

Functionalities of Smarty intelligent electricity meters

Technical description



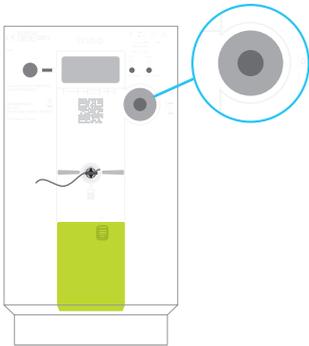
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Technical description | 05.2023



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Maintenance port

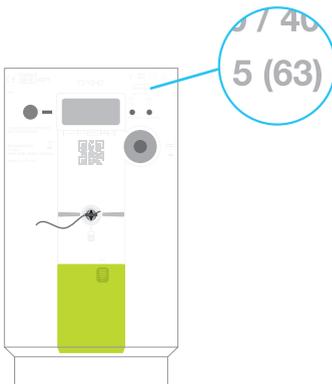
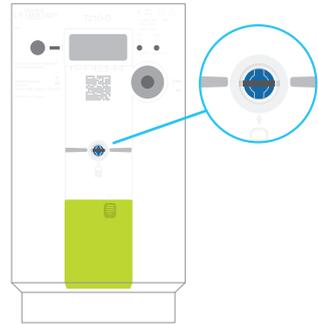
Smarty, your intelligent electricity meter, has a built-in optical maintenance port that is reserved for Creos, your grid operator. This port enables, for example, to configure the built-in relays. It can also be used to establish a link between a gas meter and your electricity meter.

Seals



Your Smarty meter is sealed for your safety.

Only Creos or a qualified electrician may remove the seals and access the box. Removal of the cover by a non-authorized person represents attempted fraud and may result in legal action.



Types of electricity meters

There are three types of Smarty electricity meters:

- 63A meter
- 100A meter
- indirect meter with current transformers

The meter type is indicated on the top right-hand side of the box.

Power line communication

Your intelligent electricity meter measures the consumption and/or production of electricity in each home. The measured data is then transmitted to the central system managed by Luxmetering via the cables of the existing electricity network, from where it is forwarded to your energy supplier. This process is known as power line communication, or PLC for short.

The transmission is only realised via GPRS in exceptional cases.

Technology

- Transmission of signals along electricity lines
- Meter communicates in one phase only
- Protocol used: PLC G3

For more information, visit the website www.g3-plc.com

The technology used by Smarty is identical to that of Linky, the communicating meter fitted by Enedis in France.

For more information, visit the website:

www.enedis.fr/linky-le-compteur-communicant-derdf

Signal modulation

- OFDM (Orthogonal frequency-division multiplexing)

For more information, visit the website:

https://en.wikipedia.org/wiki/Orthogonal_frequency-division_multiplexing

Frequency range

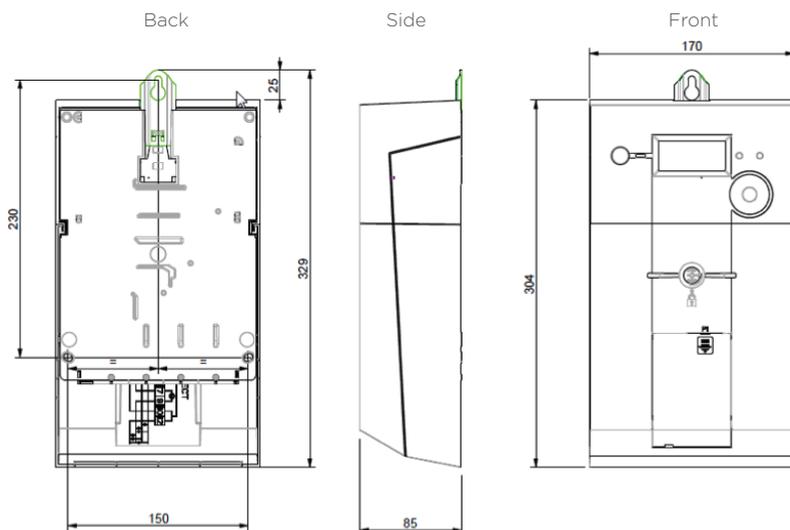
- CENELEC A
- 35.9-90.6 kHz
- 36 frequencies used

