



402-MT5A-90B10

402-MT5A-90B10, Three-phase energy meter indirect connection

Code: QBP1A

- > Type Consumer: 1
- > Communications: RS-232 | RS-485
- > 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): 50

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

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Specifications

AC power supply

| | |
|-----------------|-------------------|
| Tolerance | 80 % ... 115 % Un |
| Consumption | < 2 W; < 10 VA |
| Frequency | 50 Hz |
| Nominal voltage | 3 x 63,5 (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 |
| Weight (kg) | 1,12 |

Environmental characteristics

| | |
|--|----------------|
| Protection class | IP51 |
| 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 Hz |
| Nominal voltage | 3 x 63,5 (110) V |

Current measurement circuit

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

Communication Network

| | |
|----------|------------------|
| Protocol | 3 x 63.5 (110) V |
|----------|------------------|

Optical communication interface

| | |
|----------|--------------|
| Hardware | IEC 62056-21 |
|----------|--------------|



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| | |
|-------------------------------------|--|
| Protocol | REE (IEC 870-5-102) |
| 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 62053-22 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 |
| Measurement accuracy | |
| Reactive energy measurement (kvarh) | IEC 62053 (Class 0,5) |
| 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 / RS-232 , RS-485 / RS-485, RS-232 / RS-485, RS-232 / Ethernet, R-485 / Ethernet.Expansion boards: No inputs / Auxiliar supply 24...48 Vcc / 6 digital outputs / 4 digital outputs and 2 digital 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 (IEC 870-5-102) y Modbus |
| Technology / Type | RS-232 RS-485 |



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Code: QBP1A

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 | | | |
| QBH30 | 410-MT5A-90B10 | 3x63,5/110 | .../5 | RS-232 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 | | | |
| QBH50 | 410-MT5A-C0B10 | 3x63,5/110 | .../5 | RS-485 Ethernet | 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 | | | |
| QB870T22 | 410-QT5A-90B10-TRMC210-200-3.0.TD | 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 | | | |
| 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 | | | |
| QBG60 | 410-NT5A-70B10 | 3x127/220 | .../5 | RS-232 RS-232 | B (1) / 2 | Three-phase | Indirect | | | |
| QB880 | 410-QT5A-A0B10 | 3x230/400 | .../5 | RS-232 Ethernet | B (1) / 2 | Three-phase | Indirect | | | |
| QBG60 | 410-NT5A-80B10 | 3x127/220 | .../5 | RS-485 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| QBG70 | 410-NT5A-90B10 | 3x127/220 | .../5 | RS-232 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| QBG80 | 410-NT5A-A0B10 | 3x127/220 | .../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 | | | |
| QB8D0 | 410-QT5B-90B10 | 3x230/400 | .../5 | RS-232 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| QBG90 | 410-NT5A-C0B10 | 3x127/220 | .../5 | RS-485 Ethernet | B (1) / 2 | Three-phase | Indirect | | | |
| QB8E0 | 410-QT5B-A0B10 | 3x230/400 | .../5 | RS-232 Ethernet | B (1) / 2 | Three-phase | Indirect | | | |
| QBH20 | 410-MT5A-70B10 | 3x63,5/110 | .../5 | RS-232 RS-232 | B (1) / 2 | Three-phase | Indirect | | | |
| QBN0B | 410-QT7A-90B10 | 3x230/400 | .../1 | RS-232 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| QBN1B | 410-QT7A-A0B10 | 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 | | | |
| QBH61 | 410-MT5A-80B10 | 3x63,5/110 | .../5 | RS-485 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| QBN3B | 410-QT7B-A0B10 | 3x230/400 | .../1 | RS-232 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 | | | |
| QBJ20 | 410-VT5A-A0B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 Ethernet | B (1) / 2 | Three-phase | Indirect | | | |
| QBJ30 | 410-VT5A-C0B10 | 3x57/100 ... 3x230/400 | .../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 | | | |
| QBJ70 | 410-VT5B-A0B10 | 3x57/100 ... 3x230/400 | .../5 | 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 | | | |
| QBN40 | 410-VT7B-A0B10 | 3x57/100 ... 3x230/400 | .../1 | RS-232 Ethernet | C (0,5S)/1 | Three-phase | Indirect | | | |
| CIRWATT B 410D | | | | | | | | | | |
| 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 | | | |



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Code: QBP1A

| CODE | TYPE | Measurement Range (V) | Measurement Range (A) | Communications | Class (Active/Reactive) | System | Measure | Impulse output | Quadrants | Entrada cambio tarifa |
|----------------------|------------------------------------|---------------------------|-----------------------|---------------------|-------------------------|-------------|----------|----------------|-----------|-----------------------|
| QB4I0 | 410-QD1B-A0B10 | 3x230/400 | 10 (100) | RS-232 Ethernet | B (1) / 2 | Three-phase | Direct | | | |
| QB7A0 | 410-ND1A-70B10 | 3x127/220 | 10 (100) | RS-232 RS-232 | 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 | | | |
| QB4B0D60 | 410-QD1A-90B10-TRIPLE TARIFA-3.0TD | 3x230/400 | 10 (100) | RS-232 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| CIRWATT B 505 | | | | | | | | | | |
| 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 | | | |
| 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 | | | |
| QBK10 | 405-VT5A-90B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 RS-485 | C (0,5S)/1 | Three-phase | Indirect | | | |
| QBK20 | 405-VT5A-A0B10 | 3x57/100 ... 3x230/400 | .../5 | RS-232 Ethernet | C (0,5S)/1 | Three-phase | Indirect | | | |
| QBK30 | 405-VT5A-C0B10 | 3x57/100 ... 3x230/400 | .../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 | | | |
| QBK10T24 | 405-VT5A-90B10-TRMC400-1000-3.0.2 | 3x230/400 | .../5 | RS-232 RS-485 | B (1) / 2 | Three-phase | Indirect | | | |
| CIRWATT B 502 | | | | | | | | | | |
| 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 | | | |
| QBP1A | 402-MT5A-90B10 | 3x63,5/110 | .../5 | RS-232 RS-485 | 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 | | | |
| QBP1P | 402-MT5A-70B10 | 3x63,5/110 | .../5 | RS-232 RS-232 | 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 | | | |
| CIRWATT B102 | | | | | | | | | | |
| QBMD3 | 212-E57A-21B20 | 230 | 5 (65) | RS-485 (Modbus/RTU) | B (1) / 2 | | | 1 | Abs. | 0 |
| QBMD5 | 212-E57A-23B20 | 230 | 5 (65) | RS-485 (Modbus/RTU) | B (1) / 2 | | | 0 | Abs. | 0 |
| QBMD7 | 212-E57A-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)