



## 410-QD1B-90B10

410-QD1B-90B10, Three-phase energy meter direct connection

Code: QB4H0

- > 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): 60

### Description

CIRWATT-B410D is a standard three phase direct connection meter, ideal for industrial three-phase applications. With class B in active energy according to European Directive MID (EN 50470) or class 1 according to IEC-62053-21, it has multiple communication options and expansion modules that allow it to adapt to any type of installation.

### Application

CIRWATT-B410D is suitable device for LV applications (for currents up to 100 or 120 A maximum), adapting to new market needs with great versatility in its communication options and expansion modules. Available in 2 quadrants for energy consumption or 4 quadrants for photovoltaic plants (generation and consumption of energy).



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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

#### 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

#### Environmental characteristics

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

#### Optical communication interface

Hardware	IEC 62056-21
Protocol	REE, based on IEC 870-5-114
Type	Serial;bi-directional

#### User interface

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



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### Memory

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

### 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. Programmable 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, RS-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

### Serial communication

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

### CIRWATT BIII-D

Three-phase energy meters direct connection

CODE	TYPE	Measurement Range (V)	Measurement Range (A)	Communications	Class (Active/Reactive)	System	Measure
<b>CIRWATT B 410D</b>							
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



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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
QB7A0	410-ND1A-70B10	3x127/220	10 (100)	RS-232   RS-232	B (1) / 2	Three-phase	Direct
QB4I0	410-QD1B-A0B10	3x230/400	10 (100)	RS-232   Ethernet	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

For other measurement ranges (V), consult



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### Dimensions



### Connections