Technical compliance of emissions

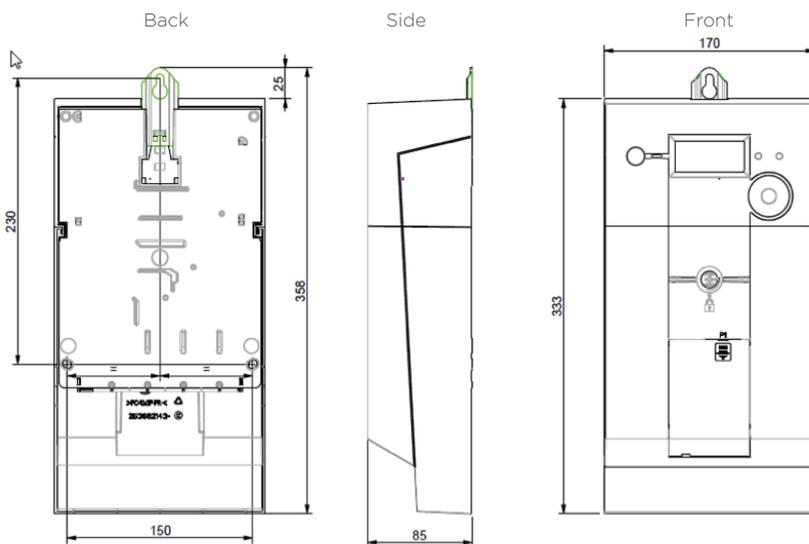
DIN EN 50065-1

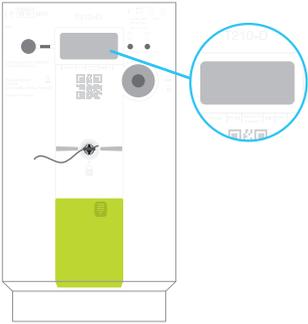
Meter dimensions

63A meter / Indirect meter with TI (dimensions in mm)



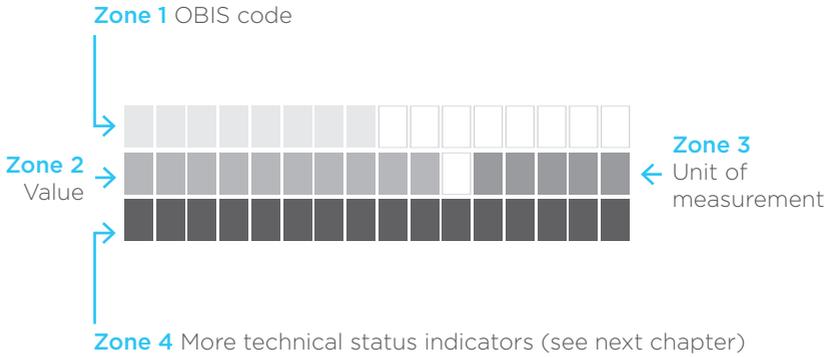
100A meter (dimensions in mm)





Screen layout

The screen of your Smarty meter has three lines and it is split into four zones.



Example

1	.	8	.	0															
9	7	6	4	2	3	.	5	1	0		k	W	h						
1	2	3	+		O	F		_	_	_	*								C

Screen: Zone 4 in detail

Zone 4 of the screen of your meter is dedicated to the more technical status indicators. The 6 different statuses are explained in detail below:

Phase presence

Number displayed if phase is present.

The indicators flash if the rotating field is negative (anticlockwise) and are static if the rotating field is positive.

