



LoRaWAN module for AIST-A100 electricity meters

USER MANUAL

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1. Purpose.

LoRaWAN module Designed for installation on the AIST-A100 meter, the device allows polling of the meter and subsequent transmission of data to the server via a wireless LoRaWan network.

The radio frequency part of the device allows operation in the frequency range of 863-870 MHz.

2. Connection.

To operate the device, you need to connect it to the meter: the LoRaWAN module is installed directly into the meter and connected to the appropriate connector.

3. Data packet protocol.

Data sent to the server is sent in HEX format. The general packet format is shown in Table 2.

Table No. 2

Size in bytes	Field Description
1	Package type, for this package = 3
2	Total size of data received through the interface
1	The size of the data in this packet
1	Package serial number
1	Total packages
Array	Data

Instantaneous Values Package:

\$ACTUALPCV,,M230,16962432,110718131520,1,1,229.32,0.00,8.90,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,0.00,50.01*3D

Table No. 3

Field number	Field Description	Example
1	Command mnemonics	ACTUALPCV
2	Place for service information	
3	Counter model	M230
4	Serial number	16962432
5	Date and time in the format <dd.mm.yy.hh.mm.ss>	110718131520
6	Voltage transformation ratio	1
7	Current transformation ratio	1
8	Voltage in phase A	229.32
9	Voltage in phase B	0.00
10	Voltage in phase C	8.90
11	Current in phase A	0.00
12	Current in phase B	0.00
13	Current in phase C	0.00
14	Sum of active power across all phases	0.00
15	Active power in phase A	0.00
16	Active power in phase B	0.00
17	Active power in phase C	0.00
18	The sum of reactive power across all phases	0.00
19	Reactive power in phase A	0.00
20	Reactive power in phase B	0.00
21	Reactive power in phase C	0.00
22	Total power across all phases	0.00
23	Apparent power in phase A	0.00
24	Apparent power in phase B	0.00
25	Apparent power in phase C	0.00
26	Power factor for all phases	0.00
27	Power factor in phase A	0.00
28	Power factor in phase B	0.00
29	Power factor in phase C	0.00
30	Network frequency	50.01
31	Checksum	3D

Energy Values Package:

\$ACTUALE,,M230,16962432,090718181741,1,1,936.01,936.01,-,10.47,-,643.71,292.31,0.00,0.00*39

Table No. 4

No. fields	Field Description	Example
1	Command mnemonics	ACTUAL
2	Place for service information	
3	Counter model	M230
4	Serial number	16962432
5	Date and time in the format <dd.mm.yy.hh.mm.ss>	090718181741

4. Maintenance

The module is maintenance-free and designed to operate indefinitely under the following operating conditions: stable power supply within the specified voltage range, proper humidity and temperature, non-aggressive gas environment, and absence of shock and vibration. There are no parts inside the recorder housing that require periodic inspection and/or maintenance.

5. Storage and transportation rules

Climatic conditions for transportation must meet the following conditions:

- ambient air temperature from minus 50°C to plus 50°C;
- relative air humidity up to 98% at 25°C;
- atmospheric pressure from 84.0 to 107.0 kPa (from 630 to 800 mmHg).

The device can be transported by all types of transport (in covered wagons, closed vehicles, containers).

The device must be stored only in the manufacturer's packaging in heated rooms at temperatures ranging from +5°C to +40°C and relative humidity no more than 80%. Storage areas must be free of aggressive impurities (acid or alkali vapors) that could cause corrosion.

6. Manufacturer's (supplier's) warranties

The manufacturer guarantees that the device complies with the technical specifications, subject to the conditions of transportation, storage, installation and operation.

The warranty period for the device is set at 1 year, counting from the date the device is put into operation.

During the warranty period of the device, the manufacturer has the right to supervise its correct operation in order to improve the quality and efficiency of operation.

Device components that fail during the warranty period are subject to replacement or repair by the manufacturer at the manufacturer's expense.

Important!

The user loses the right to free repairs during the warranty period in the event of broken seals, mechanical damage by the user, or if the device was repaired by a person who is not authorized to perform repairs and maintenance.