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EAC in the era of smart meters!

SMART METER MANUAL

Landis+Gyr E450

Single-phase Meter

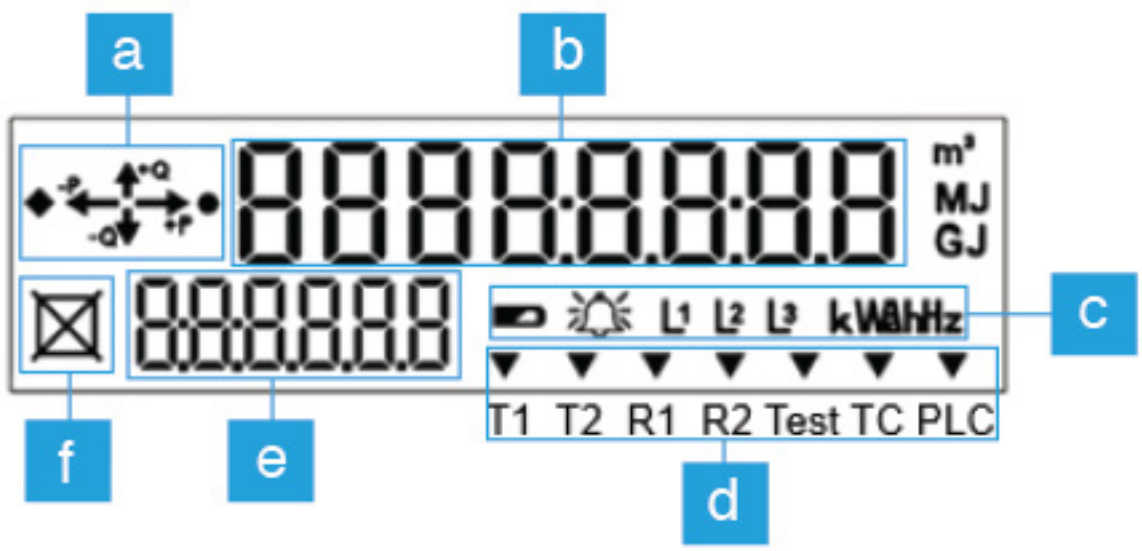
Three-phase Meter

1. Display
2. Display button
3. LED pulse output
4. Service button
5. Breaker button
6. Optical port
7. EAC serial number
8. Terminal cover seal
9. Customer information port

A Smart Meter Components and Functions

1. Display

The meter display shows several fields, grouped into six categories:



a) Direction and Type of Energy Flow

At the top left of the display, arrows indicate the direction and type of energy flow at any given moment:

Arrow +P: Incoming active energy (kWh) – energy imported from the EAC network (consumption)
Arrow –P: Outgoing active energy (kWh) – energy exported to the EAC network (production)
Arrow +Q: Incoming reactive energy (kVArh)
Arrow –Q: Outgoing reactive energy (kVArh)

No arrow: No energy flow

(Note: Reactive energy does not appear on customer bills.)

b) Value Indication Field

At the top section of the display, information and values of the various registers are shown.
Here, the customer can view, among other things, the readings of consumption and production registers.
(See also section e – 'OBIS Code')

c) Meter Status Symbols and Measurement Units

	Supercapacitor health (clock backup power)
	Meter critical error detected
	Phases connected
	Units of measurement

If the "bell" symbol appears on your meter, you must contact the Network User Tele-Service Centre at 1800 for further check.

If you have a three phase load and the display shows no indication for any of the three phases (L1, L2 or L3), you must again contact 1800.
Before calling, please check:
a) If your load is protected by miniature circuit breakers, ensure the breaker of the affected phase is not in the OFF position.
b) If it is protected by fuses, the fuse on that phase may have blown and EAC technical crews will need to repair it.

d) Informational Arrows

The presence or absence of an arrow above each symbol indicates the meter's operating state as explained below:

T1	Meter registers in tarrif 1 (low)
T2	Meter registers in tarrif 2 (normal)
R1	Relay 1 is connected (closed)
R2	Relay 2 is connected (closed)
Test	Meter registers are in test mode
TC	Terminal cover is open
PLC	Meter is connected on EAC's software system

The symbols T1 and T2 concern only consumers who have opted for dual-register (time-of-use) tariffs.
If the arrow is lit above the T1 symbol, the meter is recording on the first register.
If the arrow is lit above the T2 symbol, the meter is recording on the second register.

The R1 symbol concerns users who have a photovoltaic (PV) system which is controlled through the meter's internal contacts. If the arrow is lit, the PV system is connected. If the arrow is not lit, the PV system is disconnected. If disconnection of the PV system is done via an external receiver and not through the meter's contacts, this field should be disregarded. The R1 field may be repurposed and used for other functionalities.

