

Electricity meter NIK 2300 AP6 T.2200.MC.22 Passport AAIIX.411152.073 ПС

1. PRODUCT DESIGNATION

1.1. Electric meter NIK 2300 AP6 T.2200.MC.22 type NIK 2300...P6... three-phase multi-rate, with electronic reading device and three measuring elements is designed to measure electricity and to provide its accounting in forward and reverse directions with accuracy class B for the active energy.

1.2. The meter is equipped with an optical port, RS-485 interface, magnetic and electromagnetic field sensors.

1.3. According to climatic and mechanical requirements, the meter complies with the requirements of EN 50470-1, EN 50470-3 when used in premises where there are no aggressive vapors and gases.

1.4. The meter corresponds to the requirements of the national standard EN 62059-32-1, according to the results of studies of stability and metrological reliability.

1.5. Meters are used to organize electricity metering in the utility system and in other industries

1.6. The meter meets the requirements of the Compliance with requirements of European Parliament and EC Directive 2014/32/EU.

2. DELIVERY SET

2.1. The delivery set of the meter is given in Table 1.

Table 1

Name	Quantity
AC meter NIK 2300 AP6 T.2200.MC.22	1 pc.
Passport*	1 copy.
Operations manual*	1 copy.
Software **	1 copy.
Consumer packaging	1 pc.
Declaration of Conformity	1 copy.
<p>* It can be downloaded electronically from the manufacturer's site at https://nik-el.com. Other options for delivery of operational documentation are reflected in the supply contract. **According to the supply contract.</p>	

3. MAINTENANCE

3.1. Maintenance includes a calibration operation – in all cases, calibration and repair of the meter as needed. The frequency of verification is listed in Table 2.

3.2. The repair and calibration operations are carried out at the factory.

4. STORAGE AND TRANSPORT CONDITIONS

4.1. Conditions of storage of the meter in the warehouse of the consumer (supplier) in consumer packaging are in accordance with the requirements of IEC 62052-11.

4.2. Conditions of transportation and storage of the meter in the transport packaging of the manufacturer comply with the conditions 3 in accordance with IEC 60721-3-3.

5. MANUFACTURER WARRANTY

5.1. The manufacturer guarantees that the meter complies with the requirements of EN 50470-1, EN 50470-3 when the conditions of installation, operation, transportation and storage are met by the consumer.

5.2. Before operating the meter, it is necessary to read the user manual included in the supply or posted on the official site - see Table 1.

5.3. The warranty period (operation period and storage period in total) is 3 years from the date of sale.

5.4. The meter, which has non-compliance with the requirements of the technical specifications and the current passport during the warranty period, must be replaced or repaired by the manufacturer or the enterprise authorized to make warranty repairs.

5.5. The warranty period of a meter continues for a time, computing from the moment of submission of the application by the consumer to eliminate the defect by the manufacturer.

5.6. Upon expiration of the warranty period, during the service life of the meter, the repairs are carried out by the manufacturer or service organizations. In this case, repair is carried out at the expense of the consumer.

5.7. Meters transported, stored, installed, connected or used in violation of the requirements specified in the operating manual and meters that have damage to the casing, base, clamp pads or the consequences of their thermal heating, damaged seal of the manufacturer, as well as if the product has a pronounced mechanical damage received as a result of any actions of the buyer or third parties, not subject to warranty repair.

5.8. The manufacturer's warranty does not apply to external backup batteries.

5.9. Meters that are sent for maintenance should be provided in good condition with a passport and a description of the reasons for the failure.

5.10. Please, inform the manufacturer "NIK-ELEKTRONIKA"-LLC about the detected shortcomings of the meters.

6. TECHNICAL SPECIFICATIONS

6.1. The technical specifications of the meter are given in Table 2

Table 2. The main technical parameters

Parameter, characteristic	Value, description
Accuracy class for measurement of active energy (according to EN 50470-3)	B
Reference voltage U_n , B	3x230/400
Voltage operating range, % of U_n	-20 to +15
Starting current, I_{st} A for active energy, mA	12,5
Minimum current I_{min} , A	0,25
Transient current I_{tr} , A	0,5
Reference current, I_{ref} , A	5
Maximum current, I_{max} , A	80
Reference frequency f_{ref} , Hz	50
Meter constant by default (active energy), imp/(kWt·h)	8000
Power consumption of meter without PLC interface in voltage circuits ($I = I_b$) for each phase, less than, V·A (W)	10 (2)
Power consumption of meter with PLC interface in voltage circuits ($I = I_b$) for each phase, less than, V·A (W)	20 (5)
The number of LCD digits to display basic information	6+2
Storage of a load profile with the integration period of 60 minutes, days	180
Storage of data on consumed energy at all rates at the end of the day, days	180
Storage of data on consumed energy at all rates at the end of the month, months	48
Storage of average values of voltage on phases L1, L2, L3 with the integration period of 10 minutes, days	10
The maximum allowable voltage at the terminals of the pulse output in the open state, I_n	30
The maximum allowable current of the output circuit of the pulse output in the closed state, mA	30
The main absolute error of the built-in clock of the meter, s/day	± 0,5
Average failure time, not less than, hours	200 000
Mean lifetime, not less than, years	24
Verification interval, years	10
Working temperature range, °C	-40 to +70
Storage temperature range, °C	-40 to +70
Relative humidity at a temperature +30 °C, not more than, %	95
Degree of protection	IP54
Mechanical class	M2
Electromagnetic class	E2
Overall dimensions, less than, mm	296x172x56
Weight, not more, kg	2

6.2. The structure, operating principle and other technical information regarding the meter are described in detail in the operation manual.

