



B-control EM 300

TECHNICAL SPECIFICATION SHEET ENERGY MANAGER EM300 L, EM300 LR, EM300 LRW

3-phase real-time current measurement – Metering information is transferred through standard interfaces at parameterizable intervals

EXTREMELY FAST HIGH-ACCURACY DATA TRANSFER:

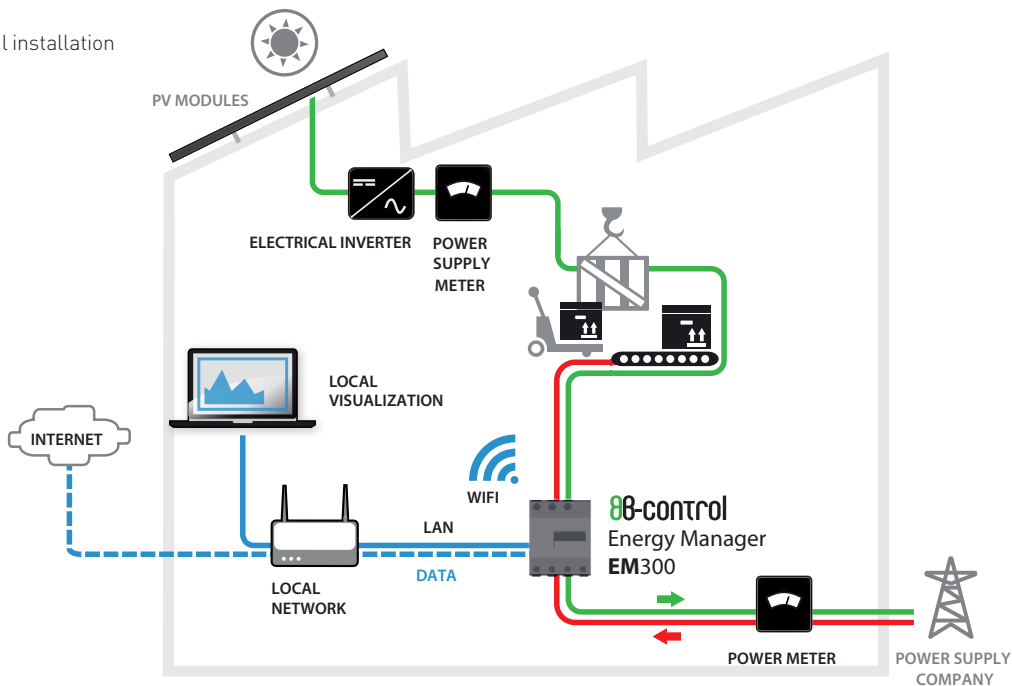
- Measures real and reactive power, apparent power, amperage, voltage and the power factor for each phase
- Integrated web server for the electrician to configure the device within a couple of clicks
- LAN interface (EM300L)
AN/RS485 interface (EM300 LR),
LAN/Wi-Fi/RS485 interface (EM300 LRW)

MAIN FEATURES:

- Fully integrated smart meter *
- Real-time data acquisition
- 3-phase current measurement for purchases and feeds
- Direct connection up to 63 A resp. – when using external transducers – from 100 A to 600 A
- DIN rail installation (4 PU)

* not certified for generation of data for invoicing

Figure: Industrial installation



SPECIFICATIONS

PROCESSING UNIT

450 MHz ARM9 CPU, 128 MByte RAM DDR2
eMMC Flash 4 GByte

OPERATING SYSTEM

Embedded Linux c/w integrated TCP/IP stack

INTERFACES (STANDARD)

LAN (10/100 Mbit), Wi-Fi (802.11b/g/n) for data transfer through
Modbus TCP or Json/Ajax
RS485 (half-duplex, max. 115200 baud) for data transfer through
Modbus RTU

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 with no Wi-Fi activated
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 / dimensions: 0.3 kg / 88x70x65 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

EMV

ESD (IEC 61000-4-2)

4 kV contact discharge, 8 kV air discharge

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

3 Vm

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

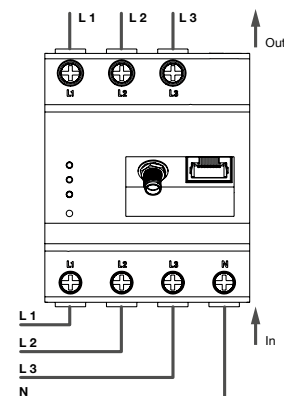
CONDUCTED DISTURBANCES (IEC 61000-4-6)

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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