

CIRWATT B 410T

Standard three-phase meter with indirect connection



Description

CIRCUTOR's CIRWATT B 410T is a standard three phase indirect connection meter, as a result of all the technological developments which is experiencing the current market. These changes have created new needs and requirements both in terms of more flexible rates, new communications systems and a price optimization.

Application

CIRWATT B 410T is suitable to be installed in LV and MV networks being the best solution or installations with high and medium consumptions like shopping malls, industries and high consumption households. Providing to the market a robust and competitive meter fully complying with the new European Directive MID (EN 50470) and all the relevant IEC's.

Features

| | |
|--|--|
| Power supply | |
| Nominal voltage | 3 x 230 (400) V - 3 x 127 (230) V - 3 x 63,5 (110) V |
| Tolerance | 80% ... 115% U_n |
| Consumption | < 2 W; < 10 V·A |
| Frequency | 50 or 60 Hz |
| Voltage measurement | |
| Connection | Asymmetrical |
| Reference voltage | 3 x 230 (400) V - 3 x 127 (230) V - 3 x 63,5 (110) V * |
| Frequency | 50 or 60 Hz |
| Voltage consumption of the circuit | < 2 W; 10 V·A |
| Current measurement | |
| Nominal reference current $I_{ref} (I_{max})$ | 1 (2) A or 1 (6) A or 2,5 (10) A or 5 (10) A * |
| Start-up current I_{st} | < 0,04 x I_{tr} |
| Minimum current I_{min} | < 0,2 x I_{tr} |
| Current consumption of the circuit | < 0,1 V·A |
| Accuracy class | |
| Accuracy measured in active energy | EN 50470 (Class B) - IEC 62053-21 (Class 1) |
| Accuracy measured in reactive energy | IEC 62053-23 (Class 2) |
| Memory | |
| Data | Non-volatile memory |
| Setup and events | Serial flash |
| Battery | |
| Type | Lithium |
| Working Life | > 20 years @ 30 °C |
| Clock | |
| Type | Gregorian calendar |
| Source | Temperature compensated oscillator |
| Accuracy (EN 61038) | < 0.5 s / day at 23 °C |
| Environmental influence | |
| Operating temperature range | -40 ... +70 °C |
| Storage temperature range | -40 ... +85 °C |
| Temperature coefficient | < 15 ppm/K |
| Humidity | 95 % máx. |
| Insulation | |
| Insulating voltage | 4 kV a 50 Hz during 1 min |
| Impulse voltage 1.2/50 μ s - IEC 62052-11 | 8 kV |
| Protection degree (IEC 62052-11) | II |
| Display | |
| Type | LCD |
| Number of data digits | up to 8 |
| Size of data digits | 8 mm |
| Display data reading when there is no voltage. | Yes |

* Request for other configurations

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Features

| Optical communications interface | |
|----------------------------------|---|
| Type | Serial, two-directional |
| Hardware | IEC 62056-21 |
| Protocol | REE, based on IEC 870-5-102 |
| Tampering detector | |
| Detection | Opening the terminal cover |
| Type | Micro-switch |
| Function | Detects intruders when there is no voltage. |
| Construction features | |
| Connection | Asymmetrical |
| External dimensions | DIN 43857 |
| Enclosing features | DIN 43859 |
| IP Degree (IEC 60529) | IP 51 |
| PLC | |
| Modulation system | DSCK with repeater system |
| Hardware | CENELEC A or CENELEC B |
| Protocol | CirPLC and PEP (PLC Encapsulated Protocol) |

Rate programming

| | |
|----------------------|--------|
| Number of days | 12 |
| Types of days | 10 |
| Contracts | 3 |
| Number of Tariffs | 9 |
| Discrimination | 1 hour |
| Holidays/festivities | 30 |
| Special days | 12 |

Load curve

| | |
|-----------------------|-----------------------------|
| Number of load curves | 2 |
| Integration time | Programmable: 1 ... 253 min |
| Recording depth | 4000 |

Events

| | |
|------------------|-----|
| Number of events | 200 |
|------------------|-----|

Billing closures

| | |
|-----------------|---------------------------------------|
| Number of locks | 12, per contract |
| Type | Disabled / Programmable date and hour |