6.3. The overall and installation dimensions of the meter are shown in Figure 1.

6.4. The circuit for connecting the meter to consumer's network shown in Figure 2.

6.5. The circuit for connecting the main test output shown in Figure 3.

7. METER PLACEMENT, INSTALLATION AND PRESTARTING PROCEDURE

7.1. Installation, dismantling, connection and disconnection of the meter can only be performed by an authorized organization. An organization authorized to perform the installation, maintenance and dismantling of meters is not fully

responsible for the fact that its personnel have carefully studied this instruction, has sufficient qualifications to perform the work, strictly complies with the local rules for the safety and operation of electrical installations.

7.2. Installation, dismantling, connection and disconnection of the meter must be carried out in accordance with the applicable rules of operation and safety of electrical installations, only by qualified personnel in accordance with the requirements of this document.

7.3. The meter must be installed in premises without aggressive vapors, dust and gases.

7.4. Connecting and disconnecting the meter from the network should only be performed after disconnecting the voltage in the network and providing the necessary protection against accidental voltage activation.

7.5. Before installing the meter, it is necessary to do an external review of the meter, to ensure that there is no mechanical damage, and the availability of seals. The connection of the meter must be carried out in accordance with the diagram shown in Figure 2. All screws must be tightened with a flat blade screwdriver (thickness of the blade is 1 mm) to the point with the force of 3,5 N·m.

7.6. When connecting the meter to the electrical network with an aluminum wire, it is required the specified wires be pressed into special sleeves to prevent corrosion of the connections in the meter clamps.

7.7. After the voltage is applied to the terminal of the meter, it is necessary to make sure the indicators work properly, secure the terminal block cover with screws, and hold the seal.

7.8. The screws of the terminal block cover must be tightened with a flat blade screwdriver (thickness of the blade is 1 mm) to the point with the force of 0.5 ± 0.1 N·m.

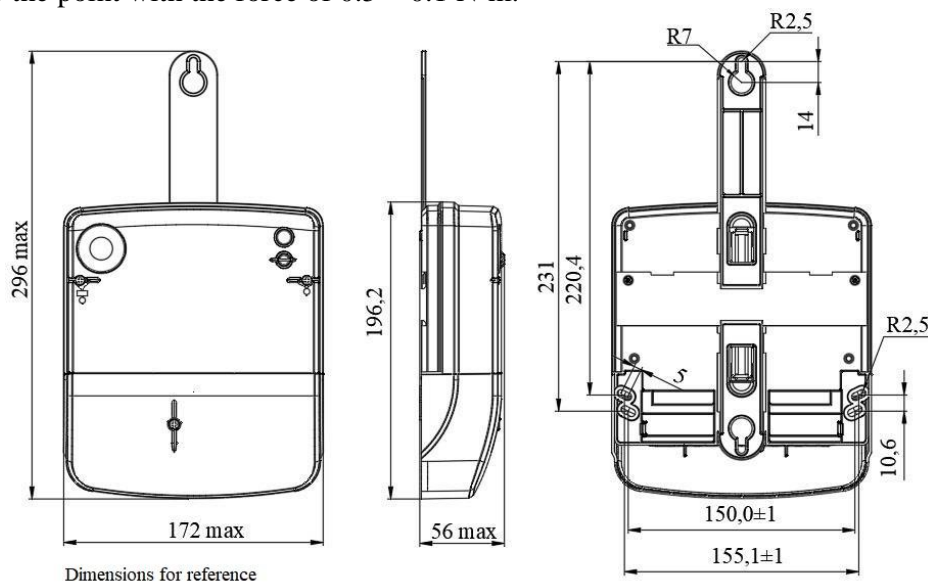


Figure 1. Overall and installation dimensions

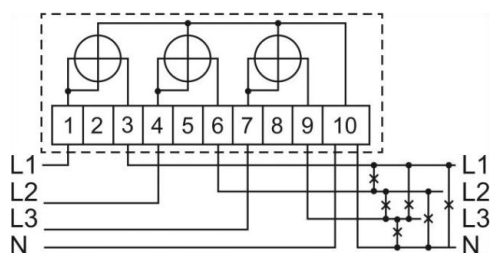


Figure 2. Connection diagram of the meter

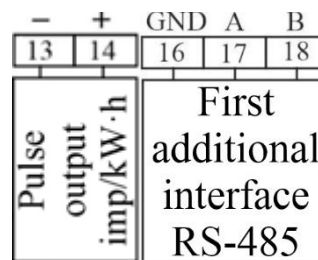


Figure 3. Numbering of contacts of meter's connectors

CERTIFICATE OF ACCEPTANCE

Electricity Meter		NIK 2300 AP6 T.2200.MC.22	
Manufacturing №			
is produced, accepted and recognized as fit for operation in accordance with			
EN-50470-1, EN-50470-3, EN 62059-32-1.			
Production date			
Manufacturer`s representative			
Date of sale _____			
name of organization, seal and signature of the Seller.			

Date of defect occurrence	Defect description	Repair date	Note about calibration

Additional information:

The latest version of the software for parameterization of the meter you can download from the official website of the company <https://nik-el.com/ua/products/electricity-meters/3f-electricity-meters/nik-2300/>.

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