

THREE-PHASE ELECTRONIC ELECTRICITY METER

ENERLUX TLS

ENERLUX TLS meters belong to the category of operating measuring means intended for metering the active and reactive electric energy for residential and commercial consumers that use AMR systems with PLC communication in low voltage three-phase networks.

TECHNICAL CHARACTERISTICS

Rated values:

- Rated voltage U_n (V): 3x230/400 V
- Reference / Basic current, $I_{ref/b}$ (A): 5 A
- Maximum current, I_{max} (A): 100 A
- Starting current, I_{st} (mA): 20 mA
- Rated frequency, f_n (Hz): 50 Hz
- Frequency domain, (Hz): 45...65
- Meter constant (imp/kWh (kvarh)): 1000

Accuracy characteristics and influences:

- class B, for active energy, according to EN 50470-1, EN 50470-3;
- class 2, for reactive energy, according to EN 62053-23;

Climatic characteristics:

- Temperature range: -40...+70°C
- Transport and storage temperature: -40...+70°C

Mechanical and constructive characteristics:

- Overall dimensions: 194(218) x 179 x 70 mm, as shown in fig. 2
- 3 points mounting dimensions: 100 x 155 mm, as shown in fig. 2
- Display: LCD custom design 42x12 mm as shown in fig. 1
- Wiring diagram: L1L1L2L2L3L3NN
- Optical port for local reading: according to EN 62056-21
- Communication: PLC modem included
- Protection degree: IP 51
- Testing device: LED for imp/kWh + LED for imp/kvarh

Equipping variants:

- Supplementary impulses input for PLC modem;
- Command circuit for circuit breaker.

All the equipping variants are optional and one excludes the other.

Operating characteristics:

Energy metering:

- Import total active energy (W+),
- Export total active energy (W-),
- Combined total active energy (W+ +W-),
- Import total reactive energy (QI+QII),
- Rate 1, Import active energy,
- Rate 2, Import active energy.

The Import active energy can be metered in double tariff, switched by input signal.



Display:

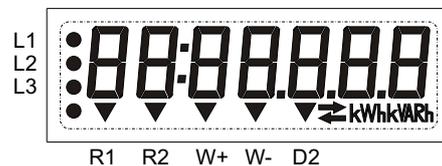


Figure 1

- According to figure 1, the LCD displays:
- Voltage presence on each phase L1, L2, L3;
 - Measured value and measuring units for active, reactive energy and power;
 - The flow direction of active imported energy "→" or active exported energy "←"
 - Annunciator for current rate (R1 or R2), the second display sequence "D2" and energy registers type.

There are two programmable display sequences, which are manually or automatically run.

The meter displays in normal D1 sequence a programmable list selected from the following items:

1. Display test
2. Rate 1 index, Import active Energy*
3. Rate 2 index, Import active Energy*
4. Import total active Energy (W+) index
5. Export total active Energy (W-) index
6. Combined total active Energy (W=W+ +W-) index
7. Import total reactive energy
8. Errors and preventions (if the case)

Note*: Sizes are displayed with one or two tariffs displayed by the annunciators R1 and R2.

Note: Errors are: Er1 - energy registers error; Er2 - DSP error; Er3 - code memory error; Er4 - RAM memory error; Er5 - calibration coefficients error

The error message freezes on the LCD display and the accumulation function of the meter is forbidden.

The energy indexes can be displayed in one of following modes:

- 1234567 kW(var)h;
- 123456.1 kW(var)h;
- 12345.12 kW(var)h;
- 1234.123 kWh(var)h; one of these can be selected by the programming software.

The meter displays in the second (D2) sequence a programmable list selected from the following items (mean values at every 10 s):

1. Currents on each phase (accuracy 1% from full scale)
2. Voltages on each phase (ac. 1% from full scale)
3. Active power on each phase (ac. 1% from full scale)
4. The power factor on each phase
5. Phases succession

The power values are displayed with five figures (12.123 kW).

The current and voltage values are displayed as xxx.x V(A).

The value for power factor ($\cos\phi$) is displayed as x.xxx.

Communication:

- 1). Optical port, according to IEC 62056-21: Direct local data exchange (3rd edition of IEC 61107), with OBIS code.
- 2). PLC modem included

SYMBOLS

ENERLUX TLS

3x230/400 V, 0,25-5(100) A, 50 Hz, cl. B (2 var.)

OVERALL AND FIXING DIMENSIONS

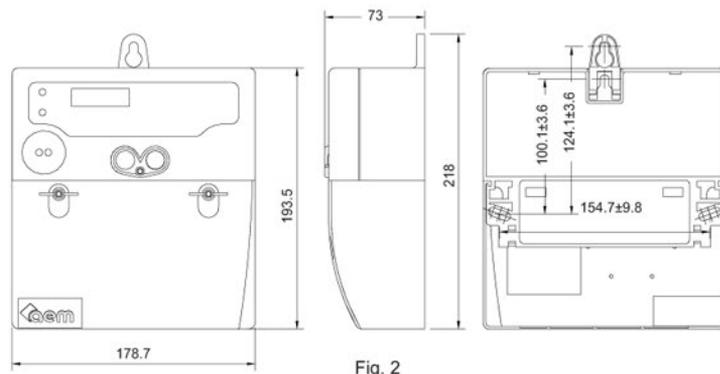


Fig. 2

WIRING DIAGRAM:

