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Connected energy meter

Cat. number : 4 120 15

Requires beforehand, the installation of a “with Netatmo” connected starter pack or a Gateway (E.g: module: Module Controle, On-wall gateway ⋯)

Sommaire Pages

1. DESCRIPTION - USE

Use:

Allows to measure and display via a smartphone through the Home + Control app, the electrical consumption of a ~~alternating~~ single-phase circuit via the associated closed coil. This connected version offers the functions of:
- Energy consumption: energy consumption data is automatically available for the circuit to whom the Connected Energy meter is wired to.
- Electricity consumption historic data.

Technology:

. Single-phase current measurement, by field effect using a closed coil (delivered with the energy meter) and data transmission by radio frequency to the connected network

2. RANGE

Width:

. 1 module. 17,7 mm wide.

Rated primary current:

. Ipn = 80A AC

Power consumption:

. 0.3W Maxi

Rated voltage:

. 100V to 240V AC

Rated frequency:

. 50Hz / 60Hz

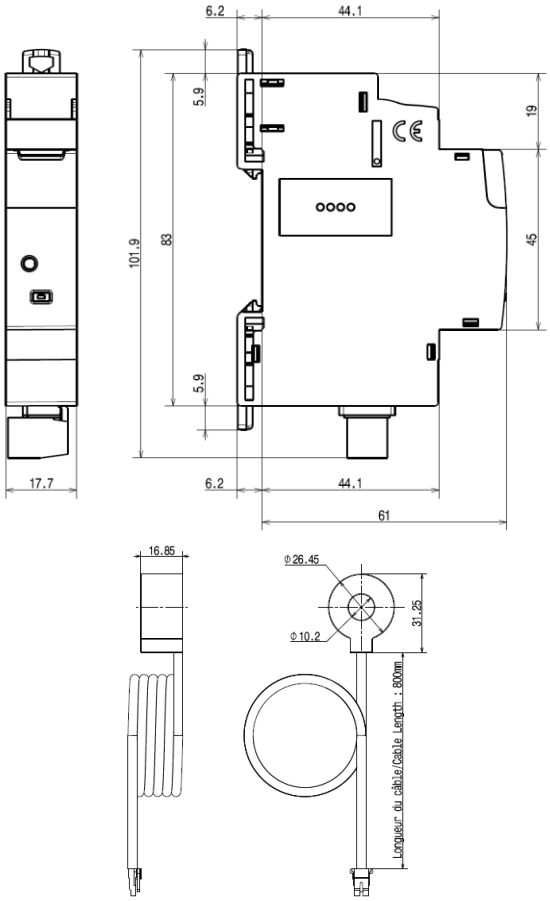
Configuration and use:

Can be used with:

- Legrand smartphone app « HOME + CONTROL»

. Available for free on Google Play or App Store

3. OVERALL DIMENSIONS



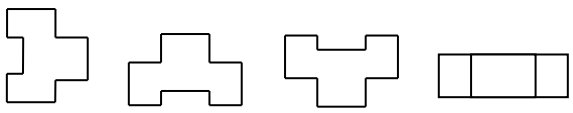
4. PREPARATION - CONNECTION

Mounting:

. On symmetrical rail EN / IEC 60715 or DIN 35.

Operating position:

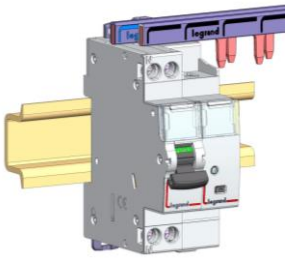
. Vertical, Horizontal, Flat.



4. PREPARATION - CONNECTION *(continued)*

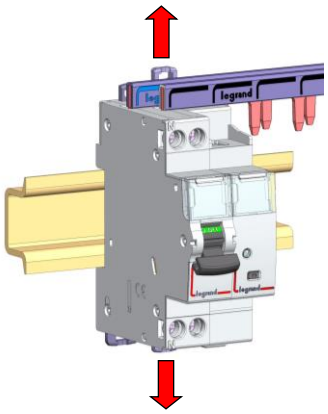
Row positioning:

. The product shape and the positioning of the terminals allow the passage of single-line, three-lines and plug-in supply busbars in the upper part of the product. Then, it is possible to freely choose the position of the Connected energy meter in the row and to connect by supply busbar the other devices put on the same DIN rail.

