

E120Lt-10NV Integrated Meter

The E120Lt-10NV integrated, current transformer-connected meter with active and reactive electricity metering is a part of Enermet's AIM system. The system has been designed for energy utilities and property maintenance companies to make management of energy consumption and metering information easier and more efficient. Designed for the AIM system, E120Lt-10NV is versatile, reliable and easily installed and configured.

The E120Lt-10NV is an electronic class 1 (active) / class 2 (reactive) electricity meter. The integrated communication part uses power line communication. Multiple input/output options and open communication make the E120Lt-10NV a flexible and versatile metering tool both now and in the future. E120Lt-10NV is an excellent choice when user-friendly, maintenance free and future approved meter is needed.

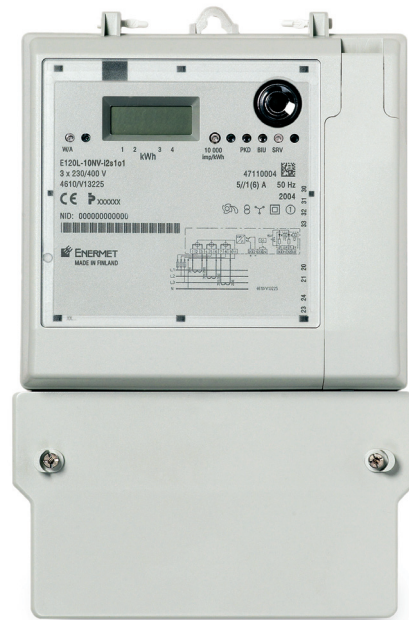
Enermet has 50 years of experience in developing and producing meters. This gives us a competitive edge and it makes us a reliable partner.

Versatility to Future

E120Lt-10NV is meter with active and reactive electricity metering designed for small commercial and industrial use. The relay output can be used to control different loads like heating. Relay can be controlled by the programmable weekly schedule of the meter, which allows for maximum of eight on/off changes per day or by dynamic messages directly from the AIM system. The relay can also be used as a second output pulse source.

More Information – More Value

Versatility has been a driving force when designing the E120Lt-10NV meter. E120Lt-10NV does not only gather electricity-metering information. In addition to electricity metering (active/reactive) it can be used to gather energy metering information from other sources, like gas, water or district heating meters, through its S0 inputs. The meter also monitors and records power quality (over/under voltage), power cuts, alarms and events and has cumulative registers for active (A+) and



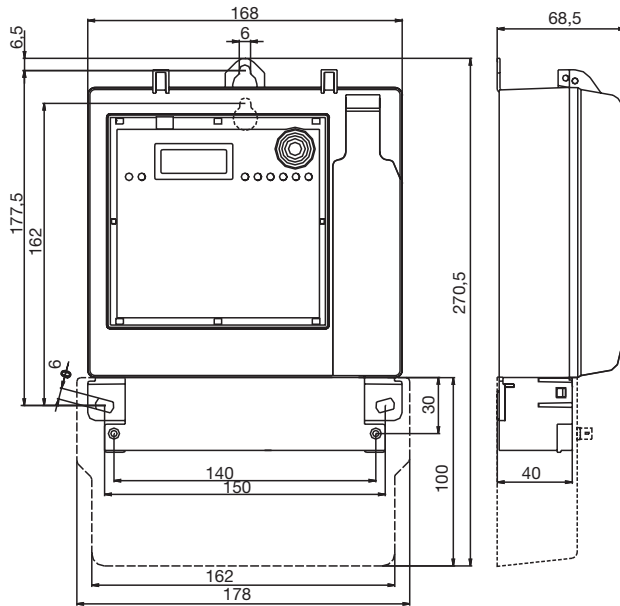
reactive (R+) electricity. The meter has four internal tariff registers that are controlled by a week calendar and can be configured from the system. All registers and relay status can be read from the system and alarm limits can be set according to needs.

Communicating Value

E120Lt-10NV has an integrated communication module to suit different situations. Message authentication is used to ensure that only authorised parties can communicate with the meter. Power-line communication with Echelon LONWORKS® and PLT-22 transceiver A-band provides an open and widely used standard, which makes it possible to use the meter in different metering systems.

Safely to Future

The E120Lt-10NV integrated meter meets strict environmental requirements. All device parts can be recycled and the packaging is made of recyclable cardboard.



E120Lt-10NV Technical Specification

Accuracy Class

- Class 1 for active energy (kWh)
- Class 2 for reactive energy (kvarh)

Metrological Requirements

- In accordance with EN 62052-11, EN 62053-21 and EN 62053-23

Method of Measurement

- VLSI-ASIC
(A/D-conversion and digital signal processing)

Voltage

- $U_n = 3 \times 230/400 \text{ V}$ or $3 \times 230 \text{ V}$
- Measuring range: -20% to $+15\%$ U_n
- Power Consumption in voltage circuit:
 $\leq 2.0 \text{ VA}$, $\leq 0.4 \text{ W}$ (including measuring and application modules)

Current

- Rated currents: $I_b = 5 \text{ A}$
- Maximum current: $I_{max} = 6 \text{ A}$
- Starting current: $(0.2)\%$ of $I_b \leq 2 \text{ mA}$
- Power Consumption in current circuit: 0.05 VA

Frequency

- $50 \text{ Hz} \pm 1 \text{ Hz}$

Temperature Ranges

- Operating $-40 \dots +60 \text{ }^\circ\text{C}$
- LCD operating $-20 \dots +55 \text{ }^\circ\text{C}$

S0 Inputs

- In accordance with EN 62053-31, Class A and B
- Isolation voltage test 4 kV rms
- Impulse voltage test 6 kV

Outputs

- Semiconductor relay output, 230 V , 100 mA for load control or R+ pulses
- S0 output for A+ pulses

Real-time Clock

- Clock accuracy: $\pm 0.5 \text{ s} / 24 \text{ h}$ (in $+23 \text{ }^\circ\text{C}$)
- Power back-up: super capacitor 3 days

LCD display

- 6 integers and 0-2 optional decimals
- Cumulative values alternate on display

Self-diagnostics

- Internal alarms
- Memory
- Phase failure
- Watchdog

Meter Constant (yellow LED indicator)

- $10\,000 \text{ imp/kWh}$

Case

- According to DIN 43857 and DIN 43859
- IP 51
- IP 20 (terminal block and terminal cover)

Weight

- 0.9 kg

Communication

- Echelon LonWorks® protocol with PL-3120 transceiver

Overvoltage Protection

- 12 kV (metering core) / SP1618
- 4 kV rms (S0 input and relay insulation test voltage)
- 6 kV (S0 input and relay impulse test voltage)

Register Structure

- 2 cumulative profiles (A+ and R+)
- 2 cumulative day profiles for external meterings via S0 inputs (S0 pulse profiles)
- 1 cumulative day profile for electricity
- 4 configurable tariff registers with 400 history levels
- 4 system value registers with three history levels
- Power cut counter, power quality log and alarm & event log