



Single-phase electricity meters DLMS

Single-phase electricity meter AIST A100 3G

AIST A 100" single-phase electric energy meter is designed for measuring and metering of active energy in single-phase alternating current circuits and transmission of telemetric information about the consumed electricity when used in automated data collection systems. Single-phase electronic electricity meter "AIST A100" performs the following functions:

- Voltage measurement;
- Current measurement;
- Calculation of active power;
- Registration of consumed energy;
- Countdown of time and calendar date;
- Information exchange with the concentrator by means of data transfer units (DTCs);
- Data storage in non-volatile memory.

Consumer and service data are displayed on the liquid crystal display (LCD) located on the front panel of the meter. The meter can be operated autonomously or in an automated system of data collection on the consumed electricity. It is possible to configure the meter parameters using a computer or a manual polling and programming device (MPD). The meter allows to control electricity consumption taking into account the developed tariff structure. It is possible to receive information about the emergency state of the own network.

3G module - an embedded module that allows data transmission from the meter to the server/hub through the network of cellular operators using 3G technology.

Technical specifications

| Name of characteristic | Value |
|---|---|
| Accuracy class of active energy | 1 |
| Base, I_b (maximum) current, A | 5 (60) |
| Rated voltage value (U_{nom}), V | 230 |
| Starting current (sensitivity threshold): | $0.004 \cdot I_b$ |
| Set operating voltage range, V | 0.9 to $1.1 \cdot U_{nom}$ |
| Extended voltage range, V | 0.8 to $1.15 \cdot U_{nom}$ |
| Power consumption, V·A, not more: <ul style="list-style-type: none"> On the voltage circuit Current circuit | 5 0,2 |
| Nominal value of mains frequency, Hz | 50 |
| Maximum number of tariffs | 4 |
| Minimum tariff duration, min | 15 |
| RS-485 interface communication speed, bps | 1200~9600 |
| Accuracy of the built-in clock when the counter is on and at normal temperature, better, c/day. | $\pm 0,5$ |
| Liquid crystal display (LCD): <ul style="list-style-type: none"> Number of indicated digits Unit value of the lowest digit when displaying energy, kW·h | 8 0,01 |
| Meter constant, imp/(kWh) | 1200 |
| Average MTBF, h | at least 160 000 |
| Service life of the meter clock power supply, years | at least 10 |
| Additional I/O units | RF modem, PLC modem, GSM modem |
| Temperature range, °C | from - 40 to +55 |
| At temperatures from - 20 to - 40 °C partial loss of LCD functionality is allowed | |
| Overall dimensions (height×width×depth), mm: | 190×113×75 |
| Counter weight, kg | no more than 2.8 |
| <i>Specific characteristics for a particular type of module:</i> | |
| Ethernet module | Up to 100 Mbps data transfer rate via 10100 Base T interface |
| PLC-Module | Data transmission mode over low-voltage network - packet, half-duplex Data transmission speed over low-voltage network - up to 256 Kbps Communication range - up to 3km |
| RF-Module | Mode of data transmission via RF-channel - packet, half-duplex Speed of information transmission via radio channel - up to 10 Kb/s Operating frequency - 430...437 MHz Communication range - up to 1km. |
| 3G Module | Operating frequency range - - GSM-GPRS 850/900/1800/1900 MHz; - WCDMA 900/2100 MHz; Radiated power - 0.25 W (UMTS 2100) Data rate - 3.6 Mbps (HSDPA) |
| WiFi module | Operating frequency - 2.4...2.4835 GHz Support IEEE 802.11 n/g/b standards Wireless channel protection - WPA-PSK/WPA2-PSK, WPA/WPA2-PSK, WPA/WPA2 |
| <i>Common characteristics for all modules:</i> | |
| Power supply voltage | 12 volts |

| | |
|-----------------------------------|---|
| Consumption current | max. 125mA |
| Power supply of the device | is supplied by the AIST electricity meter |
| Average MTBF | at least 150000 h |
| Service life | 20 years |
| Overall dimensions | 70 x 50 x 28 mm |