



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

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 -40 +70 °C Working temperature -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption <0,1 V A Reference current (iref) 10 A Maximum current measurement 00 A Minimum	Tolerance	80 % 115 % Un
Nominal voltage	Consumption	< 2 W; < 10 VA
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 S0 / 60 Hz Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption < 0,1 V A	Frequency	50 / 60 Hz
Performance-guarantee > 20 years (e 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 Nominal frequency 50 / 60 Hz Nominal voltage 19 x 127 / 220 Y (Request for other configurations) Consumption <0,1 V.A Reference current (irer) 10 A Maximum current measurement	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 01N 43859 Environmental characteristics Relative humidity (without condensation) 95 % max. Storage temperature -40 +85 °C Working temperature -40 +85 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption <0,1 VA Reference current (Iref) 10 A Maximum current measurement 100 A Minimum current measurement 100 A	Battery specification	
Mechanical characteristics Size (mm) width x height x depth Envelope DIN 43859 Environmental characteristics Relative humidity (without condensation) Storage temperature -40 +85 °C Working temperature Voltage measurement circuit Connection Nominal frequency Nominal frequency Nominal requency So / 60 Hz Nominal requency Sourcent measurement circuit Consumption Reference current (iref) 10 A Maximum current Minimum current measurement Approach Sourcent measurement Detection Maximum current measurement Detection Minimum current measurement Detection Detection Maximum current measurement Detection Detection Minimum current measurement Detection Detection REE, based on IEC 870-5-103 Type Serialt-bi-directional	Performance-guarantee	> 20 years @ 30 °C
Size (mm) width x height x depth Envelope DIN 43859 Privionmental characteristics Relative humidity (without condensation) Storage temperature -40 +85 °C -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage Courrent measurement circuit Consumption Reference current (iref) Maximum current Maximum current measurement Optical communication interface Hardware Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Туре	Lithium
Environmental characteristics Relative humidity (without condensation) 95 % max. Storage temperature -40 +85 °C Working temperature -40 +85 °C Working temperature -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127 / 220 V (Request for other configurations) Current measurement circuit Consumption <0,1 V.A Reference current (Iref) 10 A Maximum current (Iref) 10 A Minimum current measurement circuit Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Mechanical characteristics	
Relative humidity (without condensation) 95 % max. Storage temperature -40 +85 °C Working temperature -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption Consumption Consumption Asymmetrical On Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption 4 0,1 V-A Reference current (Iref) 10 A Maximum current 100 A Minimum current measurement Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Size (mm) width x height x depth	172 x 255 x 67 (mm)
Relative humidity (without condensation) Storage temperature -40 +85 °C Working temperature -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 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	Envelope	DIN 43859
Storage temperature Working temperature -40 +85 °C -40 +70 °C Working temperature Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 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 -40 +85 °C -40 +70 °C -40 +7	Environmental characteristics	
Working temperature -40 +70 °C Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption <0,1 V-A Reference current (Iref) 10 A Maximum current measurement <0,5 x ltr Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Relative humidity (without condensation)	95 % max.
Voltage measurement circuit Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption < 0,1 VA Reference current (Iref) 10 A Maximum current measurement	Storage temperature	-40 +85 °C
Connection Asymmetrical Nominal frequency 50 / 60 Hz Nominal voltage 3 x 127/220 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 ltr Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial;bi-directional	Working temperature	-40 +70 °C
Nominal frequency Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption < 0,1 V-A Reference current (Iref) 10 A Maximum current Minimum current measurement Coptical communication interface Hardware Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional Descriptions Serial; bi-directional	Voltage measurement circuit	
Nominal voltage 3 x 127/220 V (Request for other configurations) Current measurement circuit Consumption < 0,1 V-A Reference current (Iref) 10 A Maximum current Minimum current measurement < 0,5 x ltr Cuptical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Connection	Asymmetrical
Consumption < 0,1 V-A Reference current (Iref) 10 A Maximum current measurement < 0,5 x ltr Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Nominal frequency	50 / 60 Hz
Consumption < 0,1 V-A Reference current (Iref) 10 A Maximum current Minimum current measurement < 0,5 x ltr Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Nominal voltage	3 x 127/220 V (Request for other configurations)
Reference current (Iref) Maximum current Minimum current measurement Optical communication interface Hardware Protocol Protocol Type Serial;bi-directional	Current measurement circuit	
Maximum current Minimum current measurement Coptical communication interface Hardware Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional	Consumption	< 0,1 V-A
Minimum current measurement < 0,5 x ltr Optical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial;bi-directional	Reference current (Iref)	10 A
Detical communication interface Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional User interface	Maximum current	100 A
Hardware IEC 62056-21 Protocol REE, based on IEC 870-5-103 Type Serial;bi-directional User interface	Minimum current measurement	< 0,5 x ltr
Protocol REE, based on IEC 870-5-103 Type Serial; bi-directional User interface	Optical communication interface	
Type Serial;bi-directional User interface	Hardware	IEC 62056-21
User interface	Protocol	REE, based on IEC 870-5-103
	Туре	Serial;bi-directional
Resolution of the display up to 8 digits (8 mm)	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
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	TYPE	Measurement Range (V)	Measurement Range (A)	Communications	Class (Active/Reactive)	System	Measure
CIRWATT B	410D						
QB4B0D60	410-QD1A-90B10-TRIPLE TARIFA-3.0TD	3x230/400	10 (100)	RS-232 RS-485	B (1) / 2	Three-phase	Indirect
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
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

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







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Connections **Dimensions**





