

# Connected three-phases energy meter

Cat. number : 4 121 75



**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 .....	1
2. Range.....	1
3. Overall dimensions.....	1
4. Preparation - Connection .....	1
5. General characteristics .....	5
6. Compliance and approvals .....	6

## 1. DESCRIPTION - USE

### Use:

Allows to measure and display via a smartphone through the Home + Control app, the electrical consumption of an alternative three-phases circuit from 2A to 125A via the associated closed coils. This connected version offers the functions of:

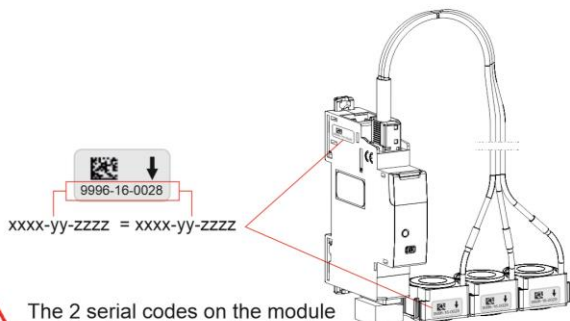
- Energy consumption: energy consumption data is automatically available for the circuit to whom the Connected Energy meter is wired to.
- Electricity consumption historic data via HOME + CONTROL smartphone app.
- Set notification on over/under consumption

### Technology:

. Three-phases current measurement, by field effect using 3 closed Rogowski coils (delivered with the three-phases energy meter) and data transmission by radio frequency to the connected network

### Important information:

- . The three-phases energy meter is not designed be installed in a single-phase network.
- . The connected three-phases energy meter does not support photovoltaic installation.
- . The coils supplied with the three-phases energy meter are not interchangeable with those of another energy meter (see below).



The 2 serial codes on the module and / or the coils must be identique

## 2. RANGE

### Width :

. 1 module. 17,7 mm wide.

### Rated primary current:

. I<sub>pn</sub> = from 2A to 125A AC

### Power consumption:

. 0.3W Maxi

### Rated voltage:

. 110V to 500V AC

### Rated frequency:

. 50Hz / 60Hz

### Configuration and use:

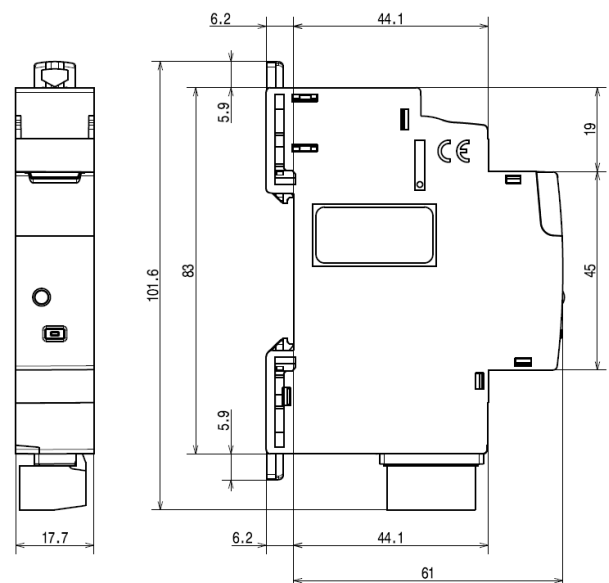
Can be used with:

- Legrand smartphone app
- « HOME + CONTROL »



