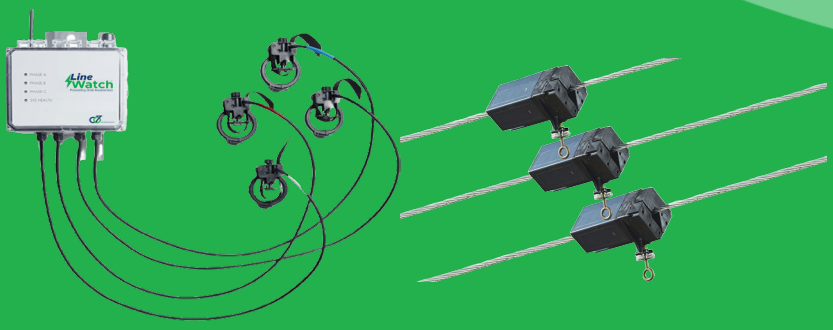
Line Watch™
Powering Grid Awareness



LineWatch

Medium and Low Voltage Distribution Monitoring System

LineWatch M and L are advanced monitoring solutions designed for medium and low voltage distribution networks, respectively. Both systems integrate high-precision energy management, power quality analysis, real-time fault detection, and comprehensive transformer monitoring. These products are essential for utilities aiming to enhance grid stability, operational efficiency, and service continuity through improved SAIDI and SAIFI metrics.

Key Features and Benefits:

Advanced Fault Detection and Waveform Analysis:
Detect various fault types with high accuracy, including overcurrent, undercurrent, voltage sags, surges, harmonic distortions, and transient faults. Fault recordings are stored in COMTRADE format.

Enhanced Transformer Monitoring:
Provide essential transformer monitoring capabilities, including efficiency, and voltage regulation. By utilizing both MV and LV sensors with advanced harmonic analysis, they can offer valuable insights and early detection of potential transformer issues, such as core saturation, winding deformation, insulation degradation, inter-turn short circuits, impedance changes, and harmonic resonance.

Power and Energy Management:
Both systems provide high accuracy, with ±0.5% for voltage and current measurements, and ±1% for power and energy.

Power Quality Monitoring:
Power Factor Accuracy: ±24 arc minutes
Compute voltage/current up to the 13th harmonic,

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 interconnectionpermitting and ongoing monitoring.

Inductive Powering & Maintenance-Free Operation:
LineWatch M is inductively powered and does not require battery replacements, offering a maintenance-free solution that enhances reliability and reduces operational costs.

Comprehensive Communication Protocols:
LineWatch sensors support a wide range of communication protocols, including DNP3, IEC 60870-5-104, TCP/IPv4, TCP/IPv6, and 4G LTE, ensuring seamless integration with various grid management systems.

C7 TECHNOLOGIES

Feature/Specification	LineWatch M	LineWatch L
Operating Voltage	4kV - 34.5kV (L-L)	120-347 V (L-N) / 208-600 V (L-L)
Rated Current	400 Arms	1200 Arms
Maximum Current	600 Arms	1400 Arms
Voltage Accuracy	±0.5%	±0.5%
Current Accuracy	±0.5%	±0.5%
Power & Energy Accuracy	±1%	±1%
Power Factor Accuracy	±24 arc minutes	±24 arc minutes
Waveform Capture	4 cycles pre-fault, 8 cycles post-fault	4 cycles pre-fault, 28 cycles post-fault
COMTRADE Format Support	Yes	Yes
NEMA Rating	Sensor–IP65, Data Collector–NEMA 4X (6 available)	NEMA 4X; 6 available upon request
Configuration Options	Up to 6 sensors per data collector	Single-phase 3-wire or three-phase 4-wire
Operating Temperature	-40°C to 60°C	-40°C to 50°C
Storage Temperature	-40°C to 85°C	-40°C to 85°C
Self-Energizing	Yes – Inductive powering	Yes
Sensor Weight	4.4 lbs	N/A

Seamless Integration with SCADA, DMS, and EMS:

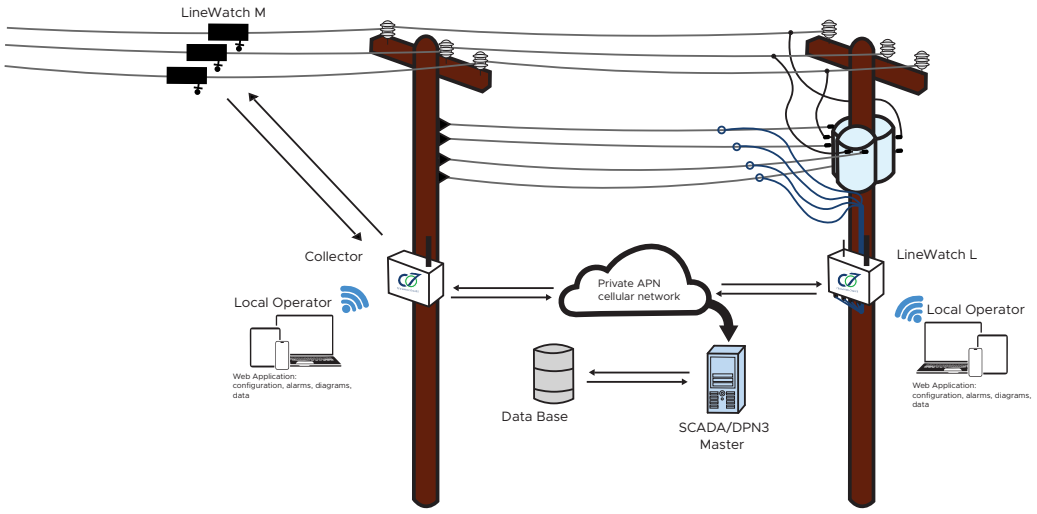
Integrate smoothly with SCADA, DMS, and EMS systems, providing reliable real-time data for improved grid management and operational efficiency.

Auto-Phase Identification & WPC Monitoring:

Automatically detect and log circuit phases, improving data accuracy and operational efficiency.
Continuous monitoring of worst-performing circuits (WPC) provides actionable insights for enhancing grid reliability.

Data Storage and Logging:

Store data for 30 days with 1-minute intervals
Downloadable in CSV or XLSX formats, facilitating historical analysis and compliance with grid management standards.



Aplications

Substation and Distribution Network Operations:

Provides real-time monitoring and control of medium and low-voltage distribution networks, enhancing operational efficiency and reliability.

Energy and Load Management:

Supports effective load management strategies, reducing peak demand impacts and improving grid performance through demand-side management.

Power Quality and Reliability Assurance:

Supports effective load management strategies, reducing peak demand impacts and improving grid performance through demand-side management.

Transformer Protection and Fault Detection:

Provides advanced monitoring of key transformer parameters, detecting potential issues earlier such as core saturation and winding deformation. Also includes fault detection for various network faults, ensuring proactive protection and network stability.

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