SENSE IT
TECHNOLOGIES
MONITORING AND CONTROL SOLUTIONS



LoRaWAN Digital Energy Meter - 3-Phase - CT Version

SKU: SI-LRW-ENMT-001

Monitor three-phase electrical systems with a wireless LoRaWAN® energy meter designed for commercial and industrial applications. Using external current transformers (CTs), it accurately measures energy consumption, voltage, current, power, power factor and frequency, while providing long-range wireless communication to the Sense It cloud platform.

OVERVIEW

This industrial three-phase LoRaWAN® energy meter provides comprehensive monitoring of electrical systems by measuring energy consumption and key power quality parameters. Designed for DIN rail installation, it uses external 1 A or 5 A current transformers (CTs), allowing the meter to monitor a wide range of electrical loads without interrupting the main power circuit.

The meter continuously measures voltage, current, active power, reactive power, apparent power, power factor, frequency, demand and imported or exported energy. This makes it suitable for monitoring factories, commercial buildings, solar installations, utilities, manufacturing facilities and large electrical distribution boards.

Built-in LoRaWAN® connectivity enables long-range wireless communication with a compatible gateway, eliminating the need for RS485 cabling over long distances. Automatic data uploads provide near real-time visibility of electrical consumption, while configurable reporting intervals optimise battery-free operation and network usage. Two pulse outputs are also available for integration with external systems where required.

Integrated with the Sense It monitoring platform, the meter provides live dashboards, historical energy analysis, demand profiling, automated reports and configurable alerts. It is ideal for energy management, cost allocation, preventive maintenance and identifying opportunities to improve energy efficiency across one or multiple facilities.

KEY FEATURES

- Three-phase multifunction energy meter
- Built-in LoRaWAN® connectivity
- CT-operated design for flexible installation
- Measures active and reactive energy
- Measures voltage, current, power and frequency
- Measures power factor and demand
- Suitable for import and export energy measurement
- Supports multiple three-phase wiring configurations
- DIN rail mounting
- Password-protected configuration
- Two pulse outputs
- High measurement accuracy
- Suitable for commercial and industrial energy monitoring

TECHNICAL SPECIFICATIONS

General

- Measurement type: Three-phase multifunction energy meter
- Wireless technology: LoRaWAN®
- DIN rail mounting
- CT-operated energy meter
- Supports 1P2W, 1P3W, 3P3W and 3P4W electrical systems
- Password-protected configuration

Measurements

- Voltage
- Current
- Frequency
- Active power (kW)
- Reactive power (kVAr)
- Apparent power (kVA)
- Power factor
- Demand
- Active energy (kWh)
- Reactive energy (kVArh)
- Import and export energy

Accuracy

- Voltage accuracy: ±0.5%
- Current accuracy: ±0.5%
- Frequency accuracy: ±0.2%
- Power factor accuracy: ±1%
- Active power accuracy: ±1%
- Reactive power accuracy: ±1%
- Apparent power accuracy: ±1%
- Active energy: IEC Class 1 / Class 0.5S
- Reactive energy: IEC Class 2

Electrical

- Rated voltage: 3 × 230/400 VAC
- Voltage range: 100–277 VAC (L-N)
- Voltage range: 173–480 VAC (L-L)
- CT secondary input: 1 A / 5 A
- CT primary range: 1–9999 A
- Minimum current: 0.05 A
- Starting current: 5 mA

LoRaWAN

- Frequency bands: EU868, AS923, AU915, US915, CN470 and regional variants
- Automatic data upload
- Configurable reporting interval
- Offline detection
- Automatic communication recovery

Outputs

- 2 pulse outputs

Environmental

- Operating temperature: -25°C to 55°C
- Storage temperature: -40°C to 70°C
- Operating humidity: Up to 95% RH (non-condensing)

Installation

- 35 mm DIN rail mounting
- Requires external current transformers (CTs)
- Suitable for distribution boards and switchboards

Applications

- Industrial facilities
- Commercial buildings
- Factories
- Energy management
- Solar energy monitoring
- Utilities
- Building management systems
- Electrical distribution monitoring

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