to the 11th
- Wire clamp adjustable diameter 0.162" to 1.125"
- Nominal current measurement range: 10 - 3000A

- Current accuracy: $\pm 1A$ to 100A; $\pm 0.5\%$ 100 - 3000A
- Fault current measurement: Up to 8kA
- Fault current tolerance: 165kA peak

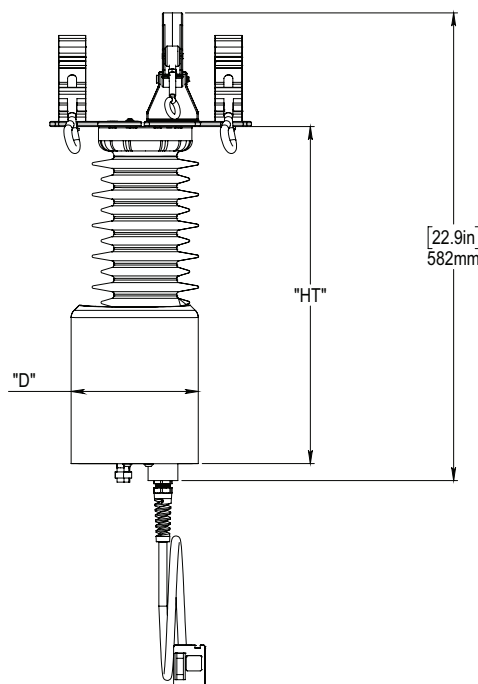
ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 5% to 95%

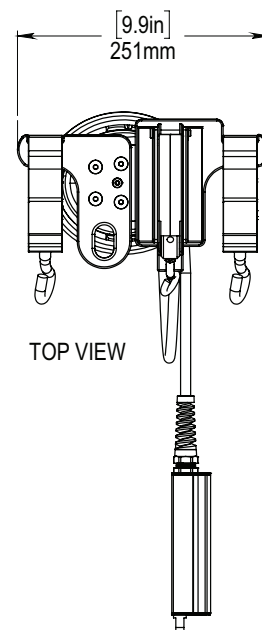
CERTIFICATIONS & TEST REPORTS

Available upon request.

* Accuracy under rated temperature range; transient deviations may occur during rapid temperature changes or extremes



FRONT VIEW



TOP VIEW



OVERHEAD

OLP225

The MICATU OLP225 combination current and voltage sensor is a linepost sensor insulator with a reversible mount system. Conductors from #4 AWG to 954 KCMIL can be accommodated.

SPECIFICATIONS

OLP225 SENSOR

- Insulator Body rating 27kV
- Optical Cable Length – 55ft (17m)
- Accuracy Class: $\pm 0.5\%$ *
- Voltage: 4kV to 27kV
- Weight: 16.8 kg (37 lbs.)
- BIL: 150kV Full-Wave Lightning Impulse
- Transients: 10 dB (10x steady state condition) minimum
- Harmonics: Voltage to the 50th; Current to the 11th
- Wire clamp adjustable diameter 0.162" to 1.125"
- Cantilever Rating 2800lbs
- Nominal current measurement range: 10 - 3000A

- Current accuracy: $\pm 1A$ to 100A; $\pm 0.5\%$ 100 - 3000A
- Fault current measurement: Up to 10kA
- Fault current tolerance: 165kA peak

