

CSP1 + CT Current Meter with P1 output

The CSP1+ can be used for both single phase and poly phase installations.



Product overview

The Xemex CSP1+ module is a mains-powered CT (Current Transformer) current meter that features a P1 interface compliant with DSMR4 (Dutch Smart Meter Requirements) and SMR5 (Smart Meter Requirements). It comes in a Din rail housing, which makes it suitable for installation in electrical panels.

The CSP1+ module is designed to be used in various applications, including inverters, AC chargers, and heat pumps. The most common use cases are:

- Optimize self-consumption PV-panels
- Dynamic load management
- Peak shaving



Up to 3 CT transformers can be connected to the CSP1+ device. These CT transformers can be installed around the power lines (split core) without disrupting the wiring. The CSP1+ measures the RMS current values of the three current transformer values and their respective direction over a period of 1 second. At the end of the measurement cycle the new RMS values are sent out as a P1 formatted message. This process continuously repeats every second.

The CSP1+ can be used for both, single phase or poly phase installations. User interface is covered by 3 LED's on the front side of the module:

- PWR - Power present
- CS - Current Indicator
- P1 - P1 msg request is active

Technology

Physical Characteristics

- Housing: DIN 43880 / 4 unit
- Weight: 142 gr
- Dimensions: 90 x 72 x 65 mm

Environmental conditions

- Protection class II
- Over voltage class III
- Operating temperature $-25\text{ }^{\circ}\text{C} - +60\text{ }^{\circ}\text{C}$
- Storage temperature $-30\text{ }^{\circ}\text{C} - +85\text{ }^{\circ}\text{C}$
- Relative humidity $< 75\%$ year's average at $21\text{ }^{\circ}\text{C}$
 $< 95\%$ less than 30 days/year, at $25\text{ }^{\circ}\text{C}$
- Pollution Degree 2
- Altitude $< 2000\text{m}$
- Application area Residential, indoors in suitable meter cabinet

Power Requirements

- Connector Screw terminal connector
- Voltage range 230 AC, -10% , $+10\%$
- Rating amperage 10 mA

P1 Interface

- Connector RJ12 – 6 pin
- Protocol DSMR4 and SMR5
- Max cable length 3 meter

Metering Interface

- Connector Screw terminal connectors for max 3 Current Transformers
- Measuring principle Current measurement by Current transformer
- Current range 1A ... 40A (if CT ratio = 2000)
- CT ratio 2000 (default)
- Input impedance 40 Ohm
- Current Accuracy Typically $<5\%$ at $23\text{ }^{\circ}\text{C}$
- Max cable length 1 meter

Standards and Certifications

- Safety: IEC61010-1:2010
AMD1:2016 EN61010-1:2010/A1
IEC61010-2-030:2017
- EMC: IEC61326
- RoHS and REACH