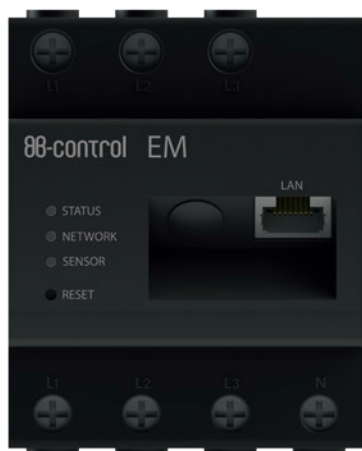


EM 210 L | EM 210 LR

Record. Decode. Optimize



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

TECHNICAL SPECIFICATION EM 210

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
Produkt 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 mm ² * Screw terminal clamping torque: 2,0 Nm *mechanically: 1,5–25 mm2
Measuring Accuracy	Accuracy class according IEC 61557-12 Referred to the Energy Manager measured value Voltage: \pm 0,5 % Current: \pm 0,5% Real power: \pm 1,0 % Apparent power: \pm 1,0 %

SCOPE OF EM 210:

- ▶ 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

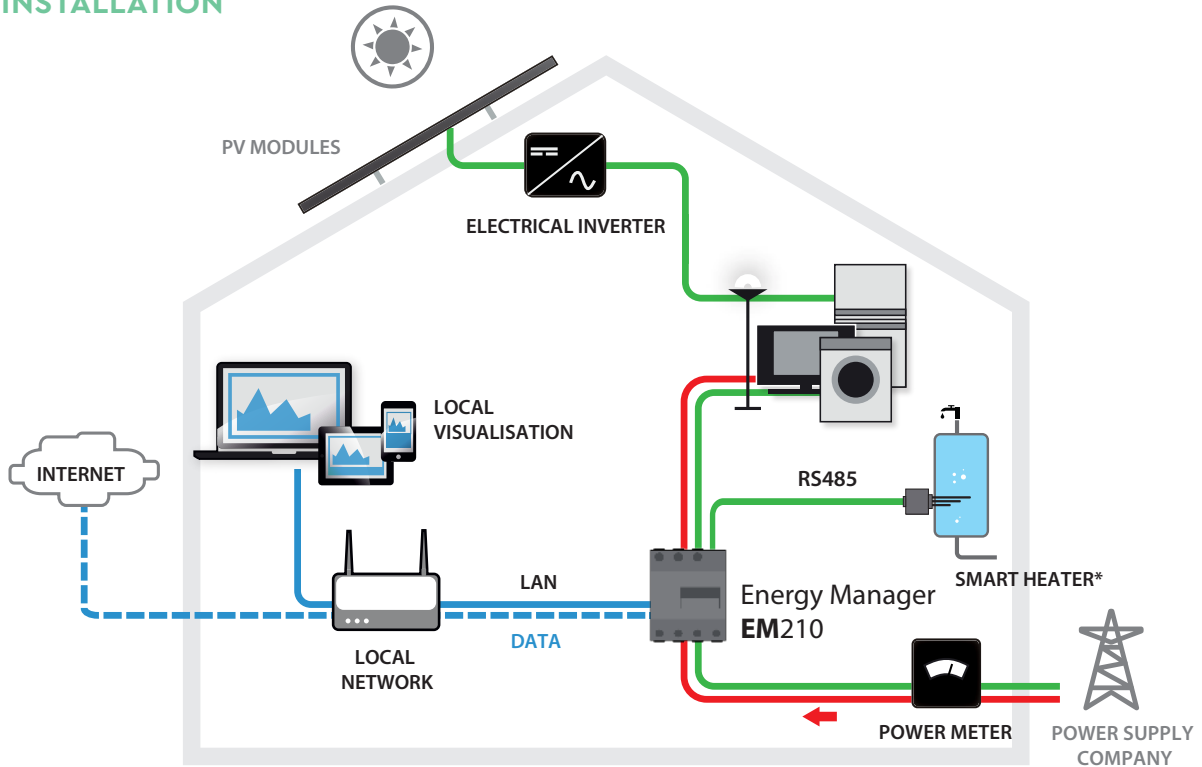
MAIN FEATURES:

- ▶ 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

Measuring Accuracy	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: 88×70×65 mm
Operating Conditions	Ambient temperature: -25°C ... +45°C Storage temperature: -25°C ... +70°C Relative humidity: 75 % max on an annual average 95 % max on up to 30 days a year

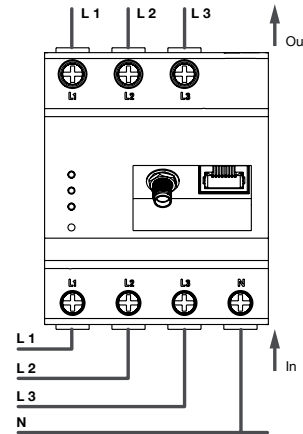
HOUSE INSTALLATION



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: ± 4 kV, Ethernet: ± 2 kV
Surge (IEC 61000-4-5)	phase-phase: 1 kV, phase-ground: 2 kV, Ethernet: ± 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

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