The R2 symbol concerns only consumers who have storage heaters controlled by EAC. If the arrow is lit, the storage heaters are connected. If not, the storage heaters are disconnected. If disconnection is managed via a separate external receiver and not through the meter's contacts, this field should also be disregarded. The R2 field may be repurposed and used for other functionalities.

The symbols TEST, TC, and PLC provide information intended for EAC technical personnel for further investigation. Specifically regarding the PLC field, the presence of an arrow indicates successful communication between the meter and the EAC central system. If no arrow is displayed above the PLC field, it means the meter cannot communicate with the central system. As a result, it will not be able to send its readings, and billing based on actual meter data will not be possible. In such cases, consumers are encouraged to submit their readings to EAC, following the instructions at the following link: https://www.eac.com.cy/EL/RegulatedActivities/Distribution/Pages/MeterReading.aspx until meter communication issue is resolved by specialized EAC crews.

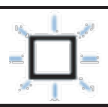
e) OBIS Code

The OBIS code is an internationally standardised identification system. The code displayed in this field indicates what the corresponding value in field b, "Value display field", refers to. A description of the key OBIS codes is printed around the display to help interpret the readings.

For example:
1.8.0 – Total incoming energy (kWh consumed by the premises)
2.8.0 – Total outgoing energy (kWh exported to the EAC grid from the PV system)

f) Status of Supply Control Switch

The absence or presence of an arrow above each symbol indicates the status of the meter, as explained below:

	Premises connected (supply disconnector is closed)
	Premises disconnected (supply disconnector is open)
	Premises ready for reconnection

If there is no power supply to your premises, check the status of the relevant symbol. If the second symbol appears, contact the Network Customer Service Centre at 1800 for further action — but first consider whether your premises may have been disconnected due to non-payment of your electricity bill. If the third symbol appears, press and hold the supply control button (white button) until your premises are reconnected.

2. Display Navigation Button

This button allows you to navigate through the display's submenus. There are three submenus available, details of which are described in Part B: "Information from the Meter Display."

3. Service Use Button

This button is sealed and used exclusively by EAC technicians for analysis purposes. It is not intended for consumer use. The seal must not be removed by unauthorised individuals.

4. Output Pulse Indicator

The red indicator flashes at a rate proportional to the amount of energy being consumed or produced. A slow flash indicates low energy flow. A fast flash indicates high energy flow. If the red light is steadily on, it means there is no energy flow.

5. Power Control Button

By pressing and holding this button, the premises can be connected/disconnected from the EAC network. The disconnection function of the button is currently disabled. It is understood that in the event of a disconnection due to non-payment, pressing the button will not reconnect the premises.

6. Optical Interface

Used for reading, diagnostics, and configuration of the meter by EAC technicians (not applicable to the consumer).

7. EAC Serial Number

The meter number, which is also shown on the consumer's bill. It is recommended to know your meter number before any communication with EAC staff.

8. Terminal Cover Seal

The terminal cover is sealed during the installation of the meter. The seals must not be removed by any unauthorised person.

9. Consumer Information Port

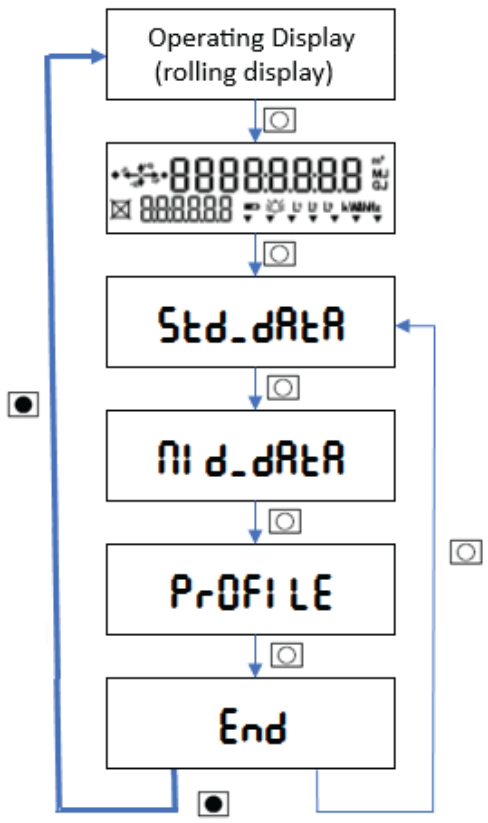
Through this port, the consumer/producer can receive real-time data (live data) from their meter. To enable this function, a consumer must purchase a compatible device ('dongle') from a supplier of their choice. More information regarding approved suppliers/devices will be announced on the EAC website at a later stage.

