Electrical Energy Meter with integrated S0-interface

**EEM400C-D-P**

Electrical energy meter with LCD display and integrated S0 interface. The S0 interface (pronounced S-O-interface) is a hardware interface for the transmission of measured values in building automation.

**Main features:**
- 3-phase energy meter, 3 × 230/400 VAC 50 Hz
- For CT measurement up to 1500 A
- Display of active power, voltage and current for every phase
- Display of active power for all phases
- S0 output
- 7-digit display for 1 tariff
- Lead seal possible with cap as accessory
- Accuracy class B according to EN50470-3, accuracy class 1 according to IEC62053-21

**Order Number**
- Standard Version: EEM400C-D-P
- MID Version: EEM400C-D-P-MID
- Sealing caps: EEM400-SEALCAP (Bulk with 20 units)

**Technical data**
- Precision class: B according to EN50470-3, 1 according to IEC62053-21
- Operating voltage: 3 × 230 / 400 VAC, 50 Hz
  - Tolerance: –20% / +15%
- Power consumption: Active 0.4 W per phase
- Counting range: 000.000.0…999.999.9
  - 1˙000˙000…9˙999˙999
- Display: LCD backlit, digits 6 mm high
- Display without mains power: Capacitor based LCD
  - max. 2 times over 10 days
- S0 output (interface): Optocoupler max. 30 V/20 mA and 5 V min., impedance 100 Ω, pulse width 30 ms
- Transmission distance, S0 output: max. 1000 m (at 30 V/20 mA)

**CT measurement**
- Reference/max. current: \( I_{\text{ref}} = 5 \text{ A}, I_{\text{max}} = 6 \text{ A} \)
- Starting/minimum current: \( I_s = 10 \text{ mA}, I_{\text{min}} = 0.05 \text{ A} \)
- Converter ratio:
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**Mounting**
- Mounting: On 35 mm rail, according to EN60715 TH 35
- Terminal connections:
  - Conductor cross-section:
    - Main circuit: 1.5 – 16 mm²
    - Control circuit: max. 2.5 mm²
  - Screwdriver pozidrive no. 1, slot no. 2, torque 1.5 – 2 Nm
- Insulation characteristics:
  - 4 kV/50 Hz test according to VDE0435 for energy meter part
  - 6 kV 1.2 / 50 µs Surge according to IEC255-4
- Device protection class II
- Ambient temperature: –25°…+55 °C
- Storage temperature: 30°…+85 °C
- Relative humidity: 95% at 25°…+40 °C, without condensation
- EMC/interference immunity:
  - Surge according to IEC61000-4-5:
    - at main circuit 4 kV
  - Burst according to IEC61000-4-4:
    - at main circuit 4 kV
  - ESD according to IEC61000-4-2:
    - Contact 8 kV, air 15 kV

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Error display

Example: Connection error at L3

Example: Connection error at L1 and L3

Dimension drawings

Display elements, converter measurement

- **T1 total (kWh)** Indicates total consumption
- **T1 part (kWh)** Indicates partial consumption. This value can be reset
- **CT** Indicates the setting for the current transformer ratio
- **Select** When bridge Z1-Z2 is open, the transformer ratio can be adjusted under menu item: Select
- **P (kW)** Indicates the instantaneous output per phase or for all phases
- **U (V)** Indicates voltage per phase
- **I (A)** Indicates current per phase
- **kWh** Indicates the unit kWh for display of consumption
- **L1 / L2 / L3** Whenever the display shows P, U, I or Error, the corresponding phase will be indicated
- **Error** When phase is absent or current direction is wrong. The corresponding phase will also be indicated.
Menu to display the value on LCD
The secondary, mains current transformer connection has to be connected to the phase to be measured and therefore the transformer don't have to be grounded.