



405-VT5A-80B10, Three-phase energy meter indirect connection

Code: QBK80 DESCATALOGADO

> Type Consumer: 2

> Communications: RS-485 | RS-485 > Class (Active/Reactive): C (0,5S)/1

> System: Three-phase> Measure: Indirect

> Measurement Range (V): 3x57/100 ... 3x230/400

> Measurement Range (A): .../5

> Quadrants: 4> Frequency (Hz): 50

### Description

The CIRWATT-B505 is an indirect three-phase meter, recorder, and multi-tariff device, classified as Class C for active energy as per the European MID Directive (EN 50470) or Class 0.5s as per IEC-62053-22, and reactive energy Class 1 as per IEC-62053-23. It offers multiple communication options and expansion modules, allowing it to adapt to any type of industrial or tertiary sector installation.

### **Application**

CIRWATT B-505 is ideal for medium-voltage supplies using external voltage and current transformers. Offering solutions for large industry with a power between 450 kW and 10 MW (Consumer type 2). Available in 2 quadrants for energy consumption or 4 quadrants for photovoltaic plants (energy generation and consumption).







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## **Specifications**

| Tolerance                                | 80 % 115 % Un                  |  |
|--|--------------------------------|--|
| Consumption                              | < 2 W; < 10 VA                 |  |
| Frequency                                | 50 / 60 Hz                     |  |
| Nominal voltage                          | 3 x 57 (100) V 3 x 230 (400) V |  |
| attery specification                     |                                |  |
| Performance-guarantee                    | > 20 years @ 30 °C             |  |
| Туре                                     | Lithium                        |  |
| dechanical characteristics               |                                |  |
| Size (mm) width x height x depth         | 172 x 255 x 67 (mm)            |  |
| Envelope                                 | DIN 43859                      |  |
| Weight (kg)                              | 1,3                            |  |
| nvironmental characteristics             |                                |  |
| Relative humidity (without condensation) | 95 % max.                      |  |
| Storage temperature                      | -40 +85 °C                     |  |
| Working temperature                      | -25 +70 °C                     |  |
| oltage measurement circuit               |                                |  |
| Connection                               | Asymmetrical                   |  |
| Consumption                              | < 2 W; 10 VA                   |  |
| Nominal frequency                        | 50 / 60 Hz                     |  |
| Nominal voltage                          | 3x57/100 3x230/400 V           |  |
| urrent measurement circuit               |                                |  |
| Consumption                              | < 0,1 V·A                      |  |
| Reference current (Iref)                 | / 5 A                          |  |
| Maximum current                          | 10 A                           |  |
| Minimum current measurement              | < 0,5 x ltr                    |  |
| ptical communication interface           |                                |  |
| Hardware                                 | IEC 62056-21                   |  |
| Protocol                                 | REE, based on IEC 870-5-164    |  |
| Туре                                     | Serial;bi-directional          |  |







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| lser |  |  |
|------|--|--|
|      |  |  |
|      |  |  |

| Resolution of the display | up to 8 digits (8 mm) |
|---------------------------|-----------------------|
| Display type              | LCD                   |
| Memory                    |                       |

| Memory capacity | Data: non-volatile memory, Setup and events: serial-flash |
|-----------------|---|
| Write time      | 4000  |
| Туре            | Serial flash  |

#### Standards

| Standards | UNE-EN 50470-1 Electricity metering equipment (a.c.) Part 1: General requirements, tests and test conditions - Metering equipment -class indexes B-) UNE-EN 50470-3 Electricity metering equipment (a.c.) Part 3: Particular requirements - Static meters for active energy -class indexes B-) IEC 62052-11, IEC 62053-21, IEC 62053-22 (Standards for static active energy meters for alternating current of class 0.2s, 0.5s) UNE-EN 55022 (Conducted Emissions: Class B, Radiated Emissions: Class B) UNE-EN 61000-4-2, UNE-EN 61000-4-3, UNE-EN |
|-----------|---|
|           | 61000-4-4, UNE-EN 61000-4-5, UNE-EN 61000-4-6, UNE-EN 61000-4-8, UNE-EN 61000-4-11  |

### PLC

| Hardware          | CENELEC A or CENELEC B                   |
|-------------------|--|
| Protocol          | CirPLC & PEP (PLC Encapsulated Protocol) |
| Modulation system | DSCK with repeater system                |

### Measurement accuracy

| Reactive energy measurement (kvarh) | IEC 62053-23 (Class 1 / 2)                   |
|-------------------------------------|--|
| Active energy measurement (kWh)     | IEC 62053-22 (Class 0,5S) EN 50470 (Class C) |

### Features / performance

| Billing closures   | 12 locks per contract. Programable date and hour  |
|--------------------|---|
| Load curve         | 2 load curves, programmable integration time (1 253 min)  |
| Optional           | Communications: RS-232 / PLC ,RS-485 / PLC, RS-232 / RS-232 , RS-485 / RS-485, RS-232 / RS-485, RS-232 / Ethernet, R-485 / Ethernet. Expansion boards: No inputs / outputs, 4 relay outputs (Rate Indicator), 2 relay inputs / 4 pulse outputs, 4 pulse inputs, Differential current measurement, 2 relay outputs / 2 pulse outputs, / 2 pulse inputs |
| Tariff programming | 12 days 10 types of data 9 types of tariffs 30 public holidays 12 special days  |
|                    |   |

### Clock

| Source              | Temperature compensated oscillator |
|---------------------|------------------------------------|
| Accuracy (EN 61038) | < 0,5 s/day (23 °C)                |
| Туре                | Gregorian calendar                 |







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#### CIRWATT B 505

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| CODE  | TYPE           | Measurement Range (V) | Measurement<br>Range (A) | Communications    | Class<br>(Active/Reactive) | System      | Measure  |
|-------|----------------|-----------------------|--------------------------|-------------------|----------------------------|-------------|----------|
| CIRWA | TT B 505       |                       |                          |                   |                            |             |          |
| QBP1I | 405-MT5A-70B10 | 3x63,5/110            | /5                       | RS-232   RS-232   | C (0,5S)/1                 | Three-phase | Indirect |
| QBK10 | 405-VT5A-90B10 | 3x57/100 3x230/400    | /5                       | RS-232   RS-485   | C (0,5S)/1                 | Three-phase | Indirect |
| QBP1J | 405-MT5A-80B10 | 3x63,5/110            | /5                       | RS-485   RS-485   | C (0,5S)/1                 | Three-phase | Indirect |
| QBP1E | 405-MT5A-90B10 | 3x63,5/110            | /5                       | RS-232   RS-485   | C (0,5S)/1                 | Three-phase | Indirect |
| QBP1F | 405-MT5A-A0B10 | 3x63,5/110            | /5                       | RS-232   Ethernet | C (0,5S)/1                 | Three-phase | Indirect |
| QBP1K | 405-MT5A-C0B10 | 3x63,5/110            | /5                       | RS-485   Ethernet | C (0,5S)/1                 | Three-phase | Indirect |
| QBN00 | 405-VT7A-90B10 | 3x57/100 3x230/400    | / 1                      | RS-232   RS-485   | C (0,5S)/1                 | Three-phase | Indirect |
| QBN10 | 405-VT7A-A0B10 | 3x57/100 3x230/400    | / 1                      | RS-232   Ethernet | C (0,5S)/1                 | Three-phase | Indirect |
| QBN30 | 405-VT7B-90B10 | 3x57/100 3x230/400    | / 1                      | RS-232   RS-485   | C (0,5S)/1                 | Three-phase | Indirect |

Please contact us for other configurations (Inputs, outputs and other communications)







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#### Dimensions Connections