Communication indicator

C Power line communication

Ψ 1 2 3 4

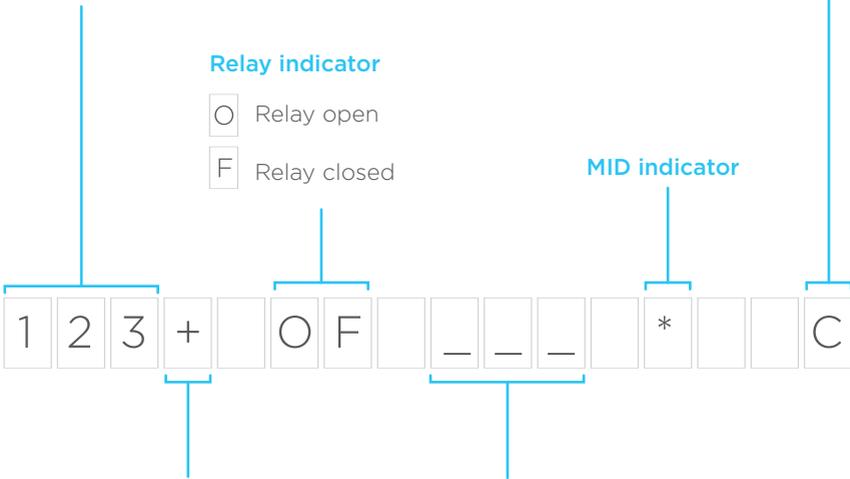
GPRS communication
Incoming signal = 1, 2, 3 or 4, with 4 being the strongest

Relay indicator

O Relay open

F Relay closed

MID indicator



Direction of active energy

+ Energy consumption

- Energy production

If no energy is consumed/produced, the field is empty.

Breaker status

- - - Meter connected

- / - Meter disconnected or ready for reconnection

Operating modes and displayed values

Smarty, your intelligent electricity meter has three operating modes.

Automatic mode

The automatic mode is selected by default and shows the most important values, changing every 5 seconds.

Manual mode

Briefly press the green button to access the manual mode. The back-lighting of the screen lights up automatically to enable you to read the data more easily. To consult the same values and manually switch to the next one, press the green button again.



1	.	8	.	0															
9	7	6	4	2	3	.	5	1	0		k	W	h						
1	2	3	+		O	F						*							C

Whether you are in automatic or manual mode, your Smarty meter always displays the same values, one after another. Each value (index) is identified by a code.

Example

1	.	8	.	0																← OBIS code
9	7	6	4	2	3	.	5	1	0		k	W	h							← Value
1	2	3	+		O	F						*								C

The code 1.8.0, for example, gives you the total active energy consumption in kilowatts per hour.

The table below shows the displayed values in the order in which they appear on the screen in automatic or manual mode:

OBIS codes in automatic or manual mode

1.8.0	Current index of active energy consumed	kWh
2.8.0	Current index of active energy produced	kWh
3.8.0	Current index of reactive energy consumed	kVArh
4.8.0	Current index of reactive energy produced	kVArh
1.7.0	Instantaneous value of consumed active power	kW
2.7.0	Instantaneous value of produced active power	kW
3.7.0	Instantaneous value of consumed reactive power	kVAr
4.7.0	Instantaneous value of produced reactive power	kVAr
9.7.0	Instantaneous value of consumed apparent power	kVA
10.7.0	Instantaneous value of produced apparent power	kVA

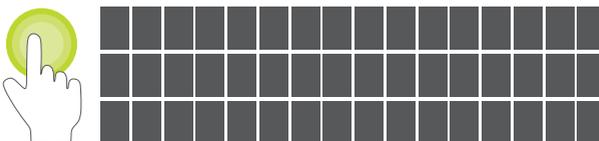
Expert mode

Proceed as follows to access the expert mode and display more detailed values:

1. Press and hold down the green button for at least 5 seconds.



2. When the black test screen appears, press the green button again.



3. The hashtag in the top right-hand corner indicates that you are in expert mode.

1	.	8	.	0														#
9	7	6	4	2	3	.	5	1	0		k	W	h					
1	2	3	+		O	F		_	_	_		*						C

4. To review the values, press the green button again. After a certain time, the meter switches back to automatic mode.



3	2	.	7	.	0													#
2	3	0									V							
1	2	3	+		O	F		_	_	_		*						C

In expert mode, your Smarty meter always displays the same values, one after another. Each value (index) is identified by a code. The code 1.8.0, for example, gives you the total active energy consumption

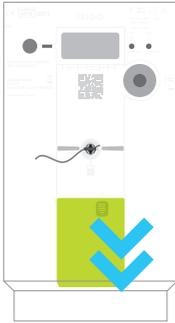
Example	1	.	8	.	0														← OBIS code
	9	7	6	4	2	3	.	5	1	0		k	W	h					← Value
	1	2	3	+		O	F		_	_	_		*						C

in kilowatts per hour.

