



# LineWatch M

## Distribution Grid Sensing and Monitoring for Medium Voltage Applications

**Power performance monitoring of the medium voltage distribution grid without a neutral connection**

LineWatch M delivers near revenue grade (0.5%) current and voltage accuracy to address a variety of utility applications. The “bird-on-wire” design supports fast and safe hot stick installation greatly reducing deployment expense and total cost of ownership. LineWatch incorporates a flexible design that supports any utility communications platform.

### Market applications:

#### Grid Automation

Enable remote monitoring and operation of grid infrastructure for more efficient and lower operational cost management.

#### Volt/VAR Optimization

Sensors can be used as part of a centralized VVO system or locally—an easily installable alternative to instrumentation transformers or line post sensors.

#### Substation Monitoring

Enables remote monitoring and supervision of critical assets located at substations without need for costly renovations or service interruptions.

#### Fault Detection and Outage Management

Easily identify the location of a fault to quicker power restoration.

#### Asset Management

Asset monitoring for improved management and allocation of capital.

#### Theft Detection/Anomalous Usage

Identify, reduce and eliminate power theft by deploying sensor technology as an energy balancing tool identifying losses, interruptions and anomalous usage.

#### Voltage , Current and Power Measurement

Improve the efficiency of the distribution grid by monitoring voltage, real and reactive power

#### Green Energy/Renewables Integration

Distributed generation interconnection permitting and ongoing monitoring.

### FEATURES/BENEFITS

- Delivers near revenue-grade
- (0.5%) current and voltage accuracies
- User configurable alarms/events
- Remote monitoring of grid infrastructure
- Integrated reporting tools
- Data storage up to 30 days
- Browser based user interface
- Grid intelligence for reducing operating and maintenance costs and improving grid stability
- Simple installation; clamp fits a wide variety of conductors and bus bars
- Integrated voltage and current sensors

## Technical Specifications

### Sensing System Capabilities

Available Configuration	Up to 6 Sensors per Data Collector	Reporting Interval	60 seconds
Electrical Frequency	50 and 60 Hz	Rated Current	400 Arms
Rated Voltage	2.4 to 19.9 kVRMS $\phi$ to Neutral	Maximum Current	600 Arms
Voltage Accuracy	$\pm 0.5\%$	Current Accuracy	$\pm 0.5\%$
Power & Energy Accuracy	$\pm 1\%$	Power Quality	Computes amplitude of voltage/current up to the 13th harmonic; total harmonic distortion
Power Factor Accuracy	$\pm 24$ arc minutes	Data Storage	30 days of data; downloadable CSV or .XLSX file
Fault Detection	Waveform capture of fault current as per IEEE 495 (10 kA and 25 kA scales, 4 cycles before fault, 8 after event starts)		

### LineWatch M tested to ANSI C12.20 Standard

#### Physical and Environmental

Weight	Sensor – 4.4 lbs. Data Collector – 3.45 lbs.	Dimensions	Sensor – 9.1"W x 5.1"H x 10.2"D Data Collector – 10.5"W x 18.1"H x 5.9"D
Operating Temperature	-40°C to 50°C	Storage Temperature	-40°C to 85°C
Humidity	0 – 95% RH	NEMA Rating	Sensor – IP65 Data Collector – NEMA 4X (6 available)
Environmental Condition	Patent-pending weather resistant sensing method, impervious to rain/snow/etc.	Conductor Size	Maximum conductor size: 447 kcmil Minimum conductor size: #2 AWG

#### Communications and Security

Communication Option	Wired Ethernet Port	System Logs	30 days of storage of 1 minute intervals of measurement, system and status data
	WiFi 802.11 b/g/n	DNP3 Communication	DNP3 Level 4+ Subset Definitions
	Cellular Modem Communications Supports 4G LTE Networks and CDMA/GSM		
	WiMAX	Communications Protocols	On demand reporting to a central monitoring or SCADA system compatible via DNP3
	Serial Port for NIC integration		
			Support also includes TCP / IPv4, TCP / IPv6, UDP / IPv4, UDP / IPv6



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