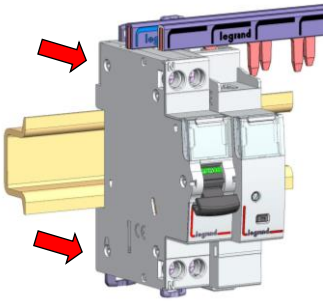


Module maintenance:

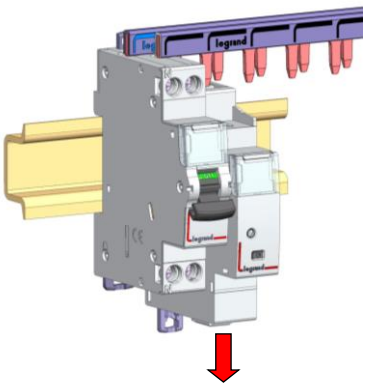
. It is possible to switch a Connected energy meter in the middle of a row supplied with an upstream busbar without disconnecting the other devices on the same DIN rail.



***1.** Unclip the clamp to put it in open position*



***2.** Pull the device forward in order to release it from the DIN rail*

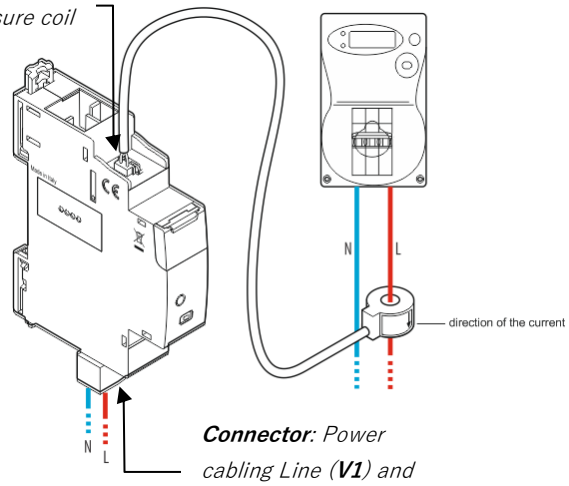


***3.** Pull the device downward in order to completely release it from the prongs of the busbar*

4. PREPARATION - CONNECTION *(continued)*

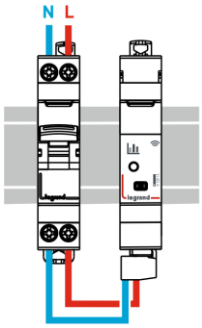
***Connector** :*

Measure coil



***Connector**: Power cabling Line (**V1**) and Neutral (**N**)*

Wire the Connected energy meter after a circuit breaker. The connection between the energy meter and the coil is made via a locking connector.



Recommended tools:

. For the terminals:
Screwdriver flat-blade 3.5 mm
. For clamping:
screwdriver flat-blade (5,5 mm or less).

Connection:

. Power screw terminals:
- Terminal type: cage
- Depth: 9 mm
- Stripping length recommended: 8 mm
- Screw head: slotted 3.5 mm
- Type of screw: M3
- Tightening torque: 0.5 Nm

Conductor type:

. Copper cables

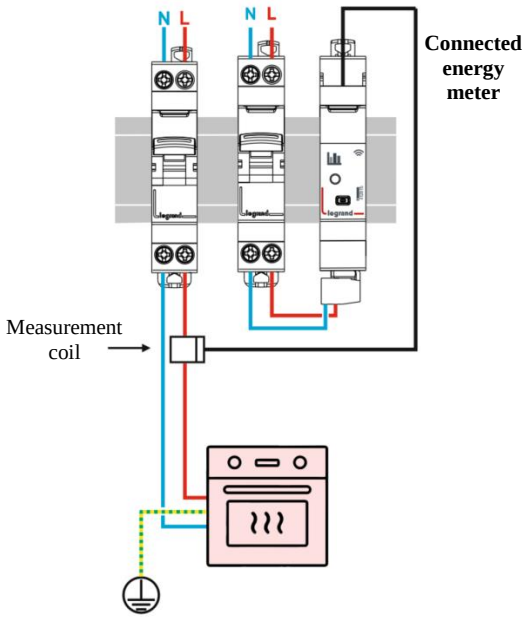
	Without ferrule	With ferrule
Rigid cable	**1x (1 to 2.5mm²)** **2 x (1 to 1.5mm²)**	-
Flexible cable	**1x (1 to 2.5mm²)** **2 x (1 to 1.5mm²)**	**1 x (1 to 1.5mm²)**