. Available for free on Google Play or App Store

## 3. OVERALL DIMENSIONS

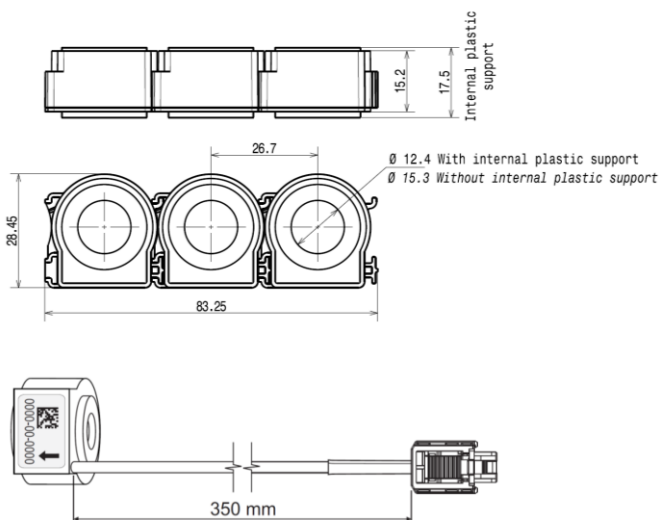


# Connected three-phases energy meter

Cat. number : 4 121 75

## 3. OVERALL DIMENSIONS (continued)

### Rogowski coils



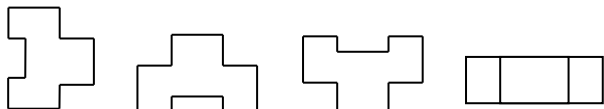
## 4. PREPARATION - CONNECTION

### Mounting:

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

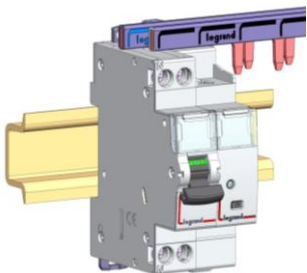
### Operating position:

. Vertical, Horizontal, Flat.



### Row positioning:

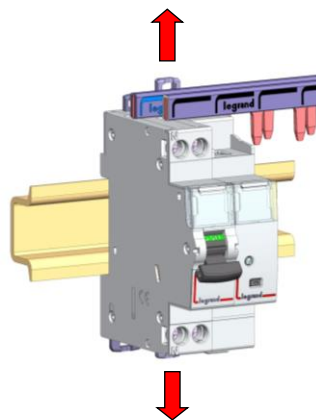
. The product shape and the positioning of the terminals allow the passage of single-line, three-lines and plug-in supply busbars in the upper part of the product. Then, it is possible to freely choose the position of the Connected three-phases energy meter in the row and to connect by supply busbar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



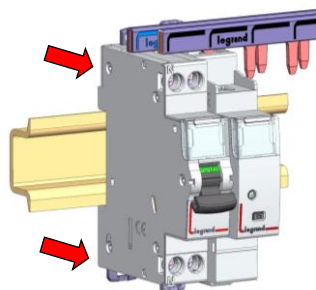
## 4. PREPARATION – CONNECTION (continued)

### Module maintenance:

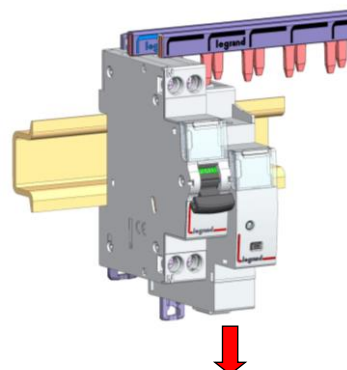
. It is possible to switch a Connected three-phases energy meter in the middle of a row supplied with an upstream busbar without disconnecting the other devices on the same DIN rail.



1. Unclip the clamp to put it in open position



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

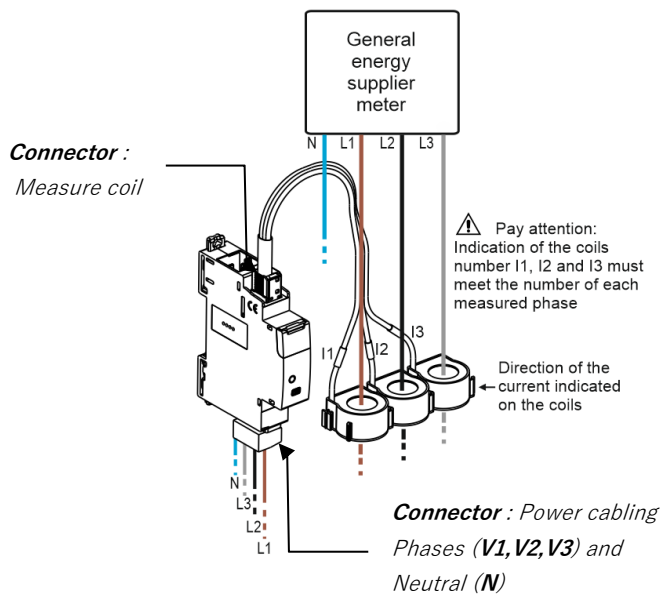


3. Pull the device downward in order to completely release it from the prongs of the busbar

# Connected three-phases energy meter

Cat. number : 4 121 75

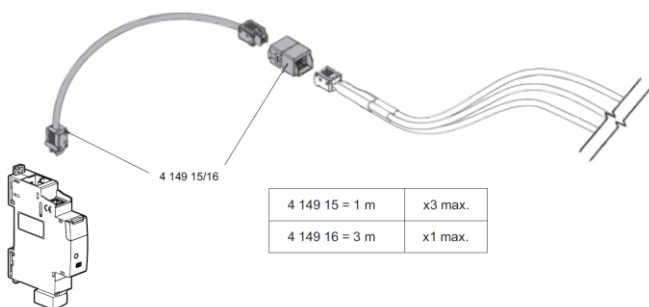
## 4. 4. PREPARATION – CONNECTION (continued)