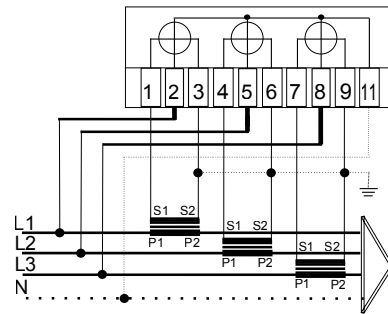
Other features

| Communications * | Expansion cards * |
|-------------------|--|
| RS-232 / PLC | Without inputs / outputs |
| RS-485 / PLC | 4 relay outputs (Tariff indicator) |
| RS-232 / RS-232 | 2 relay outputs / 4 impulse inputs |
| RS-485 / RS-485 | 4 pulse inputs |
| RS-232 / RS-485 | Earth leakage measurement |
| RS-232 / Ethernet | 2 relay outputs / 2 impulse outputs / 2 impulse inputs |
| R-485 / Ethernet | |

* Request for other configurations

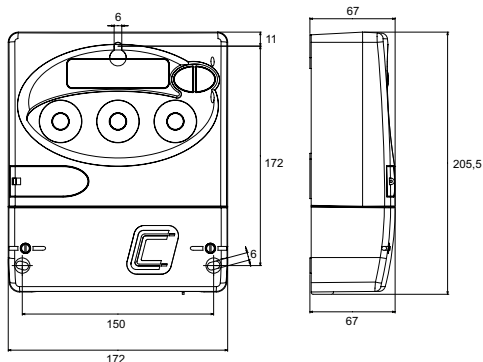
Connections

CIRWATT B 410T indirect connection

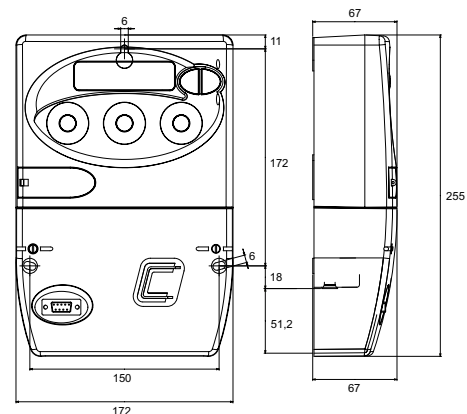


Dimensions

Terminal cover option



Wire cover option



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References

| Class (Active/ Reactive) | Quadrants | Frequency (Hz) | Measuring range V | Measuring range A | Communication COM1 | Communication COM2 | Type | Code |
|-----------------------------|-----------|----------------|-------------------|-------------------|-----------------------|-----------------------|--------------------------|-------|
| B / 2 | 2 | 50 or 60 Hz | 3x230/400 V | .../5A | RS232 | RS232 | CIRWATT B 410-QT5A-70B00 | QB660 |
| B / 2 | 2 | 50 or 60 Hz | 3x230/400 V | .../5A | RS485 | RS485 | CIRWATT B 410-QT5A-80B00 | QB6A0 |
| B / 2 | 2 | 50 or 60 Hz | 3x230/400 V | .../5A | RS232 | RS485 | CIRWATT B 410-QT5A-90B00 | QB670 |
| B / 2 | 2 | 50 or 60 Hz | 3x230/400 V | .../5A | RS232 | ETHERNET | CIRWATT B 410-QT5A-A0B00 | QB680 |
| B / 2 | 2 | 50 or 60 Hz | 3x230/400 V | .../5A | RS485 | ETHERNET | CIRWATT B 410-QT5A-D0B00 | QB690 |
| B / 2 | 2 | 50 or 60 Hz | 3x127/220 V | .../5A | RS232 | RS232 | CIRWATT B 410-NT5A-70B00 | QBF60 |
| B / 2 | 2 | 50 or 60 Hz | 3x127/220 V | .../5A | RS485 | RS485 | CIRWATT B 410-NT5A-80B00 | QBFA0 |
| B / 2 | 2 | 50 or 60 Hz | 3x127/220 V | .../5A | RS232 | RS485 | CIRWATT B 410-NT5A-90B00 | QBF70 |
| B / 2 | 2 | 50 or 60 Hz | 3x127/220 V | .../5A | RS232 | ETHERNET | CIRWATT B 410-NT5A-A0B00 | QBF80 |
| B / 2 | 2 | 50 or 60 Hz | 3x127/220 V | .../5A | RS485 | ETHERNET | CIRWATT B 410-NT5A-D0B00 | QBF90 |