4. PREPARATION - CONNECTION *(continued)*

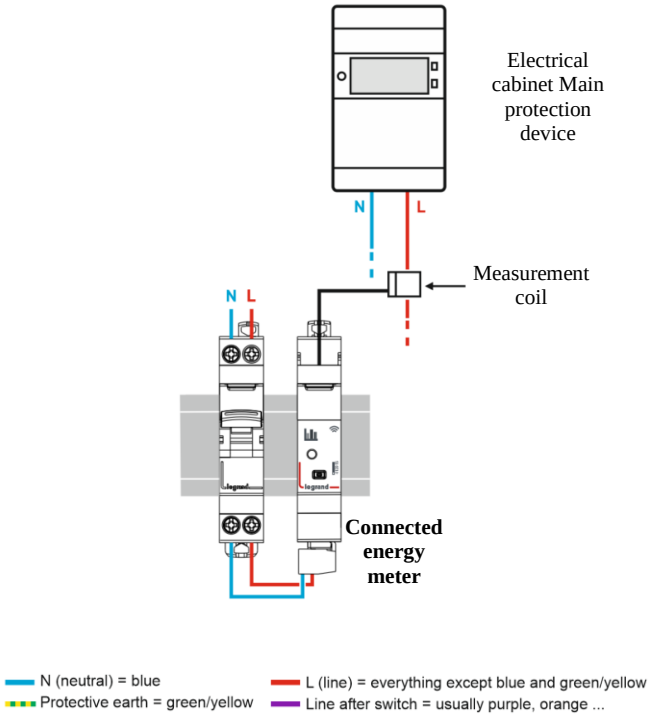
Wiring diagrams:

. Example of wiring diagram in an installation:

Measurement of the consumption of a specific equipment, e.g. the oven:



Total consumption measurement:



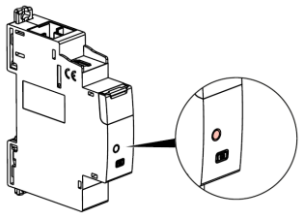
Real-time and historical data visualization:

. Via smartphone with the Home+Control app.

4. PREPARATION - CONNECTION *(continued)*

Visualization of the setup of the device:

. Via the LED on the front face



In configuration :

Color	Status	Signification
Red	Fixed	Temporary status. Device not connected to the radio network
Green	Fixed	Temporary status. Device correctly paired to the radio network (when the radio network is still open)
	OFF	Normal status. Device paired to the radio network (when the radio network is closed)

Operating :

Color	Status	Signification
	OFF	No problem detected
Red	Blinking	. Three phase installation: Check whether the connected energy meter is connected to the same phase as the measuring coil. . Any installation: Strong phase shift between voltage and current on the line caused by a load with an unfavorable power factor (Motor, swimming pool pump, certain lighting, etc.)

4. PREPARATION - CONNECTION *(continued)*

Important information about the TOTAL measurement:

. Several measuring coils can be put on the general power supply electrical line (total consumption), eg the coil of the Connected Ecometer or the one of the Connected Energy Meter.

. If the installation gets several connected devices which measure the total consumption, then, this information will be displayed only once a time in the smartphone app following a device priority list:

The connected Ecometer,

The connected load shedder,

The connected energy meter.

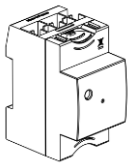
Important information:

. The connected energy meter does not support photovoltaics.

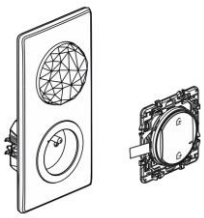
Add a Connected Contactor in a connected installation (several steps):

. **1**/ Beforehand, to create a connected installation you must install:

Either a Control Module

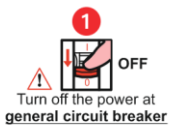


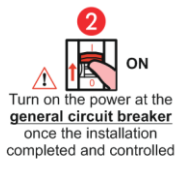
Or a Connected starter pack (drawing of principle, works with anykind of “with Netatmo” connected starter pack).

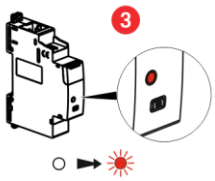


Or any kind of “with Netatmo” gateway

. **2**/ Beforehand, the general circuit breaker must be turned OFF, and only after wiring step done, can be powered back ON to simultaneously power devices and allow them to be connected to the network.

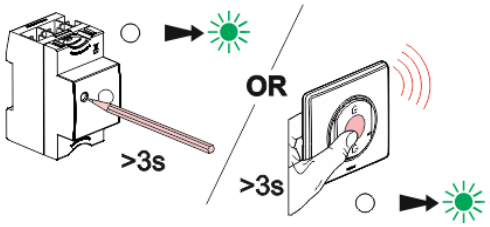




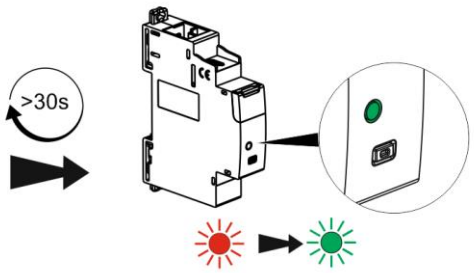


4. PREPARATION - CONNECTION *(continued)*

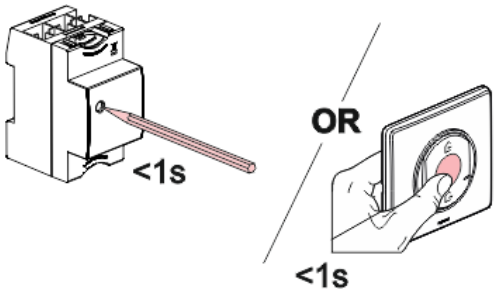
. **3**/ Press and hold the gateway module settings button for more than 3 seconds, OR in the center of the Home / Away wireless master switch until the LED turns green, then release the button.



