



# LineWatch L



## Distribution Grid Sensing and Monitoring for Low Voltage Applications

### Power performance monitoring for overhead and underground low voltage applications

LineWatch L is a near revenue-grade electric power distribution grid sensing and monitoring system for low voltage applications. The robust and versatile design allows for installation in both overhead and underground locations and can support any communications network.

#### Market applications:

##### Grid Automation

Enable remote monitoring and operation of grid infrastructure for more efficient and automated management of the grid avoiding operational costs.

##### Voltage and Power Measurements

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

##### Fault Detection and Outage Management

Voltage based solution for high precision fault detection and location.

##### 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.

##### 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

<b>Available Configurations</b>	Single Phase 3 Wire or Three Phase 4 Wire	<b>Reporting Interval</b>	60 seconds
<b>Electrical Frequency</b>	50 and 60 Hz	<b>Rated Current</b>	1200 Arms
<b>Rated Voltage</b>	120V (line-to-neutral) / 208V (line-to-line) to 347V (line-to-neutral) / 600V (line-to-line)	<b>Maximum Current</b>	1400 Arms
<b>Voltage Accuracy</b>	± 0.5%	<b>Current Accuracy</b>	± 0.5%
<b>Power &amp; Energy Accuracy</b>	± 1%	<b>Power Quality</b>	Computes amplitude of voltage/current up to the 13th harmonic; total harmonic distortion
<b>Power Factor Accuracy</b>	± 24 arc minutes	<b>Data Storage</b>	30 days of data; downloadable CSV or .XLSX file
<b>Fault Detection</b>	Waveform capture of faulted voltage, 4 cycles before fault, 28 after event starts		

## LineWatch L tested to ANSI C12.20 Standard

### Physical and Environmental

<b>Weight</b>	11.5 lbs.	<b>Enclosure Dimensions</b>	10"W x 14"H x 5"D
<b>Operating Temperature</b>	-40°C to 50°C	<b>Storage Temperature</b>	-40°C to 85°C
<b>Humidity</b>	0 - 95% RH	<b>NEMA Rating</b>	4X; 6 available upon request
<b>Pad Mounted Transformer Bus Bar Dimensions</b>	Thickness: Minimum of 0.25" / Maximum of 0.75" Width At Neck: Maximum of 2" Bushing Diameter: Maximum of 2.75"	<b>Conductor Dimensions</b>	Maximum conductor diameter of 1.625 inches Minimum conductor diameter of 0.375 inches

### Communications and Security

<b>Communication Options</b>	Wired Ethernet Port	<b>System Logs</b>	30 days of storage of 1 minute intervals of measurement, system and status data
	WiFi 802.11 b/g/n	<b>DNP3 Communications</b>	DNP3 Level 4+ Subset Definitions
	Cellular Modem Communications Supports 4G LTE Networks and CDMA/GSM		<b>Communications Protocols</b>
	WiMAX	Support also includes TCP / IPv4, TCP / IPv6, UDP / IPv4, UDP / IPv6	
	Serial Port for NIC integration		
	Cisco "Connected Grid" IEEE 802.15.4g Mesh Network with IPv6	<b>LED Indicators</b>	External visual indication of system health and phase outages



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