A circuit breaker from C2 to C16 rating is required according to the cable cross section used to supply the three-phases energy meter. The connection between the three-phases energy meter and the coil is made via a connector.

### Using the extension kit (Optional):

The cords are clipped to either side of the end cap.



### 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

## 4. MISE EN SITUATION - RACCORDEMENT (suite)

### Conductor type:

- . Copper cables

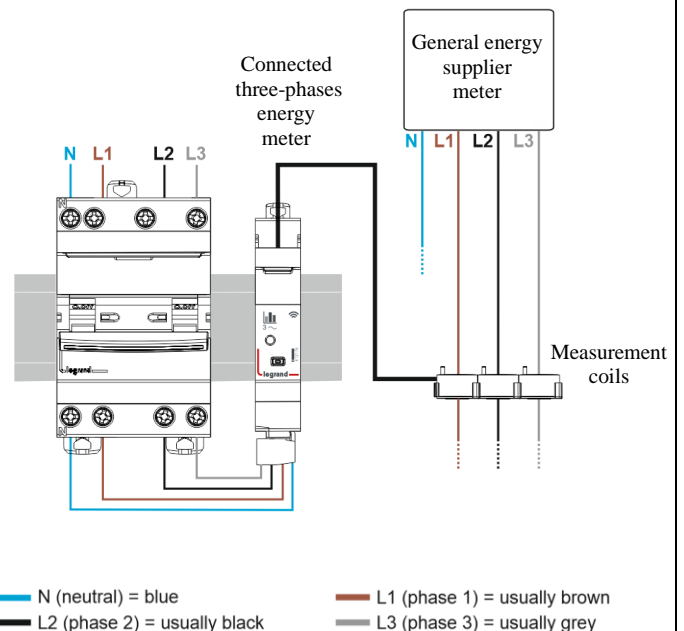
	Without ferrule	With ferrule
Rigid cable	1x (1 to 2.5mm <sup>2</sup> ) 2 x (1 to 1.5mm <sup>2</sup> )	-
Flexible cable	1x (1 to 2.5mm <sup>2</sup> ) 2 x (1 to 1.5mm <sup>2</sup> )	1 x (1 to 1.5mm <sup>2</sup> )

### Capacity of the measurement coil:

	WITH the internal plastic support	WITHOUT the internal plastic support
Rigid cable	1 x max. 50 mm <sup>2</sup> ø 12,4 mm	1 x max. 70 mm <sup>2</sup> ø 15,3 mm
Flexible cable	1 x max. 50 mm <sup>2</sup> ø 12,4 mm	1 x max. 70 mm <sup>2</sup> ø 15,3 mm

### Wiring diagrams:

- . Example of wiring diagram in an installation:  
Measurement of total consumption



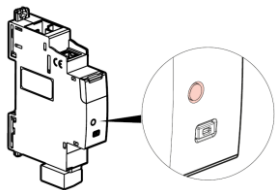
### Real-time and historical data visualization:

- . Via smartphone with the Home+Control app.

## 4. PREPARATION - CONNECTION *(continued)*

### Visualization of the status of the device:

. Via the LED on the front face



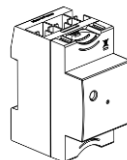
Color	Status	Signification
 Red	Fixed	Temporary status. Device not connected to the radio network
 Green	Fixed	Temporary status. Device correctly paired to the radio network (when the radio network is still open)
	OFF	Normal status. Device paired to the radio network (when the radio network is closed)

## 4. PREPARATION - CONNECTION *(continued)*

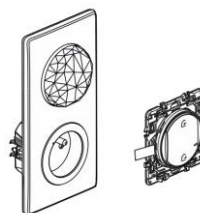
### Add a Connected Contactor in a connected installation **(several steps):**

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

Either a Gateway module

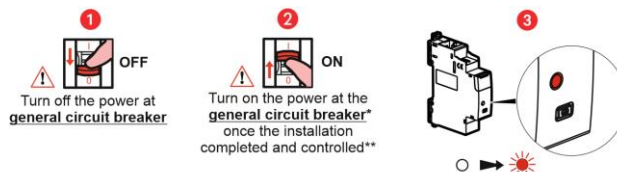


Or a Connected starter pack (drawing of principle, works with anykind of "with Netatmo" connected starter pack).



