



Single-phase electricity meters DLMS

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AIST A100 LoRaWAN

“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.

LoRaWAN module is designed for installation on the Aist A100 meter. The device allows to poll the meter and then send the data to the server via LoRaWan wireless network. The radio frequency part of the device allows to work in the frequency range of 863-870 MHz.

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>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