The table below shows the displayed values in the order in which they appear on the screen in expert mode:

OBIS codes in expert mode

-	Test screen	-
1.8.0	Current index of active energy consumed	kWh
2.8.0	Current index of active energy produced	kWh
3.8.0	Current index of reactive energy consumed	kVArh
4.8.0	Current index of reactive energy produced	kVArh
32.7.0	Instantaneous phase L1 voltage	V
52.7.0	Instantaneous phase L2 voltage	V
72.7.0	Instantaneous phase L3 voltage	V
31.7.0	Instantaneous phase 1 I1 current	A
51.7.0	Instantaneous phase 2 I2 current	A
71.7.0	Instantaneous phase 3 I3 current	A
1.7.0	Instantaneous value of consumed active power	kW
2.7.0	Instantaneous value of produced active power	kW
3.7.0	Instantaneous value of consumed reactive power	kVAr
4.7.0	Instantaneous value of produced reactive power	kVAr
9.7.0	Instantaneous value of consumed apparent power	kVA
10.7.0	Instantaneous value of produced apparent power	kVA
17.0.0	Maximum authorised power (consumption)	kVA
31.4.0	Maximum authorised current (+/-)	A
0.2.0	Active firmware version	-
0.2.8	Active firmware signature	-



Customer port

Your Smarty intelligent electricity meter has a customer port that provides access to your “high resolution” data (10 seconds).

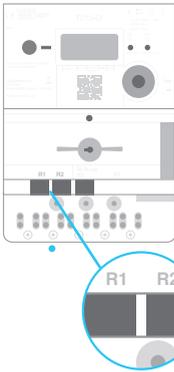
To access the RJ12 (standard telephone) socket that enables you to connect a remote screen or smart home system, pull on the green flap and slide it downwards. Connect the plug and close the flap again.



For reasons of privacy, data sent via this port is encrypted. The decryption key is available from your grid operator or your supplier.



Please contact your energy supplier for information about the available connection tools.



Built-in relays

Smarty, your intelligent electricity meter includes two output relays or contacts enabling it to control electrical loads such as, for example, an electric heater or even an electric car.

These relays can be controlled independently either via a fixed schedule programmed directly on the meter or via a variable control system based on a command sent on demand. Charge control services may be offered to the customer by either the network administrator or the supplier.

The letters O and F indicate that the relay is open (O) or closed (F). If the two built-in relays on the meter are not enough, an additional module containing three more relays can also be fitted.



It is strictly forbidden for customers to interfere with these relays. All tampering is detected.

Next to these two relays, Smarty also has a built-in M-Bus port that enables an intelligent gas, water or heat meter to be connected.

Breaker

Smarty, your intelligent electricity meter, has a shut-off element known as a “breaker.” The breaker can be triggered remotely and enables a device to be connected or disconnected. It also monitors the power to which the customer has subscribed and the breaker trips in case of exceeding this limit.

If your device is disconnected, check the display on your meter.

1. If the meter displays the message “Appuyer pour reconnector” (Press to reconnect) and the green light is on, please press the green button for 5 seconds to reconnect. **The meter makes an audible “click” when it reconnects.**



A	P	P	U	Y	E	R		P	O	U	R			
R	E	C	O	N	N	E	C	T	E	R				

2. If the display shows “Déconnecté” (Disconnected) please contact your energy provider.

D	E	C	O	N	N	E	C	T	E					

Infoline
Customer service



2624-2624

Breakdowns & emergencies
Electricity network
24/7



8002-9900



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