

# THREE-PHASE ELECTRONIC ELECTRICITY METER

## ENERLUX TL

ENERLUX TL meters belong to the category of operating measuring means intended for metering the active and reactive electric energy for residential consumers and commercial and industrial agents that use one tariff systems for the billing of electric energy in low, medium or high voltage three-phase networks.

### TECHNICAL CHARACTERISTICS

#### Rated values:

- Rated voltage  $U_n$  (V): 3x58/100 V...3x240/416 V;  
3x100 V...3x416 V
- Rated current  $I_n$  (A): 1 A, 5 A for the meter with connection through current transformers
- Basic current  $I_b$  (A): 5 A, 10 A for the direct connection meter
- Max. current  $I_{max}$  (A): - 6 A, 10 A, 20 A for the meter with connection through current transformers  
- 40 A, 60 A, 80 A, 100 A for the direct connection meter
- Rated frequency  $f_n$  (Hz): 50 Hz or 60 Hz
- Frequency range (Hz): 45...65
- Meter constant (imp/kWh): 1000/5000/10000

#### Accuracy characteristics and influences:

- class 0.5 S, for active energy, for the meter with connection through current transformer, according to EN 62053-22;
- class 1, 2, for active energy, according to EN 62053-21;
- class 2, 3, for reactive energy, according to EN 62053-23

#### Climatic characteristics:

- Temperature range: -25...+55°C
- Temperature range limits: -40...+70°C
- Transport and storage temperature: -40...+70°C

#### Mechanical and constructive characteristics:

- Overall dimensions: as shown in fig. 2
- 3 points mounting dimensions: as shown in fig. 2
- Display: LCD custom design 42x12 mm as shown in fig. 1
- Wiring diagram: L1L1L2L2L3L3NN
- Optical port and optionally current loop: according to EN 62056-21
- Protection degree: IP 51
- Testing device: LED for imp/kWh + LED for imp/kvarh

#### Equipping variants:

- D - Demand reset button;
- I - Current loop interface acc. to EN 62056-21
- G - Pulses generators or
- M - RS232 port for the serial interface.

All the equipping variants are optional.



#### Operating characteristics:

- Energy metering:
  - a). imported active energy (W+), or unidirectionally (W++W-);
  - b). imported active energy for inductive load;(QI)
  - c). imported reactive inductive energy (QI)
  - d). exported reactive capacitive energy (QIV)
  - e). imported active energy recorded when the programmed power threshold is surpassed
- Demand registering:  
The meter registers the active demand. The calculation mode of sliding type. The time interval for the demand calculation can be programmed for 15, 30, 60 min. with 5 min. subinterval.

#### • Display:

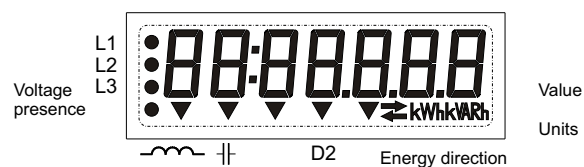


Fig. 1

The LCD displays the following:

- voltage presence on each phase L1, L2, L3;
- the measured value;
- measuring units for active and reactive energies and powers;
- the active imported energy  $\rightarrow$ , and active exported energy  $\leftarrow$  circulating direction;
- annunciator which marks the meter operation with the second display sequence, "D2";
- annunciator which marks the type of reactive energy (inductive/capacitive).

The energy indexes are displayed with max. six integers and a programmable no. of decimals between 0 and 3, and the power value will have at least five figures. Can be programmed two display sequences which could be change normal or automatically. To switch the display sequence and quantity it is used a display button.

The values which can be displayed are the following:

1. display checking
2. the supplied kilowatt-hour
3. imported reactive inductive energy (QI)
4. exported reactive capacitive energy (QIV)
5. the supplied kilowatt
6. the energy registered at overloaded during the time interval of the programmed power threshold exceeding
7. imported active energy for inductive load
8. errors and warnings
9. currents on each phase
10. voltages on each phase
11. the momentary active power
12. the momentary reactive power
13. programmed power threshold
14. phases sequence or phase displacement between voltages
15. the power factor on each phase

• Communication

On the optical port and current loop, according to EN 62056-21: Direct local data exchange (3rd edition of IEC 61107).

• Additional functions

The meter can diagnose the measuring point and the following can be transmitted through the optical port:

1. The number of the supply voltage breakdowns
2. The number of reverse connections
3. The total operating time interval (hours)
4. The time interval since the last voltage drop
5. The time interval of operation without load (hours)

**SYMBOLS**

ENERLUX TL - D, G, I, M (options)  
3x230/400 V, 5(100) A, 50 Hz, cl. 1 (2 var.)

**OVERALL AND FIXING DIMENSIONS**

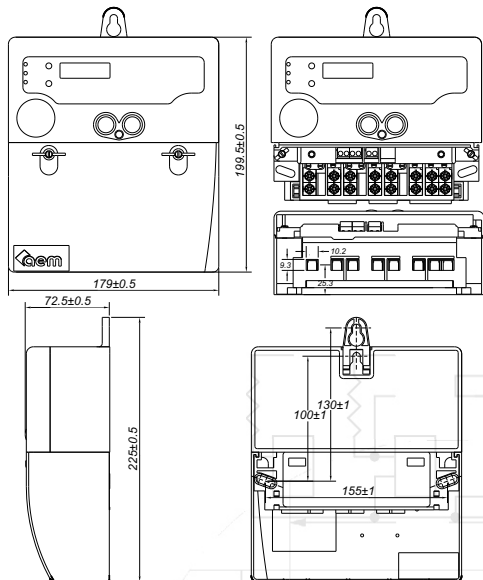


Fig. 2

**WIRING DIAGRAM:**