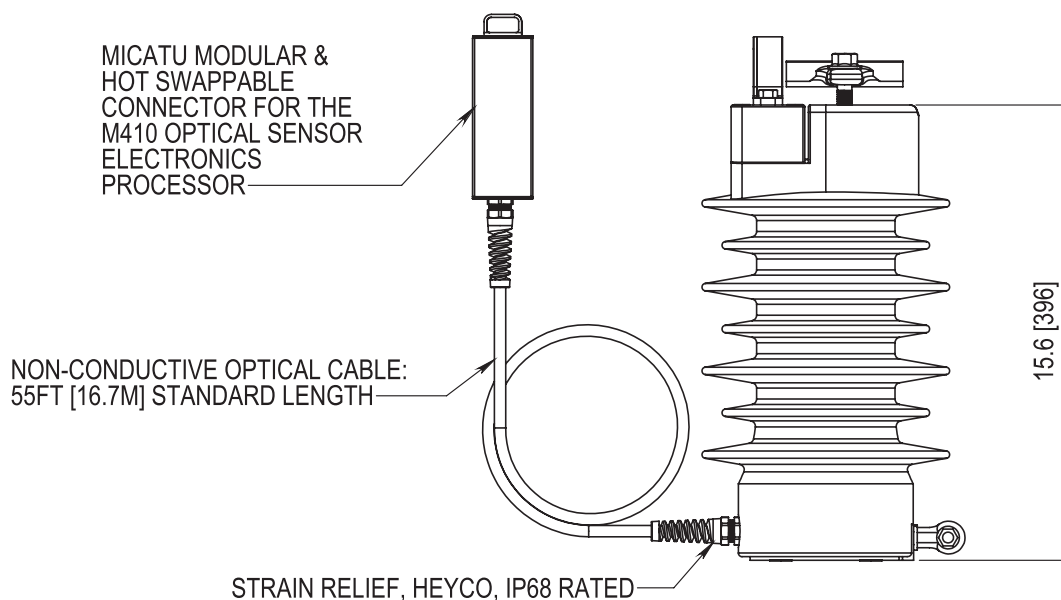
ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 5% to 95%

CERTIFICATIONS & TEST REPORTS

Available upon request.

* Accuracy under rated temperature range; transient deviations may occur during rapid temperature changes or extremes





OVERHEAD

OLP269

The MICATU OLP269 combination current and voltage sensor is a linepost sensor insulator with a reversible mount system. Sensors can be installed vertically, horizontally or mounted directly to arm. Conductors from #4 AWG to 954 KCMIL can be accommodated.

SPECIFICATIONS

OLP269 SENSOR

- Insulator Body rating 72kV
- Optical Cable Length – 55ft to 100ft
- Accuracy Class: $\pm 0.5\%$ *
- Voltage: 4kV to 72kV
- Weight: 38.5 kg (85 lbs.)
- BIL: 350kV Full-Wave Lightning Impulse
- Transients: 10 dB (10x steady state condition) minimum
- Harmonics: Voltage to the 50th; Current to the 11th
- Wire clamp adjustable diameter 0.19" to 1.18"
- Cantilever Rating 3000lbs
- Leakage Distance 83.4"

- Dry Arcing Distance 30"
- Nominal current measurement range: 10 - 3000A
- Current accuracy: $\pm 1A$ to 100A; $\pm 0.5\%$ 100 - 3000A
- Fault current measurement: Up to 10kA
- Fault current tolerance: 165kA peak