. The configuration LEDs of " ... with Netatmo " devices in the installation must all light up in fixed green.



. **4**/ To complete the installation, briefly press the setting button on the gateway module (or in the center of the Home / Away wireless master switch) to finalize the installation.

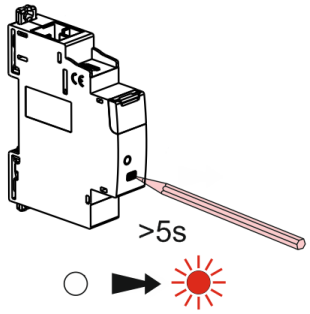


All " ... with Netatmo " devices LED go OFF

4. PREPARATION - CONNECTION *(continued)*

Connected energy meter resetting to remove it from a connected installation

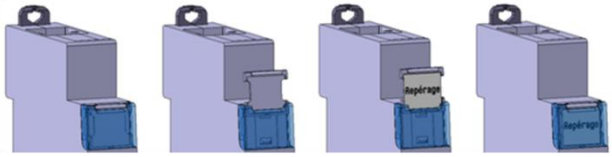
. Press and hold over 5 seconds on the setting button until the LED on the setting button be fixed red. It is no longer paired with the gateway module or the Home / Away wireless master switch



Other configurations & actions

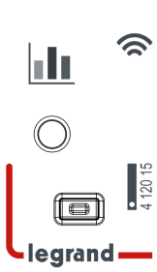
. All other features and settings such as ; scenarios etc··· are directly explained step by step in the smartphone app.

Labelling:
. Circuit identification by way of a label inserted in the label holder situated on the front of the product.



5. GENERAL CHARACTERISTICS

Marking of the Connected Contactor:
Markings of the front side:



Icon, to easily identify a connected device in the electrical panel board

Connectors markings :

5. GENERAL CHARACTERISTICS *(continued)*

Lateral markings

Characteristics of the measure coil:

Maxi measured primary current:
. 80A AC

Transformation ratio:
1000 :1

Rated short-time thermal current:
. Ith = 3kA rms /1s

Rated dynamic current:
. Idyn = 9kA

Rated insulation level:
. 3KV rms 50Hz/1min

Class of insulation:
Class A following IEC61869-1 et IEC61869-2

Rated Accuracy class:
Class 1 following IEC61869-1 +/-1% at Ipn 63A

General characteristics:

Rated impulse withstand voltage (Uimp):
4kv

Overvoltage category:
. II

Degree of pollution:
. 2

5. GENERAL CHARACTERISTICS *(continued)*

Influence of altitude:
. No influence up to 2 000 m

Rated frequency :
. 50 / 60Hz

Rated voltage of use (Ue):
. Ue = 100 to 240 V ~

Recommandations :
. For the device protection against short circuits according to the conditional current, it is recommended to use a circuit breaker or fuse gG.

Characteristics of the radio interface:
. Standard IEEE 802.15.4
. Frequencies 2,4 à 2,4835Ghz
. Transmitter output power <100mW

Protection degree:
. Protection index of terminals against direct contacts: IP2X. Protection index of the front face against direct contacts: IP3XD (IEC/EN 60529)
. Class II, front panel with faceplate.
. Class of protection against mechanical impacts IK04 (IEC/EN 62262)

Plastic material:
. Self-extinguishing polycarbonate.
. Classification UL 94: V0

Ambient operating temperature:
. Min. = + 5 ° C Max. = + 45 ° C.

Ambient storage temperature:
. Min. = - 40 ° C Max. = + 70 ° C.

Average weight:
. 91g

Volume when packed:
. 0,62 dm3.

6. COMPLIANCE AND APPROVALS

Compliance to standards:
EN 61869-1:
EN 61869-2
EN 61010-1

Environment respect – Compliance with European Union Directives:
. Compliance with Directive 2002/95/EC of 27/01/03 known as "RoHS" which provides for a restriction on the use of dangerous substances such as lead, mercury, cadmium, hexavalent chromium and polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) brominated flame retardants from 1st July 2006
. Compliance with the Directive 91/338/EEC of 18/06/91 and decree 94-647 of 27/07/04
. Compliant with regulation REACH

Plastic materials:
. Halogen-free plastics.
. Marking of parts according to ISO 11469 and ISO 1043.
. ISO 7000: 2004, Graphical symbols to be used on equipment - Index and synopsis

Packaging:
. Design and manufacture of packaging in accordance with Decree 98-638 of 20/07/98 and Directive 94/62 / EC.