

Three phase kWh meter 80 A

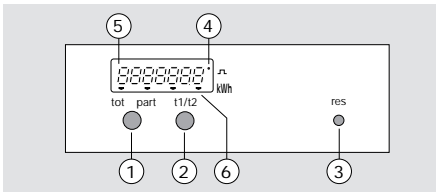


EC 310, EC 311

Operating principle

This kilowatt hour meter measures the active electrical energy used in an electrical installation. This device has a total counter, a resettable partial counter and a calibrated pulsed output. In the case of two tariff levels, the EC 311 will measure and record separately the energy used during tariff 1 or tariff 2 periods.

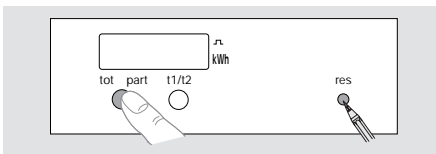
Product presentation:



- ① **tot./part.** to select display of total or of partial consumption.
- ② **t1/t2** (EC 311) to select display of the consumption on tariff 1 or 2.
- ③ **res** to reset the partial counter.
- ④ LED blinking each 10 Wh.
- ⑤ 7 digits display.
- ⑥ indicator of operating mode.

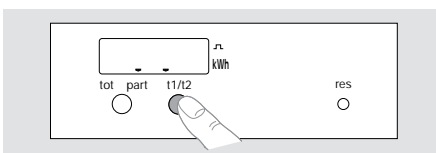
Total or partial counter

1. Automatically, the device will display the partial consumption.
2. To display the total consumption (since the first installation of the counter), press key ①.
3. To switch back to the partial consumption, press key ①.
4. To reset the partial counter, press the key ② with the tip of a pen during 3 seconds.



Tariff 1 and tariff 2 (EC 311)

- The meter will split the consumption (total and partial) in the corresponding tariff (1 or 2).
5. Automatically, the counter will display the energy used in the tariff in progress.
 6. To display the partial or the total consumption in tariff 1 or in tariff 2, or the total tariff 1 + tariff 2, press successively key ②. The indicator ⑥ will indicate to which tariff corresponds the consumption displayed. ex : partial consumption on tariff 1.

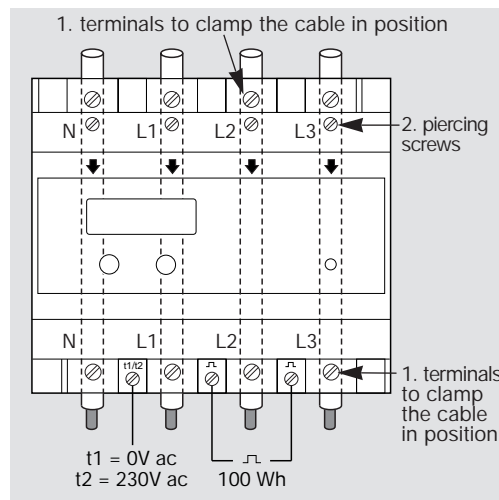


7. To reset the partial counter (tariff 1 and 2) see point 4.

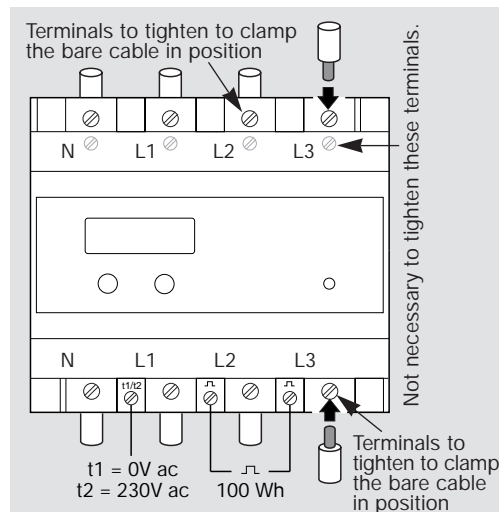
Electrical connection :

There are 2 solutions to connect the three phases and the neutral to the kWh meter :

1. Pass the cables through the kWh meter, without cutting and stripping them.
 - position the terminal covers by turning through 180°
 - pass the cables through the kWh meter
 - tighten the upper and the bottom terminals to clamp the cable in position
 - tighten at the maximum the piercing screw to allow the voltage measurement
 - the cables must have a cross section of
 - 10 mm² minimum
 - 25 mm² max. this means an external diameter of 10,5 mm maximum.



2. It is also possible to connect stripped cables.
 - connect your incoming and outgoing cables cut and stripped.
 - position the terminal covers by turning through 180°
 - make all necessary connections.
 - the cables must have a cross section of
 - 4 mm² minimum
 - 50 mm² max. this means a diameter of 10,5 mm maximum (bared).



Technical specifications

Voltage input :

- working voltage : 400 V ~ ± 20 %
- frequency : 50/60 Hz ± 2 Hz
- consumption :
 - L1 & L2 ≤ 2 VA
 - L3 ≤ 0,2 VA

Current input :

- direct connection : 80 A max (Ib = 30 A)
- starting current : 0,8 A
- consumption :
 - cut and stripped cables ≤ 2,5 VA
 - passing through cables ≤ 0,1 VA

Electrical characteristics :

- IP 30 in the enclosure
- insulation class : II
- consumption :
 - cut and stripped cables ≤ 9,7 VA
 - passing through cables ≤ 2,5 VA

Accuracy : IEC 1036 class 2 (2 %)

Functional characteristics :

- direct reading : unit = 0.1 kWh
- display capacity : 999 999.9 kWh ⑤
- instant consumption : blinking LED 10 Wh ④
- savings of measures are made regularly and in case of power failure.

Impulse transmitter :

- relais reed
- 1 pulse : 100 Wh
- pulse duration : 60 ms ± 3 ms
- external supply : 100 Vdc max.
- operating current : 0,3 A max.

Tariff level input :

- supply : 230V ~ (N-Ph) ± 20 %
- tariff level 1 : 0 Vac
- tariff level 2 : 230 Vac

Environment :

- working temperature : -5 °C to +45 °C
- storage temperature : -20 °C to +70 °C
- relative humidity : 85% without condensation

Size : 7 ■ of 17.5 mm.

Connection

Tariff input and pulsed output :

- flexible : 1 to 6 mm²
- rigid : 1,5 to 10 mm².

Power cables :

We recommend to use the following minimum cross-section (flexible or rigid) :

- I < 32 A : 4 mm² min.
- 32 A ≤ I < 57 A : 10 mm² min.
- 57 A ≤ I < 76 A : 16 mm² min.
- 76 A ≤ I < 80 A : 25 mm² min.

Warranty



A warranty period of 24 months is offered on hager products, from date of manufacture, relating to any material of manufacturing defect. If any product is found to be defective it must be returned via the installer and supplier (wholesaler). The warranty is withdrawn if :

- after inspection by hager quality control dept the device is found to have been installed in a manner which is contrary to IEE wiring regulations and accepted practice within the industry at the time of installation.
 - the procedure for the return of goods has not been followed.
- Explanation of defect must be included when returning goods.