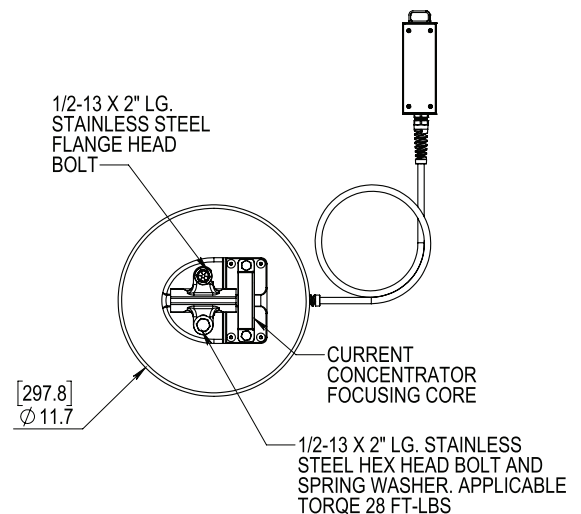
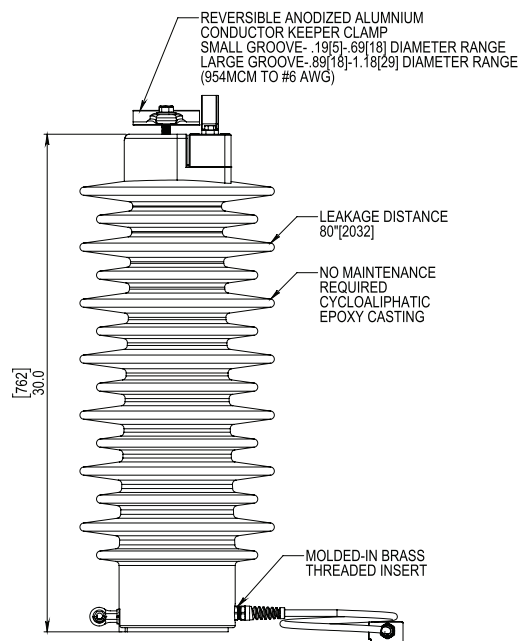
ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 5% to 95%

CERTIFICATIONS & TEST REPORTS

Available upon request.

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UNDERGROUND

OUG125

The MICATU OUG125 voltage sensor has been designed to install directly into any industry standard load-break elbow. Installation time on a typical three-phase system, is less than three hours, resulting in significant deployment savings. The OUG125 sensors can be used to monitor the primary side of network transformers or in pad-mounted switchgear.

SPECIFICATIONS

OUG125 SENSOR

- Insulator Body rating 27kV
- BIL: 95kV
- Optical Cable Length 20ft / 6m
- Accuracy Class: $\pm 0.5\%$ *
- Load-break Elbow:
 - 15kV & 25kV Rated Dead Break Elbows
 - Compatibility: Elastimold, Richards, Eaton, Euromold
- Weight: 4.3 kg (10 lbs.)
- Voltage: 4kV to 27kV
- Transients: 10 dB (10x steady state condition) minimum
- Harmonics: Voltage to the 50th

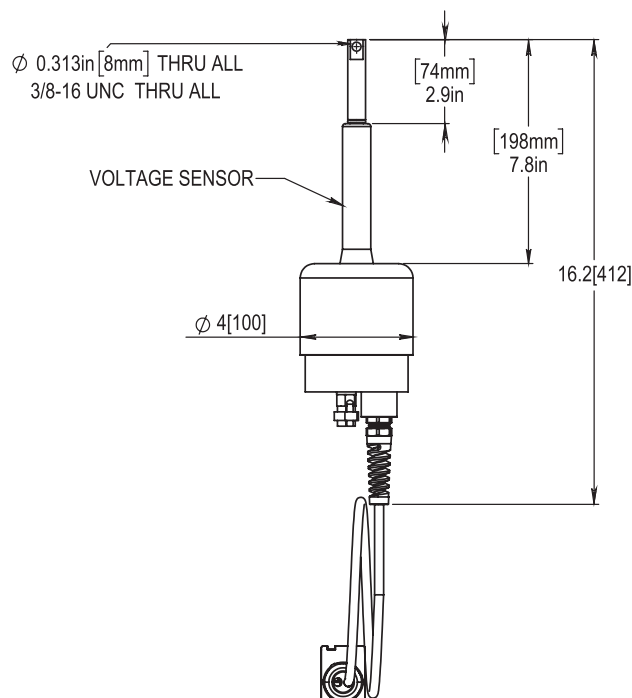
* Accuracy under rated temperature range; transient deviations may occur during rapid temperature changes or extremes

ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 0% to 100%

CERTIFICATIONS & TEST REPORTS

Available upon request.





UNDERGROUND

OUG225

The MICATU OUG225 combination current and voltage sensor has been designed to install directly into any industry standard load-break elbow. Current ring can be installed on conductor or bus. Installation time on a typical three-phase system, is less than three hours, resulting in significant deployment savings.

