



## 410-QD1A-90B10

410-QD1A-90B10, Three-phase energy meters direct connection

Code: QB4B0

- > Type Consumer: 4
- > Communications: RS-232 | RS-485
- > Class (Active / Reactive): B (1) / 2
- > System: Three-phase
- > Measure: Direct
- > Measurement Range (V): 3x230/400
- > Measurement Range (A): 10 (100)
- > Quadrants: 4
- > Frequency (Hz): 50

### Description

CIRWATT-B410D is a direct three-phase meter, ideal for three-phase industrial applications. It is classified as Class B for active energy as per the European MID Directive (EN 50470) or Class 1 as per IEC-62053-21. It offers multiple communication options and expansion modules, allowing it to adapt to any type of direct measurement installation.

### Application

CIRWATT-B410D is suitable for low-voltage applications (for currents up to 100 or 120 A maximum). Offering solutions for a wide variety of installations such as: shopping centres, small industry and high-consumption residential areas (Consumer type 4). Available in 2 quadrants for energy consumption or 4 quadrants for photovoltaic plants (energy generation and consumption).



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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 230 (400) V - 3 x 127 (230) V |

#### Mechanical characteristics

|                                  |                     |
|----------------------------------|---------------------|
| Size (mm) width x height x depth | 172 x 255 x 67 (mm) |
| Envelope                         | DIN 43859           |
| Weight (kg)                      | 2,8                 |

#### Environmental characteristics

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

#### Voltage measurement circuit

|                   |  |
|-------------------|--|
| Connection        | Asymmetrical                                     |
| Consumption       | < 2 W; 10 VA                                     |
| Nominal frequency | 50 / 60 Hz                                       |
| Nominal voltage   | 3 x 230/400 V (Request for other configurations) |

#### Current measurement circuit

|                             |             |
|-----------------------------|-------------|
| Consumption                 | < 0,1 V-A   |
| Reference current (Iref)    | 10 A        |
| Maximum current             | 100 A       |
| Minimum current measurement | < 0,5 x Itr |

#### Battery specification

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

#### Optical communication interface

|          |                             |
|----------|-----------------------------|
| Hardware | IEC 62056-21                |
| Protocol | REE, based on IEC 870-5-109 |
| Type     | Serial;bi-directional       |



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### User interface

|                           |                       |
|---------------------------|-----------------------|
| 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  |
| 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 2)                    |
| Active energy measurement (kWh)     | EN 50470 (Class B) IEC 62053-21 (Class 1) |

### 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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### Serial communication

|                   |                              |
|-------------------|------------------------------|
| Protocol          | REE, basado en IEC 870-5-102 |
| Technology / Type | RS-232 RS-485                |

### CIRWATT B 410D

Direct three-phase meter, ideal for three-phase industrial applications. It is classified as Class B for active energy as per the European MID Directive (EN 50470) or Class 1 as per IEC-62053-21

| CODE                  | TYPE                               | Measurement Range (V) | Measurement Range (A) | Communications    | Class (Active/Reactive) | System      | Measure  |
|-----------------------|------------------------------------|-----------------------|-----------------------|-------------------|-------------------------|-------------|----------|
| <b>CIRWATT B 410D</b> |                                    |                       |                       |                   |                         |             |          |
| QB4B0D02              | 410-QD1A-90B10-SIMPLE TARIFA-3.0A  | 3x230/400             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Indirect |
| QB4B0D01              | 410-QD1A-90B10-TRIPLE TARIFA-3.0A  | 3x230/400             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Indirect |
| QP302                 | 410-QD1C-20P22                     |                       |                       |                   |                         |             |          |
| QB4A0                 | 410-QD1A-70B10                     | 3x230/400             | 10 (100)              | RS-232   RS-232   | B (1) / 2               | Three-phase | Direct   |
| QB4B0                 | 410-QD1A-90B10                     | 3x230/400             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Direct   |
| QB4E0                 | 410-QD1A-80B10                     | 3x230/400             | 10 (100)              | RS-485   RS-485   | B (1) / 2               | Three-phase | Direct   |
| QB4C0                 | 410-QD1A-A0B10                     | 3x230/400             | 10 (100)              | RS-232   Ethernet | B (1) / 2               | Three-phase | Direct   |
| QB4D0                 | 410-QD1A-C0B10                     | 3x230/400             | 10 (100)              | RS-485   Ethernet | B (1) / 2               | Three-phase | Direct   |
| QB4H0                 | 410-QD1B-90B10                     | 3x230/400             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Direct   |
| QB4I0                 | 410-QD1B-A0B10                     | 3x230/400             | 10 (100)              | RS-232   Ethernet | B (1) / 2               | Three-phase | Direct   |
| QB7A0                 | 410-ND1A-70B10                     | 3x127/220             | 10 (100)              | RS-232   RS-232   | B (1) / 2               | Three-phase | Direct   |
| QB7B0                 | 410-ND1A-90B10                     | 3x127/220             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Direct   |
| QB7E0                 | 410-ND1A-80B10                     | 3x127/220             | 10 (100)              | RS-485   RS-485   | B (1) / 2               | Three-phase | Direct   |
| QB7C0                 | 410-ND1A-A0B10                     | 3x127/220             | 10 (100)              | RS-232   Ethernet | B (1) / 2               | Three-phase | Direct   |
| QB7D0                 | 410-ND1A-C0B10                     | 3x127/220             | 10 (100)              | RS-485   Ethernet | B (1) / 2               | Three-phase | Direct   |
| QB4B0D60              | 410-QD1A-90B10-TRIPLE TARIFA-3.0TD | 3x230/400             | 10 (100)              | RS-232   RS-485   | B (1) / 2               | Three-phase | Indirect |

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

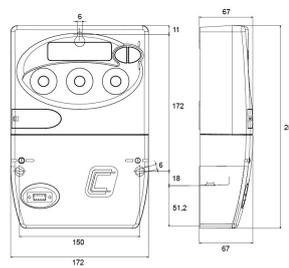
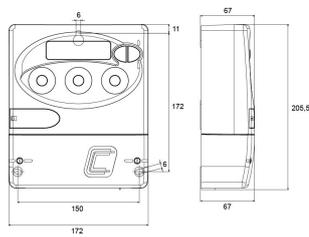


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### Dimensions



### Connections

