

SINGLE PHASE ELECTRONIC ELECTRICITY METER

Meters of the last generation, multifunctional
Active energy metering in 4 dials, class A, B or C (EN 50470 - 1, 3)
Reactive energy metering in 4 dials, 2 (NML 027-05, CEI 62053-23)
Record registered demand
Communication possibilities (SR EN 62056-21)



iCSM 0601

iCSM 0601 is a static single-phase meter and is designed for metering active and reactive electrical energy (option) for residential consumers and commercial agents using multi-tariff systems for charging low voltage networks.

iCSM 0601 has both PLC communication (integrated into the meter), suitable for AMR but also relay communication (integrated into the meter), whose main function is remote (or local) connection and disconnection of the consumers. The case of the apparatus is made of a plastic material ensuring the mechanical robustness and of the non-propagation of fire and it consists of the base plate (including the terminal block), the metrological area cover and the terminal block cover. The meter case is constructed so that non-permanent deformations of the meter do not affect the proper functioning of the meter. The cover is made of UV-resistant transparent polycarbonate and is "non-demountable" => no action can be taken on the metrological parts of the meter without visibly and irreparably damaging its base case.

TECHNICAL CHARACTERISTICS

Rated values

- Rated voltage 230V;
- Min / Max / Max: 0.25 / 5 / 80A
- Frequency: 50Hz;
- Accuracy class: A or B for active energy, 2 or 3 for reactive energy;
- Meter constant: 1000, 4000, 8000kWh / kvarh;
- According to SR EN50470-1, SR EN 50470-3 standards for active energy measurement and IEC 62052-11, IEC 62053-23 for reactive energy measurement.
- It measures imported and exported active energy, it measures imported and exported active energy also in four quadrants.

Climatic characteristics

- Operating temperature range: -40 ... + 70 °C
- Transport and storage temperature: -40 ... + 80 °C

Humidity range

- Humidity range - annual average: <70% at 40 °C
- Humidity range for a maximum of 60 days per year: ≤ 95% at 40 °C
- Humidity range for transport: ≤ 95% at 40 °C



Mechanical and constructive characteristics

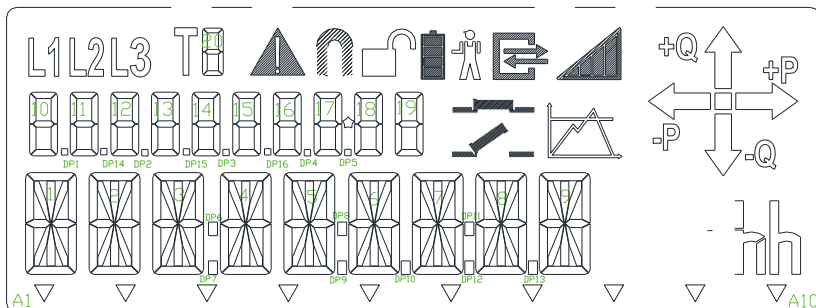
- Insulating material case, protection class II
- The motherboard and the meter cover are permanently assembled.
- Dimensions 204 x 126 x 68.6mm
- Degree of protection IP54
- It has power terminals for connecting the meter to the network and to the subscriber.
- The meter includes a relay to disconnect the consumer (the subscriber).
- The relay disconnects the consumer for both the phase and the earth circuits;
- The meter's network connections are protected against unauthorized interventions by a sealed terminal block cover. The meter has a signaling circuit whenever the terminal block cover is removed.
- For local reading / programming communication, the meter has an optical port according to SR EN 62056-21 sealable;
- It has a button to reconnect the subscriber after receiving the reconnect consent (agreement)
- It has 2 LEDs (to test and to signal different states)

Additional characteristics

- LCD custom design with alphanumeric characters:
- Equipped with an integrated PRIME communication interface;
- DLMS communication protocol used both for local and for remote communication;
- Secured remote communication using AES 128;
- It allows to update the metrological and non-metrological firmware both locally and remotely;
- Advanced tariff structure with up to 6 tariffs;

Saved data:

- Load curve: 144-day capacity for a 60-minute resolution;
- The last 12 self-readings;
- 10 event logs: energy quality events, clock synchronization, firmware upgrade, fraud (terminal block cover opening, magnetic sensor etc.), communication attempts, etc.



