402-MT5B-A0B10

402-MT5B-A0B10, Three-phase energy meter indirect connection

Code: QBP1D

> Type Consumer: 1
> Communications: RS-232 | Ethernet
> Class (Active/Reactive): 0.2S/0.5
> System: Three-phase
> Measure: Indirect
> Measurement Range (V): 3x63,5/110
> Measurement Range (A): .../5
> Quadrants: 4
> Frequency (Hz): 60

Description

The CIRWATT-B502 is an indirect three-phase meter, recorder, and multi-tariff device, classified as Class 0.2s as per IEC-62053-22 for active energy and Class 0.5 for reactive energy as per IEC-62053-23. It offers multiple communication options and expansion modules, allowing it to adapt to large industrial installations.

Application

CIRWATT B-502 is ideal for medium-voltage supplies using external voltage and current transformers. Offering solutions for large industries with a power capacity over 10 MW (Consumer type 1). Available in 2 quadrants for energy consumption or 4 quadrants for photovoltaic plants (energy generation and consumption).

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Indirect three-phase meter, recorder, and multi-tariff device, classified as Class 0.2s as per IEC-62053-22 for active energy

Code: QBP1D

Specifications

AC power supply

Tolerance	80 % ... 115 % Un
Consumption	< 2 W; < 10 VA
Frequency	50 / 60 Hz
Nominal voltage	3x63.5/110 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	-25 ... +70 °C

Voltage measurement circuit

Connection	Asymmetrical
Consumption	< 2 W; 10 VA
Nominal frequency	50 / 60 Hz
Nominal voltage	3x57/100 ... 3x230/400 V

Current measurement circuit

Consumption	< 0,1 V·A
Reference current (Iref)	.../ 5 A
Maximum current	10 A
Minimum current measurement	< 0,5 x Itr

Communication Network

Protocol	REE, basado en IEC 870-5-102
Technology / Type	Ethernet

Optical communication interface

Hardware	IEC 62056-21
Protocol	REE, based on IEC 870-5-162

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Code: QBP1D

Type	Serial;bi-directional

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 0,5 / 1 / 2)
Active energy measurement (kWh)	IEC 62053-22 (Class 0,2S)

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)

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Code: QBP1D

Type	Gregorian calendar

Serial communication

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

CIRWATT B 502

Indirect three-phase meter, recorder, and multi-tariff device, classified as Class 0.2s as per IEC-62053-22 for active energy

CODE	TYPE	Measurement Range (V)	Measurement Range (A)	Communications	Class (Active/Reactive)	System	Measure	Impulse output	Quadrants	Entrada cambio tarifa
CIRWATT B 410T										
QB860	410-QT5A-70B10	3x230/400	.../5	RS-232 | RS-232	B (1) / 2	Three-phase	Indirect			
CIRWATT B 505										
QBN40	410-VT7B-A0B10	3x57/100 ... 3x230/400	.../ 1	RS-232 | Ethernet	C (0,5S)/1	Three-phase	Indirect			
CIRWATT B 410T										
QB8A0	410-QT5A-80B10	3x230/400	.../5	RS-485 | RS-485	B (1) / 2	Three-phase	Indirect			
QB870	410-QT5A-90B10	3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QB870T21	410-QT5A-90B10-TRMC210-100-3.0.TD	3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QB870T22	410-QT5A-90B10-TRMC210-200-3.0.TD	3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QB870T23	410-QT5A-90B10-TRMC210-500-3.0.TD	3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QB880	410-QT5A-A0B10	3x230/400	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QB890	410-QT5A-C0B10	3x230/400	.../5	RS-485 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBJ10	410-VT5A-90B10	3x57/100 ... 3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBG60	410-NT5A-70B10	3x127/220	.../5	RS-232 | RS-232	B (1) / 2	Three-phase	Indirect			
QBJ20	410-VT5A-A0B10	3x57/100 ... 3x230/400	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBG70	410-NT5A-90B10	3x127/220	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QB8D0	410-QT5B-90B10	3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBGA0	410-NT5A-80B10	3x127/220	.../5	RS-485 | RS-485	B (1) / 2	Three-phase	Indirect			
QBG80	410-NT5A-A0B10	3x127/220	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QB8E0	410-QT5B-A0B10	3x230/400	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBG90	410-NT5A-C0B10	3x127/220	.../5	RS-485 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBJ60	410-VT5B-90B10	3x57/100 ... 3x230/400	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBH20	410-MT5A-70B10	3x63,5/110	.../5	RS-232 | RS-232	B (1) / 2	Three-phase	Indirect			
QBJ70	410-VT5B-A0B10	3x57/100 ... 3x230/400	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBH30	410-MT5A-90B10	3x63,5/110	.../5	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBN0B	410-QT7A-90B10	3x230/400	.../ 1	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBH61	410-MT5A-80B10	3x63,5/110	.../5	RS-485 | RS-485	B (1) / 2	Three-phase	Indirect			
QBH40	410-MT5A-A0B10	3x63,5/110	.../5	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBN1B	410-QT7A-A0B10	3x230/400	.../ 1	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBH50	410-MT5A-C0B10	3x63,5/110	.../5	RS-485 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBN0J	410-VT7A-90B10	3x57/100 ... 3x230/400	.../ 1	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBN1J	410-VT7A-A0B10	3x57/100 ... 3x230/400	.../ 1	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			