Consumers are reminded that they can view their historical metering data and profiles entirely free of charge through the Distribution System Operator (DSO) web portal of EAC at the following address:
https://meterreading-dso.eac.com.cy/login

For the registration process on the above web portal, you can find a user manual at the following link:
https://www.eac.com.cy/EL/RegulatedActivities/Distribution/Ring-Fenced_Meter_Department/Pages/Meter-and-Meter-Reading-Data.aspx

B Information from the meter display

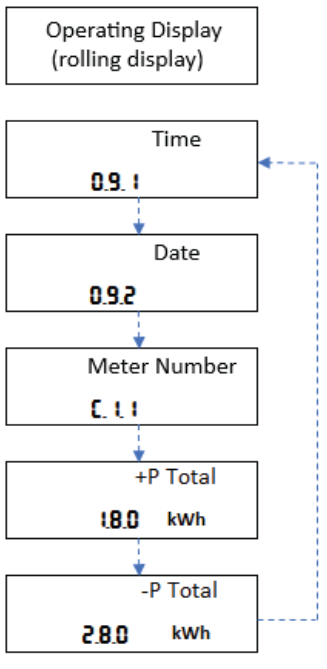
On the meter display, you can view the operation display, the digit check display, and three sub-menus, in the order presented below. Upon activation of the meter, the operation display appears. To navigate through the display's sub-menus, you need to press the display button (green button). The display will automatically return to the initial operation display two minutes after the last press of the display button.



- Press display button briefly (t<2s)
- Press display button longer (t>=2s)
- Press display button twice briefly (double click)

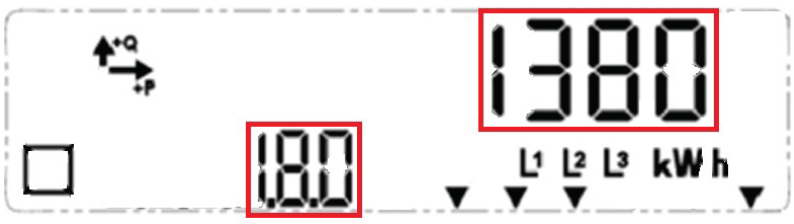
1. Operating display

The operating display shows five readings that alternate in a loop every five seconds, without the need to press the display control button, as shown here:



The readings displayed at the top part of the display (display field b), identified by the OBIS codes 1.8.0 and 2.8.0 (display field e), refer to the energy consumption register and the energy production, both register in kWh, respectively. The readings indicate the current values of the registers. The consumption register appears on all bills, while the production register appears only for those who have an installed photovoltaic system.

For better understanding, see an example from the meter display, showing the OBIS code (1.8.0) and the corresponding reading (1380 kWh).



In case the time and/or date displayed on your meter's display is incorrect, there is no cause for concern. The recording of energy on the above registers (1.8.0 and 2.8.0) is carried out correctly by your meter.

The incorrect time and date are due to an unsuccessful attempt to establish a telecommunication connection between the meter and the central system in order to properly set the meter's clock. As mentioned in Part A 'Features and functions of the smart meter' and Paragraph 1d, in such a case, specialised EAC crews will soon visit your premises to resolve the meter's telecommunication issue.

2. Digit check display

With the first short press of the display control button, the digit check display appears as shown below. Its purpose is to allow a visual inspection of the display crystals' condition.

3. Submenu 'Std_Data'

With the second short press of the display control button, the submenu Std_Data appears. To access the data presented in the Std_Data submenu, press and hold the display control button. Afterwards, the displayed data within the submenu can be cycled through with a short press of the button.

In this submenu, the consumer can view additional information such as the instantaneous voltage, current, power, grid frequency, etc. For consumers who have opted for dual-rate billing, their additional registers 1.8.1 and 1.8.2 can also be viewed. The readings correspond to the current values of the registers.

4. Submenu 'MID_Data'

With the next short press of the display control button, the MID_Data submenu appears. This specific submenu displays mandatory registers in accordance with the relevant European Union Directive (Measurement Instrument Directive – MID).

5. Submenu 'PROFILE'

With the next short press of the display control button, the PROFILE submenu appears. This specific submenu displays historical values of various registers programmed into the meter, including registers 1.8.0 and 2.8.0, which refer to the total consumed and exported energy (kWh) per day.

6. Return to the main operating display

With the next short press of the display control button, navigate to the end of the submenus (END). At this point, a long press of the button allows you to exit the submenus and return to the initial operating display. It is reminded that manual return to the main display is not necessary, as it automatically reappears two minutes after the last press of the display control button.