

TECHNICAL SPECIFICATION SHEET ENERGY MANAGER EM210 L, EM210 LR

The compact way of acquiring, storing and visualizing data related to your electricity purchases and feeds.

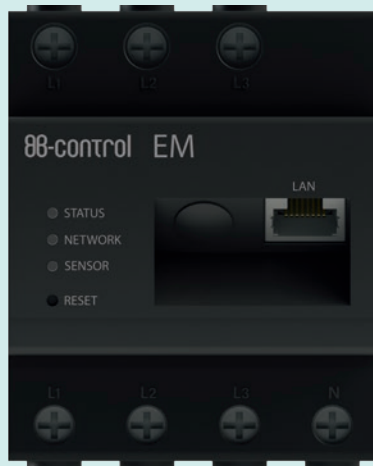
ALL-IN-ONE SOLUTION FOR METERING AND MONITORING:

- measures electricity purchases and feeds for each phase
- on-board storage of metering data
- integrated web server
- visualization through web interface, IOS App, Android App
- brings up measured values of electricity purchases and feeds, both as an aggregate value and for each phase in kWh
- manual and automated export of measured data through email, FTP
- LAN interface (EM210 L), LAN/RS485 interface (EM210 LR)
- Optionally available: B-control Smart Heater through RS485

MAIN FEATURES:

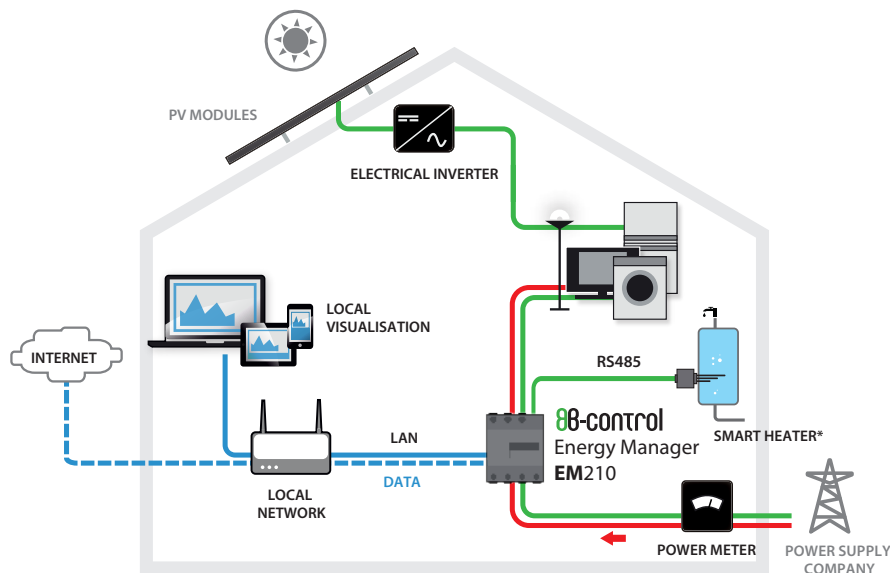
- fully integrated Smart Meter *
- real-time data acquisition
- 3-phase real-power current measurement for purchases and feeds
- direct connection up to 63 A resp. – when using external transducers – from 100 A to 600 A (Example; higher currents also possible)
- DIN rail installation (4 PU)

* not certified for generation of data for invoicing



B-control EM 210

Figure: House installation



* optional

SPECIFICATIONS

PROCESSING UNIT

450 MHz ARM9 CPU, 128 MByte RAM DDR2
eMMC Flash 4 GByte (2 GB dedicated to permanent data storage)

OPERATING SYSTEM

Embedded Linux c/w integrated TCP/IP stack and SQL database

INTERFACES (STANDARD)

LAN (10/100 Mbit)
RS485 (half-duplex, 115200 baud max.) for optional connection of B-control Smart Heaters, no galvanic isolation

PRODUCT STANDARDS

EN 61010, EN 50428, EN 60950

VOLTAGE AND CURRENT INPUTS

Rated voltage: 230/400 V AC
Operating voltage: 230 V \pm 10%
Frequency: 50 Hz \pm 5%, 110 V 60 Hz upon request

METER LOSSES

Voltage path: < 0.01 VA each phase
Current path: < 2 VA each phase
Complete device: < 5 W
Amperage: rated current 5 A, limiting current 63 A
Starting current: < 25 mA

ASSEMBLY

Connection cross section: 10-25 mm² *
Screw terminal clamping torque: 2,0 Nm
*mechanically: 1,5-25 mm²

MEASURING ACCURACY

Accuracy class according IEC 61557-12
With reference to measured value, Energie manager

Voltage: \pm 0,5 %
Current: \pm 0,5%
Real power: \pm 1,0 %
Apparent power: \pm 1,0 %
Reactive power: \pm 1,0 %
Power factor: \pm 1,0 %

According to IEC 62053-22 and -23 (typically)

Real energy: Class 1
Reactive energy: Class 1

If external sensores are used the measurement accuracy should be kept in mind.

MECHANICAL SPECIFICATIONS

Housing material: Fiberglass-reinforced polyamide
Glow-wire test: Acc. to IEC 695-2-1
Protection class / rating: II / IP2X
Weight: 0.3 kg
Dimensions: 88x70x65 mm

OPERATING CONDITIONS

Ambient temperature: -25°C ... +45°C
Storage temperature: -25°C ... +70°C
Relative humidity: 75 % max on an annual average, (not condensing)
95 % max on up to 30 days a year

EMV

ESD (IEC 61000-4-2)

4 kV contact discharge, 8 kV air discharge

RADIO-FREQUENCY EXPOSURE (IEC 61000-4-3)

3 Vm, 10 Vm with increased measuring accuracy deviation

BURST (IEC 61000-4-4)

Power distribution: \pm 4 kV, Ethernet: \pm 2 kV

SURGE (IEC 61000-4-5)

phase-phase: 1 kV, phase-ground: 2 kV, Ethernet: \pm 2 kV

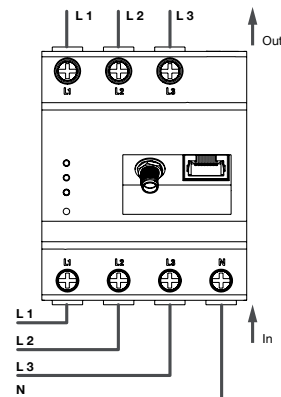
CONDUCTED DISTURBANCES (IEC 61000-4-6)

150 kHz-80 MHz, 3 V (rms value)

RADIO-FREQUENCY EMISSIONS (EN55022)

Class B

CONNECTION DIAGRAM



The device operates on phase L1

B-control is a brand of
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