SPECIFICATIONS

OUG225 SENSOR

- Insulator Body rating 27kV
- Optical Cable Length
 - Cartridge to Voltage Insulator 20ft (+2/-4) / 6m
 - Cartridge to Current Ring 20ft (+2/-4) / 6m
- Accuracy Class: $\pm 0.5\%^*$
- Load-break Elbow
 - 15kV & 25kV Rated Load Break Elbows
 - Compatibility: Elastimold, Richards, Eaton, Euromold
- Voltage: 4kV to 27kV
- Weight: 5.4 kg (12 lbs.)
- Transients: 10 dB (10x steady state condition) minimum

- Harmonics: Voltage to the 50th; Current to the 11th
- Nominal current measurement range: 10 - 1500A
- Current accuracy: $\pm 1A$ to 100A; $\pm 0.5\%$ 100 - 1500A
- Fault current measurement: Up to 5kA
- Fault current tolerance: 80kA peak

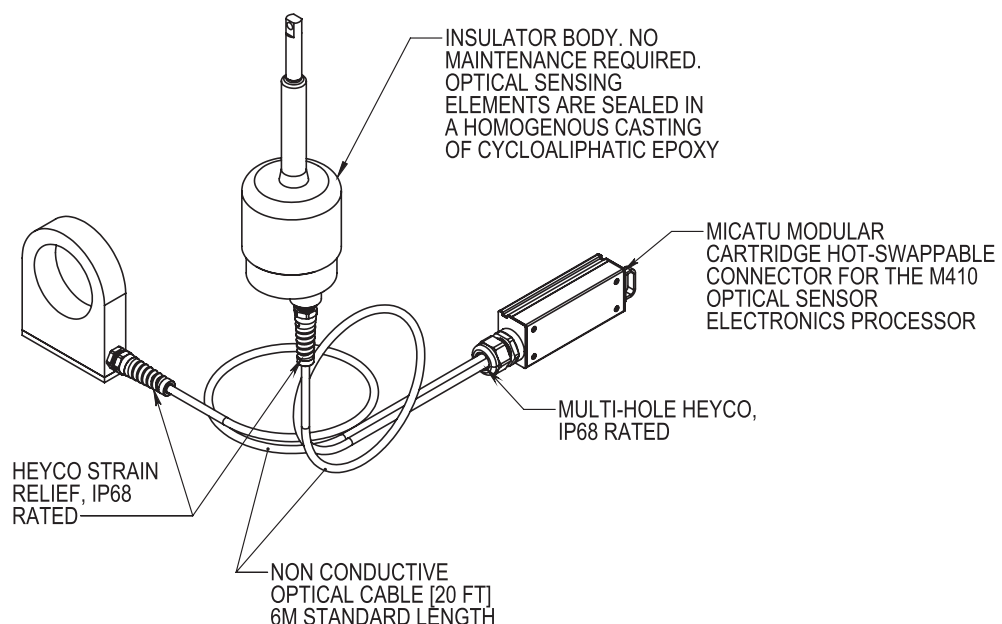
ENVIRONMENTAL

- Operational: -22°F to 158°F (-30°C to 70°C)
- Relative Humidity: 0% to 100%

CERTIFICATIONS & TEST REPORTS

Available upon request.

* Accuracy under rated temperature range; transient deviations may occur during rapid temperature changes or extremes





ENCLOSURE

WPE401

Made from high impact polycarbonate, MICATU's hinged NEMA Type 4X IP66 rated electrical enclosures are constructed for either indoor or outdoor use with a dust-tight, water-tight seal to protect against the elements. Each enclosure features a stainless-steel locking latch and mounting feet, an adjustable depth "T-Rail" back panel mounting system providing maximum flexibility and easy installation of devices and DIN rails.

