

# LineWatch<sup>®</sup> M

For Medium Voltage Applications

LineWatch M delivers near revenue grade (0.5%) current and voltage accuracy to address a variety of utility applications. The “Bird-on-Wire” design provides fast and safe hot stick installation greatly reducing deployment expense and total cost of ownership.

## Market applications include:

**Legacy Substation Monitoring:** Remote monitoring and supervision of critical assets located at substations reduces costly renovations/service interruptions

**Grid Automation:** Remote monitoring and operation of grid infrastructure for more efficient grid management

**Volt/VAR Optimization:** Sensors can be used as part of a centralized VVO system or locally as an easily installable alternative to instrumentation transformers or line post sensors

**Fault Detection and Outage Management:** Easily identifies the location of a fault for quicker power restoration

**Asset Management:** Asset monitoring for improved management and allocation of capital

**Voltage, Current and Power Measurements:** Monitors voltage, current, real and reactive power to improve grid efficiency

## Key Features and Benefits

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Delivers near revenue-grade (0.5%) current and voltage accuracy

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No neutral connection

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Safe and easy installation with a hot stick

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Supports any utility communications platform

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Power quality measurements for voltage and current up to the 13th harmonic

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Records up to 40 fault current waveforms

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Continuous monitoring

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User configurable alarms/events

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Flexible reporting tools

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Improves grid efficiency by:

- Reducing service interruptions
  - Reducing deployment costs
  - Identifying faults for quicker power restoration
  - Reducing power theft
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### Sensing System Capabilities

Available Configurations	Up to 6 Sensors per Data Collector
Electrical Frequency	50 and 60 Hz
Rated Voltage	4 to 36 kV <sub>RMS</sub> $\phi$ to $\phi$
Voltage Accuracy	± 0.5%
Power & Energy Accuracy	± 1%
Power Factor Accuracy	± 24 arc minutes
Fault Detection	Waveform capture of fault current as per IEEE 495 (10 kA and 25 kA scales, 4 cycles pre-fault, 8 cycles post-event start)
Reporting Interval	60 seconds
Rated Current	400 Arms
Maximum Current	600 Arms
Current Accuracy	± 0.5%
Power Quality	Computes amplitude of voltage/current up to the 13th harmonic; total harmonic distortion
Sampling Rate	2 kHz
Data Storage	30 days of data; downloadable CSV or .XLSX file

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

### Physical and Environmental

Weight	Sensor – 4.4 lbs. Data Collector – 3.45 lbs.
Operating Temperature	-40°C to 50°C
Humidity	0 - 100% RH
Environmental Condition	Patented weather resistant sensing method, impervious to rain/snow/etc.
Dimensions	Sensor—9.1" x 5.1" x 10.2" (W x H x D) Data Collector—10.5" x 18.1" x 5.9" (W x H x D)
Storage Temperature	-40°C to 85°C
NEMA Rating	Sensor—IP65 Data Collector—NEMA 4X
Conductor Dimension	Maximum conductor size: 795 kcmil Minimum conductor size: #2 AWG

### Communications and Security

Communication Options	Wired Ethernet Port WiFi 802.11 b/g/n Cellular Modem Communications Supports 4G LTE Networks and CDMA/GSM WiMAX via Ethernet/Serial Ports Serial Port for NIC integration
System Logs	30 days of storage of 1 minute intervals of measurement, system and status data
DNP3 Communications	DNP3 Level 4+ Subset Definitions
Communications Protocols	On demand reporting to a central monitoring or SCADA system compatible via DNP3 Support also includes TCP/IPv4/v6, UART, HTTP GET



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At QinetiQ we bring organizations and people together to provide innovative solutions to real world problems, creating customer advantage. Working with our partners and customers, we collaborate widely, working in partnership, listening hard and thinking through what customers need. Building trusted partnerships, we are helping customers anticipate and shape future requirements, adding value and future advantage.

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