**GridAdvisor Insight RP series optical line post medium-voltage and current sensor system**

Eaton's GridAdvisor Insight optical medium-voltage and current sensor system utilizes a 100% “all optical” measurement platform for unparalleled accuracy and precision of both voltage and current across multiple voltage classes. Installation time for a typical three-phase system is less than 3 hours, resulting in significant deployment savings. All signals from the sensor are connected via optical fiber connections to a “plug & play” m410 modular optical sensor platform that is fully ruggedized and scalable.

### Product overview
- 4 kV to 35 kV outdoor rated, 200 kV BIL, 60 Hz
- Includes both current and voltage sensing
- Sensing voltage: 4 kV to 35 kV
- Sensing amperes: 5 A to 30 kA
- Transients: 10 dB (10x steady-state condition)
- Harmonics: measurements to 50th voltage harmonic
- Approximate weight: 37 lb (5.4 kg)

### Features and benefits
**The GridAdvisor Insight optical medium-voltage and current sensor is a direct replacement for standard power transformers and current transformers.**

Because of the “all optical” sensor design, there are no conductive materials used for the measurement of both voltage and current. The insulator body is casted in hydrophobic cycloaliphatic epoxy (HCEP) using a state-of-the-art injection molding process. HCEP construction provides superior arc track, ozone and ultraviolet-resistant properties while maintaining physical strength. The hydrophobic surface properties of HCEP ensure highly reliable performance in wet or humid conditions. All calibration and performance settings are stored in the ruggedized modular electronics enclosure at the base of the optical cable. The m410 modular optical sensor processor provides a “highly accurate” and “low cost” precision solution for distribution grid monitoring and control.

### GridAdvisor optical features
All-optical solution for voltage and current measurements:
- Two SKUs for 15/25 kV or 35 kV voltage classes
- Modular, hot-swappable and plug & play
- Calibration and offsets are contained within the RP225 sensor
- Non-conductive fiber optic cable connection to sensor and sensor processor

### HCEP benefits
- Enhanced water shedding properties
- Reduced contamination-related leakage
- Improved product quality and reliability
- Improved UV protection
- Results in a more consistent and reliable product

### Installation
The RP225 is a post line mount insulator with a reversible mechanical conductor swing link clamp mounting system. The small groove has a conductor range of 0.19 inches through 0.69 inches and the large groove 0.69 inches through 1.16 inches. Overall, conductors from #6 AWG to 954 kcmil can be accommodated. Recommended primary bolt torque equals 28 ft-lb. A single 3/4-inch–10 bolt-hole in the base of the optical cable is provided for mounting and grounding.
Performance
The GridAdvisor Insight optical medium-voltage and current sensor provides both high accuracy and precision that remains constant regardless of applied voltage or current. Average accuracy and precision is ±0.5% within a temperature range of –30 °C (–22 °F) to +85 °C (+185 °F).

Specifications
Sensor
- Insulator body rating: 15/25 kV or 35 kV, 55 ft (17 m) cable length
- Wire clamp adjustable diameter 0.162 to 1.125 inches
- Transients: 10 dB (10x steady-state condition) minimum
- Harmonics: measurements to 50th harmonic
- Accuracy: ±0.5% voltage and ±0.5% current over entire operation
- Long-term stability: ±0.25%
- Cantilever rating: 3000 lb

Environmental
- Operational: –22 ºF to +185 ºF (–30 ºC to +85 ºC)
- Relative humidity: 5% to 95%

Typical included components
- Three GridAdvisor RP225 sensors
- Suggested insulation guide

Test reports
Test reports are stored electronically and can be emailed in various formats at the time of shipment.

Certifications
- BIL: 200 kV full-wave lightning impulse
- Partial discharge per IEEE® Std. 4

GridAdvisor optical voltage and current configurator

Sensor configuration
- RG = GridAdvisor overhead hanging sensor
- RI = GridAdvisor standoff insulator sensor
- RIC = GridAdvisor standoff insulator with current ring
- RE = GridAdvisor elbow sensor
- REC = GridAdvisor elbow sensor with current ring
- RP = GridAdvisor line post sensor

Sensor type configuration
- 1 = Voltage only sensor
- 2 = Combination sensor (voltage and current)
- 3 = Current only sensor

Sensor insulating rating
- 25 = 25 kV insulator rating (RI and RP only)
- 35 = 35 kV insulator rating (RI, RP and RG only)
- 20 = Standard 200 A elbow (RE only)

Additional styles available. Contact your Eaton sales representative.