SPECIFICATIONS

WPE401 ENCLOSURE

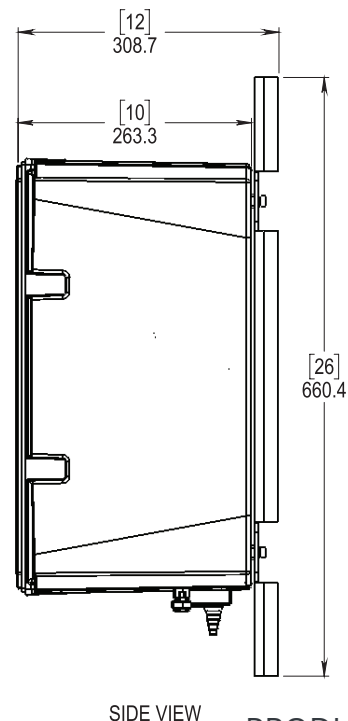
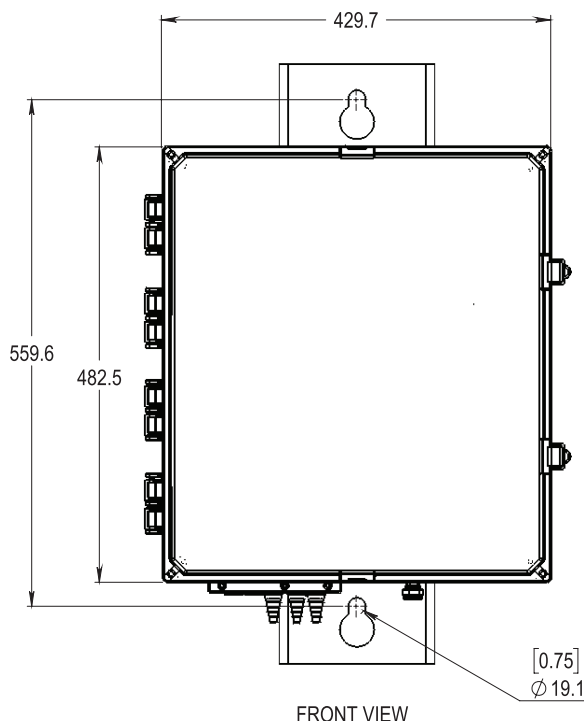
- High Durability
- NEMA 4X Rated IP66 Waterproof
- UV Resistant
- Chemical Resistant
- Polycarbonate
- 900 lb/in Impact Resistance
- Wide Operating Temperature Range
- EZ Hinge
- Multi-cable ingress system IP66 rated
- Unique T-Rail Panel Suspension System
- Molded in Mounting Bosses
- Latch Securely Attached
- Contact MICATU for further customization

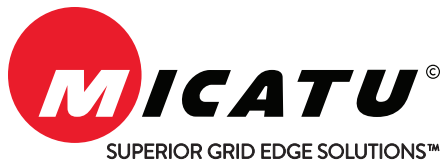
ENVIRONMENTAL

- Instrumented Dart Impact @ 73°F, 565 in-lb.
- Falling Ball Impact @ 73° 900 in/lb. Test Spec. UL-746
- Deflection Temperature @264 psi, 270 Deg. F, Test Spec. ASTM D648
- Modulus of Elasticity 340 ksi, Test Spec. ASTM D790
- Temperature Range, -40 to 265 Deg. F

CERTIFICATIONS

- Flame Rating D UL, 5VA. Test Spec. UL-94
- Outdoor UV Exposure, F1. Test Spec UL
- UL-50/c-UL Listed (files#E229365, #E207562)





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MICATU is a developer of advanced optical sensing solutions that provide superior accuracy when measuring voltage, current, and temperature. Our proprietary optical sensors offer the highest level of reliability, accuracy, precision, and harmonic measurement available, providing our valued customers with advanced data awareness to significantly improve power quality, management, safety, and grid resiliency, while helping to eliminate millions of metric tons of CO2 emissions annually.

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