

CIRWATT B 410D

Standard three-phase meter with direct connection



Description

CIRCUTOR's CIRWATT B 410D is a standard three phase direct connection meter, as a 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 communications systems and a price optimization.

Application

CIRWATT B 410D is suitable for LV applications (with currents from 100 to 120 A), adapted to new market challenges, having different communication systems and expansion modules. 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.

Features

Power supply

Nominal voltage	3 x 230 (400) V - 3 x 127 (230) V
Tolerance	80% ... 115% U_n
Consumption	< 2 W; < 10 V·A
Frequency	50 or 60 Hz

Voltage measurement

Connection	Asymmetrical
Reference voltage	3 x 230 (400) V - 3 x 127 (230) V *
Frequency	50 or 60 Hz
Voltage consumption of the circuit	< 2 W; 10 V·A

Current measurement

Nominal reference current $I_{ref} (I_{max})$	5 (100) A or 10 (100) A or 10 (120) A or 15 (120) A *
Start-up current I_{st}	< 0,04 x I_{tr}
Minimum current I_{min}	< 0,5 x I_{tr}
Current consumption of the circuit	< 0,1 V·A

Accuracy class

Accuracy measured in active energy	EN 50470 (Class B) - IEC 62053-21 (Class 1)
Accuracy measured in reactive energy	IEC 62053-23 (Class 2)

Memory

Data	Non-volatile memory
Setup and events	Serial flash

Battery

Type	Lithium
Working Life	> 20 years @ 30 °C

Clock

Type	Gregorian calendar
Source	Temperature compensated oscillator
Accuracy (EN 61038)	< 0.5 s / day at 23 °C

Environmental influence

Operating temperature range	-40 ... +70 °C
Storage temperature range	-40 ... +85 °C
Temperature coefficient	< 15 ppm/K
Humidity	95 % máx.

Insulation

Insulating voltage	4 kV a 50 Hz during 1 min
Impulse voltage 1.2/50 μ s - IEC 62052-11	8 kV
Protection degree (IEC 62052-11)	II

Display

Type	LCD
Number of data digits	up to 8
Size of data digits	8 mm
Display data reading when there is no voltage.	Yes

* Request for other configurations

CIRWATT B 410D

Standard three-phase meter with direct connection



Features

Optical communications interface	
Type	Serial, two-directional
Hardware	IEC 62056-21
Protocol	REE, based on IEC 870-5-102
Tampering detector	
Detection	Opening the terminal cover
Type	Micro-switch
Function	Detects intruders when there is no voltage.
Construction features	
Connection	Asymmetrical
External dimensions	DIN 43857
Enclosing features	DIN 43859
IP Degree (IEC 60529)	IP 51
PLC	
Modulation system	DSCK with repeater system
Hardware	CENELEC A or CENELEC B
Protocol	CirPLC and PEP (PLC Encapsulated Protocol)

Rate programming	
Number of days	12
Types of days	10
Contracts	3
Number of Tariffs	9
Discrimination	1 hour
Holidays/festivities	30
Special days	12
Load curve	
Number of load curves	2
Integration time	Programmable: 1 ... 253 min
Recording depth	4000
Events	
Number of events	200
Billing closures	
Number of locks	12, per contract
Type	Disabled / Programmable date and hour

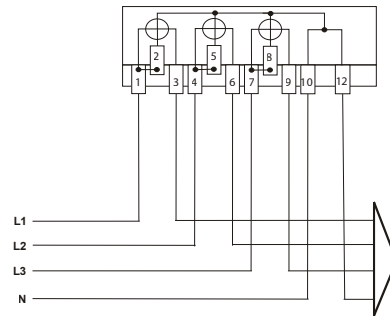
Other features

Communications *	Expansion cards *
RS-232 / PLC	Without inputs / outputs
RS-485 / PLC	4 relay outputs (Tariff indicator)
RS-232 / RS-232	2 relay outputs / 4 impulse inputs
RS-485 / RS-485	4 pulse inputs
RS-232 / RS-485	Earth leakage measurement
RS-232 / Ethernet	2 relay outputs / 2 impulse outputs / 2 impulse inputs
R-485 / Ethernet	

* Request for other configurations

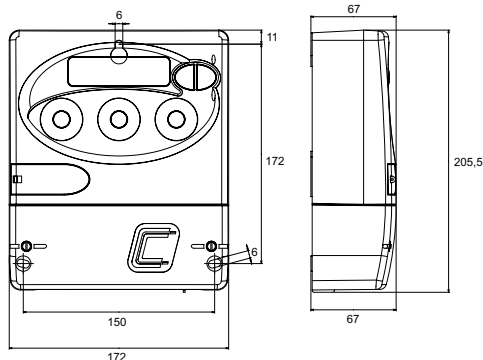
Connections

CIRWATT B 410D three-phase direct connection

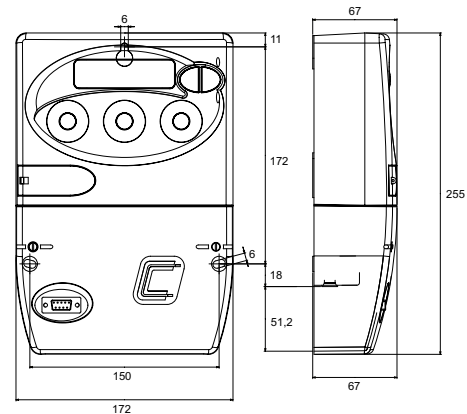


Dimensions

Terminal cover option



Wire cover option



CIRWATT B 410D

Standard three-phase meter with direct connection



References

Class (Active/ Reactive)	Quadrants	Frequency (Hz)	Measuring range V	Measuring range A	Communication COM1	Communication COM2	Type	Code
B / 2	4	50 or 60 Hz	3x230/400 V	10 (100)A	RS-232	RS232	CIRWATT B 410-QD1A-70B10	QB4A0
B / 2	4	50 or 60 Hz	3x230/400 V	10 (100)A	RS-485	RS485	CIRWATT B 410-QD1A-80B10	QB4E0
B / 2	4	50 or 60 Hz	3x230/400 V	10 (100)A	RS-232	RS485	CIRWATT B 410-QD1A-90B10	QB4B0
B / 2	4	50 or 60 Hz	3x230/400 V	10 (100)A	RS-232	ETHERNET	CIRWATT B 410-QD1A-A0B10	QB4C0
B / 2	4	50 or 60 Hz	3x230/400 V	10 (100)A	RS-485	ETHERNET	CIRWATT B 410-QD1A-D0B10	QB4D0
B / 2	4	50 or 60 Hz	3x127/220 V	10 (100)A	RS-232	RS232	CIRWATT B 410-ND1A-70B10	QB740
B / 2	4	50 or 60 Hz	3x127/220 V	10 (100)A	RS-485	RS485	CIRWATT B 410-ND1A-80B10	QB7E0
B / 2	4	50 or 60 Hz	3x127/220 V	10 (100)A	RS-232	RS485	CIRWATT B 410-ND1A-90B10	QB7B0
B / 2	4	50 or 60 Hz	3x127/220 V	10 (100)A	RS-232	ETHERNET	CIRWATT B 410-ND1A-A0B10	QB7C0
B / 2	4	50 or 60 Hz	3x127/220 V	10 (100)A	RS-485	ETHERNET	CIRWATT B 410-ND1A-D0B10	QB7D0