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Indirect three-phase meter, recorder, and multi-tariff device, classified as Class 0.2s as per IEC-62053-22 for active energy

Code: QBP1D

CODE	TYPE	Measurement Range (V)	Measurement Range (A)	Communications	Class (Active/Reactive)	System	Measure	Impulse output	Quadrants	Entrada cambio tarifa
QBN2B	410-QT7B-90B10	3x230/400	.../1	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBN3B	410-QT7B-A0B10	3x230/400	.../1	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
QBN2J	410-VT7B-90B10	3x57/100 ... 3x230/400	.../1	RS-232 | RS-485	B (1) / 2	Three-phase	Indirect			
QBN3J	410-VT7B-A0B10	3x57/100 ... 3x230/400	.../1	RS-232 | Ethernet	B (1) / 2	Three-phase	Indirect			
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			
CIRWATT B 505										
QBP1I	405-MT5A-70B10	3x63,5/110	.../5	RS-232 | RS-232	C (0,5S)/1	Three-phase	Indirect			
QBK10	405-VT5A-90B10	3x57/100 ... 3x230/400	.../5	RS-232 | RS-485	C (0,5S)/1	Three-phase	Indirect			
QBP1J	405-MT5A-80B10	3x63,5/110	.../5	RS-485 | RS-485	C (0,5S)/1	Three-phase	Indirect			
QBP1E	405-MT5A-90B10	3x63,5/110	.../5	RS-232 | RS-485	C (0,5S)/1	Three-phase	Indirect			
QBP1F	405-MT5A-A0B10	3x63,5/110	.../5	RS-232 | Ethernet	C (0,5S)/1	Three-phase	Indirect			
QBP1K	405-MT5A-C0B10	3x63,5/110	.../5	RS-485 | Ethernet	C (0,5S)/1	Three-phase	Indirect			
QBN00	405-VT7A-90B10	3x57/100 ... 3x230/400	.../1	RS-232 | RS-485	C (0,5S)/1	Three-phase	Indirect			
QBN10	405-VT7A-A0B10	3x57/100 ... 3x230/400	.../1	RS-232 | Ethernet	C (0,5S)/1	Three-phase	Indirect			
QBN30	405-VT7B-90B10	3x57/100 ... 3x230/400	.../1	RS-232 | RS-485	C (0,5S)/1	Three-phase	Indirect			
CIRWATT B 502										
QBP1P.	402-MT5A-70B10	3x63,5/110	.../5	RS-232 | RS-232	0.2S/0.5	Three-phase	Indirect			
QBP1A.	402-MT5A-90B10	3x63,5/110	.../5	RS-232 | RS-485	0.2S/0.5	Three-phase	Indirect			
QBP1Q.	402-MT5A-80B10	3x63,5/110	.../5	RS-485 | RS-485	0.2S/0.5	Three-phase	Indirect			
QBP1B.	402-MT5A-A0B10	3x63,5/110	.../5	RS-232 | Ethernet	0.2S/0.5	Three-phase	Indirect			
QBP1R.	402-MT5A-C0B10	3x63,5/110	.../5	RS-485 | Ethernet	0.2S/0.5	Three-phase	Indirect			
QBP1C	402-MT5B-90B10	3x63,5/110	.../5	RS-232 | RS-485	0.2S/0.5	Three-phase	Indirect			
QBP1D	402-MT5B-A0B10	3x63,5/110	.../5	RS-232 | Ethernet	0.2S/0.5	Three-phase	Indirect			
CIRWATT B102										
QBMD3	212-ES7A-21B20	230	5 (65)	RS-485 (Modbus/RTU)	B (1) / 2			1	Abs.	0
QBMD5	212-ES7A-23B20	230	5 (65)	RS-485 (Modbus/RTU)	B (1) / 2			0	Abs.	0
QBMD7	212-ES7A-2EB20	230	5 (65)	RS-485 (Modbus/RTU)	B (1) / 2			0	Abs.	1

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

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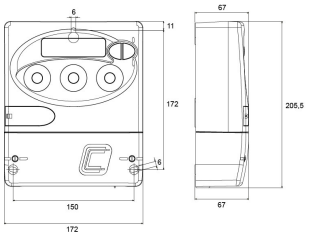
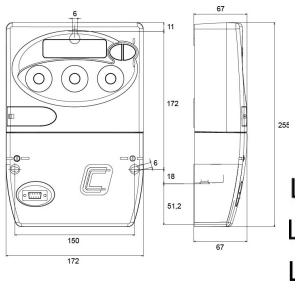
Indirect three-phase meter, recorder, and multi-tariff device, classified as Class 0.2s as per IEC-62053-22 for active energy

Code: QBP1D

Dimensions





Connections