# 402-VT5A-C0B10

402-VT5A-C0B10, Three-phase energy meter indirect connection

Code: QBL30 **(CONSULTAR DISPONIBILIDAD)**

> Type Consumer: 1
> Communications: RS-485 | Ethernet
> Class (Active/Reactive): 0.2S/0.5
> System: Three-phase
> Measure: Indirect
> Measurement Range (V): 3x57/100 ... 3x230/400
> Measurement Range (A): .../5
> Quadrants: 4
> Frequency (Hz): 50

## Description

CIRCUTOR's CIRWATT-B410T is a standard three phase indirect meter. It is the 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 communication system and price optimization. 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.

## Application

CIRWATT-B410T 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.

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## Specifications

### AC power supply

| | |
|---|---|
| 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 |

### Battery specification

| | |
|---|---|
| Performance-guarantee | > 20 years @ 30 °C |
| Type | Lithium |

### Mechanical characteristics

| | |
|---|---|
| Size (mm) width x height x depth | 172 x 255 x 67 (mm) |
| Envelope | DIN 43859 |
| Weight (kg) | 0,67 |

### Environmental characteristics

| | |
|---|---|
| Relative humidity (without condensation) | 95 % max. |
| Storage temperature | -40 ... +85 °C |
| Working temperature | -25 ... +70 °C |

### Voltage measurement circuit

| | |
|---|---|
| Connection | Asymmetrical |
| Consumption | < 2 W; 10 VA |
| Nominal frequency | 50 / 60 Hz |
| Nominal voltage | 3x57/100 ... 3x230/400 V |

### Current measurement circuit

| | |
|---|---|
| Consumption | < 0,1 V·A |
| Reference current (Iref) | .../ 5 A |
| Maximum current | 10 A |
| Minimum current measurement | < 0,5 x Itr |

### Optical communication interface

| | |
|---|---|
| Hardware | IEC 62056-21 |
| Protocol | REE, based on IEC 870-5-160 |
| Type | Serial;bi-directional |

### User interface

| | |
|---|---|
| Resolution of the display | up to 8 digits (8 mm) |

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| | |
|---|---|
| Display type | LCD |

## Memory

| | |
|---|---|
| Memory capacity | Data: non-volatile memory, Setup and events: serial-flash |
| Write time | 4000 |
| Type | 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 0,5 / 1 / 2) |
| Active energy measurement (kWh) | IEC 62053-22 (Class 0,2S) |

## 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) |
| Type | Gregorian calendar |

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| CODE | TYPE | Measurement Range (V) | Measurement Range (A) | Communications | Class (Active/Reactive) | System | Measure |
|---|---|---|---|---|---|---|---|
| **CIRWATT B 502** | | | | | | | |
| QBP1P. | 402-MT5A-70B10 | 3x63,5/110 | .../5 | RS-232 \| RS-232 | 0.2S/0.5 | Three-phase | Indirect |
| QBP1A. | 402-MT5A-90B10 | 3x63,5/110 | .../5 | RS-232 \| RS-485 | 0.2S/0.5 | Three-phase | Indirect |
| QBP1Q. | 402-MT5A-80B10 | 3x63,5/110 | .../5 | RS-485 \| RS-485 | 0.2S/0.5 | Three-phase | Indirect |
| QBP1B. | 402-MT5A-A0B10 | 3x63,5/110 | .../5 | RS-232 \| Ethernet | 0.2S/0.5 | Three-phase | Indirect |
| QBP1R. | 402-MT5A-C0B10 | 3x63,5/110 | .../5 | RS-485 \| Ethernet | 0.2S/0.5 | Three-phase | Indirect |
| QBP1C | 402-MT5B-90B10 | 3x63,5/110 | .../5 | RS-232 \| RS-485 | 0.2S/0.5 | Three-phase | Indirect |
| QBP1D | 402-MT5B-A0B10 | 3x63,5/110 | .../5 | RS-232 \| Ethernet | 0.2S/0.5 | Three-phase | Indirect |
| **CIRWATT B 505** | | | | | | | |
| QBP1I | 405-MT5A-70B10 | 3x63,5/110 | .../5 | RS-232 \| RS-232 | 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 |
| **CIRWATT B 410T** | | | | | | | |
| QB860 | 410-QT5A-70B10 | 3x230/400 | .../5 | RS-232 \| RS-232 | B (1) / 2 | Three-phase | Indirect |
| **CIRWATT B 505** | | | | | | | |
| 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 |
| QBN40 | 410-VT7B-A0B10 | 3x57/100 ... 3x230/400 | .../ 1 | RS-232 \| Ethernet | C (0,5S)/1 | Three-phase | Indirect |
| **CIRWATT B 410T** | | | | | | | |
| QB8A0 | 410-QT5A-80B10 | 3x230/400 | .../5 | RS-485 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QB870 | 410-QT5A-90B10 | 3x230/400 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QB880 | 410-QT5A-A0B10 | 3x230/400 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QB890 | 410-QT5A-C0B10 | 3x230/400 | .../5 | RS-485 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBJ10 | 410-VT5A-90B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBG60 | 410-NT5A-70B10 | 3x127/220 | .../5 | RS-232 \| RS-232 | B (1) / 2 | Three-phase | Indirect |
| QBJ20 | 410-VT5A-A0B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBG70 | 410-NT5A-90B10 | 3x127/220 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QB8D0 | 410-QT5B-90B10 | 3x230/400 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBGA0 | 410-NT5A-80B10 | 3x127/220 | .../5 | RS-485 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBG80 | 410-NT5A-A0B10 | 3x127/220 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QB8E0 | 410-QT5B-A0B10 | 3x230/400 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBG90 | 410-NT5A-C0B10 | 3x127/220 | .../5 | RS-485 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBJ60 | 410-VT5B-90B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBH20 | 410-MT5A-70B10 | 3x63,5/110 | .../5 | RS-232 \| RS-232 | B (1) / 2 | Three-phase | Indirect |
| QBJ70 | 410-VT5B-A0B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |

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|---|---|---|---|---|---|---|---|
| QBH30 | 410-MT5A-90B10 | 3x63,5/110 | .../5 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBN0B | 410-QT7A-90B10 | 3x230/400 | .../ 1 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBH61 | 410-MT5A-80B10 | 3x63,5/110 | .../5 | RS-485 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBH40 | 410-MT5A-A0B10 | 3x63,5/110 | .../5 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBN1B | 410-QT7A-A0B10 | 3x230/400 | .../ 1 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBH50 | 410-MT5A-C0B10 | 3x63,5/110 | .../5 | RS-485 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBN0J | 410-VT7A-90B10 | 3x57/100 ... 3x230/400 | .../ 1 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBN1J | 410-VT7A-A0B10 | 3x57/100 ... 3x230/400 | .../ 1 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBN2B | 410-QT7B-90B10 | 3x230/400 | .../ 1 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBN3B | 410-QT7B-A0B10 | 3x230/400 | .../ 1 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |
| QBN2J | 410-VT7B-90B10 | 3x57/100 ... 3x230/400 | .../ 1 | RS-232 \| RS-485 | B (1) / 2 | Three-phase | Indirect |
| QBN3J | 410-VT7B-A0B10 | 3x57/100 ... 3x230/400 | .../ 1 | RS-232 \| Ethernet | B (1) / 2 | Three-phase | Indirect |

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## Dimensions

## Connections