



## 405-VT7A-90B10

405-VT7A-90B10, Three-phase energy meter indirect connection

Code: QBN00

- > Communications: RS-232 | RS-485
- > Class (Active/Reactive): C (0,5S)/1
- > System: Three-phase
- > Measure: Indirect
- > Measurement Range (V): 3x57/100 ... 3x230/400
- > Measurement Range (A): ... / 1
- > Quadrants: 4
- > Frequency (Hz): 50

### Description

CIRCUTOR's CIRWATT-B410T is a standard three phase indirect meter. It is the 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 communication system and price optimization. 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.

### Application

CIRWATT-B410T is suitable to be installed in LV and MV networks being the best solution or installations with high and medium consumptions like shopping malls, industries and high consumption households.



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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 57 (100) V... 3 x 230 (400) 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

#### Optical communication interface

Hardware	IEC 62056-21
Protocol	REE, based on IEC 870-5-171
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

### 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
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### 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 1 / 2)
Active energy measurement (kWh)	IEC 62053-22 (Class 0,5S) EN 50470 (Class C)

### 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)
Type	Gregorian calendar

### Serial communication

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



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### CIRWATT BIII-T

Three-phase energy meters indirect connection

CODE	TYPE	Measurement Range (V)	Measurement Range (A)	Communications	Class (Active/Reactive)	System	Measure
<b>CIRWATT B 502</b>							
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
<b>CIRWATT B 505</b>							
QBP1I	405-MT5A-70B10	3x63,5/110	.../5	RS-232   RS-232	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
<b>CIRWATT B 410T</b>							
QB860	410-QT5A-70B10	3x230/400	.../5	RS-232   RS-232	B (1) / 2	Three-phase	Indirect
<b>CIRWATT B 505</b>							
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
QBN40	410-VT7B-A0B10	3x57/100 ... 3x230/400	.../ 1	RS-232   Ethernet	C (0,5S)/1	Three-phase	Indirect
<b>CIRWATT B 410T</b>							
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
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
QBG A0	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



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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
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



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### Dimensions



### Connections

