



410-ND1A-80B10, Three-phase energy meters direct connection

Code: QB7E0

> Type Consumer: 4

> Communications: RS-485 | RS-485 > Class (Active/Reactive): B (1) / 2

> System: Three-phase

> Measure: Direct

> Measurement Range (V): 3x127/220 > 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**

| 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  |
| Battery specification  |  |
| Performance-guarantee  | > 20 years @ 30 °C   |
| Туре   | Lithium  |
| Mechanical characteristics   |  |
| Size (mm) width x height x depth   | 172 x 255 x 67 (mm)  |
| Envelope   | DIN 43859  |
| Environmental characteristics  |  |
| Relative humidity (without condensation)   | 95 % max.  |
| Storage temperature  | -40 +85 °C   |
| Working temperature  | -40 +70 °C   |
| /oltage measurement circuit  |  |
|  |  |
| Connection   | Asymmetrical   |
| Connection  Nominal frequency  | Asymmetrical 50 / 60 Hz  |
|  |  |
| Nominal frequency  | 50 / 60 Hz   |
| Nominal frequency  Nominal voltage   | 50 / 60 Hz   |
| Nominal frequency  Nominal voltage  Current measurement circuit  | 50 / 60 Hz<br>3 x 127/220 V (Request for other configurations)   |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  | 50 / 60 Hz 3 x 127/220 V (Request for other configurations) < 0,1 V·A  |
| Nominal frequency  Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)   | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V-A  10 A  |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)  Maximum current   | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V·A  10 A  100 A   |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)  Maximum current  Minimum current measurement  | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V·A  10 A  100 A   |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)  Maximum current  Minimum current measurement  Optical communication interface                     | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V·A  10 A  100 A  < 0,5 x ltr  |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)  Maximum current  Minimum current measurement  Optical communication interface  Hardware           | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V-A  10 A  100 A  < 0,5 x ltr  |
| Nominal frequency Nominal voltage  Current measurement circuit  Consumption  Reference current (Iref)  Maximum current  Minimum current measurement  Optical communication interface  Hardware  Protocol | 50 / 60 Hz  3 x 127/220 V (Request for other configurations)  < 0,1 V·A  10 A  100 A  < 0,5 x ltr  IEC 62056-21  REE, based on IEC 870-5-103 |







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| 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 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-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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#### Serial communication

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

#### CIRWATT B 410D

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| CODE      | ТҮРЕ                               | Measurement<br>Range (V) | Measurement<br>Range (A) | Communications    | Class<br>(Active/Reactive) | System      | Measure  |
|-----------|------------------------------------|--------------------------|--------------------------|-------------------|----------------------------|-------------|----------|
| CIRWATT B | 410D                               |                          |                          |                   |                            |             |          |
| 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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Connections **Dimensions** 