Optical port communication

It represents a "local" communication, developed according to EN 62056-21 standard (module "C") it ensures both the reading and the parameterization of the meter.

The "Optical" communication is used to fulfill the following functions:

- product log data reading;
- setting the product in "test" mode, which allows the resolution display at Wh level;
- possibility to upgrade metrological SW version;
- possibility to change product parameters;

Note:

- The configurable parameters are described by the manufacturer and are limited to certain functions.
- Access to these parameters is done under the password, thus protecting the product against unauthorized interventions.



Operating Modes of the iCSM 0601 product

"Normal" operating mode:

- The iCSM 0601 product is powered on the network. The main function in this mode is to measure the electrical energy and the functions derived from it.
- In this mode, the measured values are displayed in relation to the display sequence selected / programmed by the manufacturer.
- All the functions of the meter, including local or remote communication, can be achieved in this mode.

"Battery mode" operation mode:

- In this mode, the product is not considered to be powered. => The "Normal" operating mode is deactivated, except for the calendar clock function.

Connection relay characteristics

- Latching relay type NRL709H-100A class UC3
- 90A switching capacity
- 4kV insulation voltage between the coil and the contact
- 2,0kV insulation voltage between open contacts
- Insulation resistance 1000Mohmi (at 500Vdc)
- Operating temperature: -40°C ... + 70°C
- Mechanical endurance of 106 switches
- Electrical endurance of 105 switches

Communication

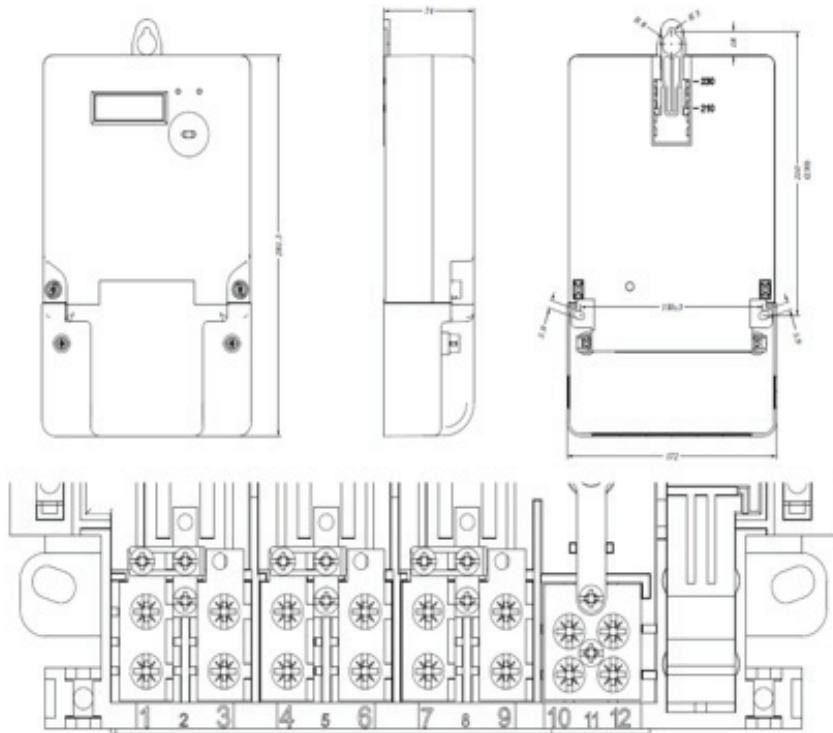
- iCSM 0601 has the ability to read, to parameterize, or to program (SW communication acse) using one of the two communication channels listed below:
- PLC communication (Power Line Communication): represents the remote communication of the product. This type of communication is PRIME or
- G3 type under the DLMS COSEM HDLC communication protocol.

Battery

- The product has a battery, mounted directly on the PCBA, which provides the calendar clock and the possibility of reading the display without power from the network.
- The battery used is "Lithium Thionyl Chloride" with a total capacity of 1.2Ah and a 3.6V DC voltage.
- The lifetime guaranteed for this battery is 5 years on the shelf (the product is not powered from the network or improperly operated) and 15 years in normal operation, powered in the network.



PIPING AND MOUNTING DIMENSIONS, SEALS



WIRING DIAGRAM