Or any kind of "with Netatmo" gateway

. 2/ Beforehand, the general circuit breaker must be turned OFF. Then after wiring step done, installation controlled, refit the front plate so that no active live part is accessible. Then the general circuit breaker can be powered back ON to simultaneously power devices and allow them to be connected to the network.

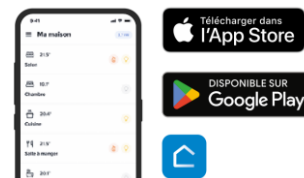


\* In order to restart all connected products at the same time.

\*\* After wiring the installation, refit the front plate so that no active live part is accessible.

. 3/ Finalize the installation in the Legrand Home + Control app

. Download the Home + Control App and follow the instructions for adding the connected product in your setup.



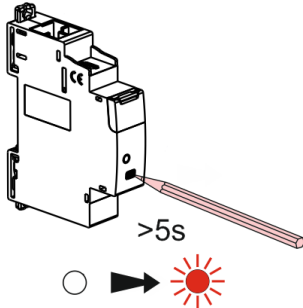
# Connected three-phases energy meter

Cat. number : 4 121 75

## 4. PREPARATION - CONNECTION *(continued)*

### Connected three-phases 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 / Gateway power outlet.

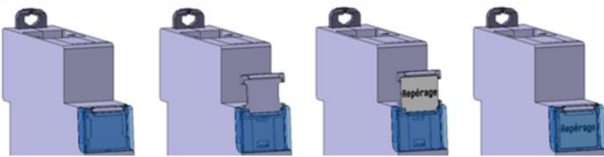


### Other configurations & actions

. 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

### Characteristics of the measure coil:

#### Measured primary current:

. From 2A to 125A AC

#### Transformation ratio:

. 1000 :1

#### Rated short-time thermal current:

.  $I_{th} = 3\text{kA rms} / 1\text{s}$

#### Rated dynamic current:

.  $I_{dyn} = 9\text{kA}$

#### Rated insulation level:

. 3KV rms 50Hz/1min

#### Class of insulation:

Class A following IEC61869-2

#### Measurement Accuracy:

Module + coil measurement chain accuracy:  
+/-1% for a measured current  $>2\text{A}$  and  $\cos \varphi \geq 0.8$

## 5. CARACTERISTIQUES GENERALES *(suite)*

### Rated impulse withstand voltage (Uimp):

4kv

### Overvoltage category:

. III

### Degree of pollution:

. 2

### Rated frequency :

. 50 / 60Hz

### Rated voltage of use (Ue):

.  $U_e = 110 \text{ à } 500 \text{ V } \sim$

### Recommandations:

. A circuit breaker from C2 to C16 rating is required according to the cable cross section used to supply the three-phases energy Meter.

### Characteristics of the radio interface:

- . Standard IEEE 802.15.4
- . Frequencies 2,4 à 2,4835Ghz
- . Transmitter output power  $<100\text{mW}$

### Protection degree:

- . Protection index of terminals against direct contacts: IP2X (wired device).
- . Protection index of the front face against direct contacts: IP3XD
- . Class II, front panel with front plate.
- . Class of protection against mechanical impacts IK04

### Plastic material:

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

### Use:

- . Indoor

### Influence of altitude:

- . No influence up to 2 000 m

### Ambient operating temperature:

- . Min. = + 5 ° C Max. = + 45 ° C.

### Ambient storage temperature:

- . Min. = - 40 ° C Max. = + 70 ° C.

### Relative humidity :

- . Maximum relative humidity 80 % for temperatures up to 31 ° C.
- . Decreasing linearly to 50 % relative humidity at 40 ° C.

### Mains supply voltage fluctuations:

- . Up to  $\pm 10 \%$  of the nominal voltage.

### Average weight:

- . 109g

### Volume when packed:

- . 0,62 dm<sup>3</sup>.

## 6. COMPLIANCE AND APPROVALS

### Compliance to standards:

EN/IEC 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 1<sup>st</sup> 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.