
NiK

Device Language Message Specification (DLMS) provides for the exchange of data for intelligent measurement, intelligent energy management and related industries. The IEC 62056-1-0 (2014) standard regulates remote reading of readings from meters, remote control, and also additional services for measurement of any type of energy resource (electricity, water, gas, heat).

Based on the International Electrotechnical Commission (IEC) 62056 DLMS/COSEM suite of international standards, IDIS Companion Specifications define precise Use Cases and Options to ensure 100% interoperable smart meter devices. The Companions Specification is supported by an independent, proven, and test-driven conformance and interoperability process through certification provided by the IDIS Association. In an effort to strengthen interoperability and open standards, the IDIS Association merged with the DLMS User Association in November 2021.

The EU Measuring Instruments Directive (MID) 2014/32 /EU aims to ensure the reliability and uniformity of measurements in the EU, as well as to reduce trade barriers within the EU. The CE mark is the only mark in the EU that confirms the product's compliance with European Safety Standards for human, property and environment.

ASTA standards apply to products that contain new or innovative features that go beyond currently published standards. The meters have been typically tested at the Intertek Laboratory (ASTA), UK. Tests of meters were performed in accordance with the standards: IEC 62052-11: 2003, IEC 62053-21: 2003

G3- PLC provides high-speed, highly reliable long-distance communication over the mains.
Features and capabilities of G3-PLC were developed to solve complex communication technologies
on power lines

(PRIME) Alliance is focused on the development of a new open, publicly available and non-patented telecommunications solution that will support not only intelligent measurement functions, but also progress towards Smart Grid, including PLC technology based on the use of power grids
for high-speed information exchange.

Standards and Industrial Research Institute of Malaysia (SIRIM) approval is a national certification regime according to its own specifications, which are partly based on the European Radio Equipment Directive (RED). Accordingly, SIRIM performs tests and issues certificates based on RED specifications, which are recognized by the Malaysian Communications and Multimedia Commission (MCMC).

Certificate of Authorized Supplier for the Energy Supply Company Association
of De Afghanistan Breshna Sherkat (DABS), Afghanistan

The Turkish Accreditation Agency (TÜRKAK) is a non-profit public organization with administrative and financial autonomy. It performs the task of assessing and approving the qualifications of conformity assessment bodies based on international standards. TÜRKAK conforming to ISO/IEC 17011 standard; Accredit domestic and foreign institutions that will provide laboratory, certification and inspection services to ensure that these institutions operate in accordance with established national and international standards; performs the task of ensuring the national and international validity of products/ services, systems, personnel and laboratory documents.

Content

NIK-ELEKTRONIKA LLC is one of the largest enterprises in Eastern Europe in the field of development and production of measuring instruments, energy management systems, as well as energy consulting and engineering.

The Company started its activity in 1997 and over the years of successful work has grown into a large enterprise with its own engineering department (qualified design and installation engineers, programmers, laboratory).

For 27 years of purposeful work the Company has proved to be a reliable and stable partner. An individual approach to the customers needs is the key for long-term strategic partnership.

Based on smart energy metering devices, industrial controllers, specialized equipment and developed software, NIK implements and maintains the AMI system that provide full control and accounting of energy resources, as well as significant savings for energy companies. This direction is one of the strategic directions for the Company, as it allows management enterprises to resolve most of the energy management issues.

The Company is focused on integrated solutions for backup and autonomous power supply.

In 2010, NIK received an exclusive mandate for sale and maintenance in the territory of Ukraine of gas power plants (powered from 5 to 9000 kW) of the world-famous company Generac Power Systems, USA. In the same year, the Company started assembly, under the NiK brand, of gasoline and diesel power plants (powered from 2 to 2,000 kW) based on components from the US, Japan and China. The main advantage of Generac power plants is the low-pressure gas operation process, that allows to operate within the city, in particular, on buildings roofs, without violating fire and environmental safety.

Since 2016, the Company has been successfully implementing projects for the construction of solar power plants and the connection of the «green» tariff for both residential and industrial sectors.

NIK 2100

SINGLE-PHASE METER

Design 1

Design 2

Compatibility

NIK AMI p.34 · DC-02 p.36 · CC-01 p.38 · FP1 p.40 · A-GSM p.42 · OH-03 p.46 · eBox.1 p.48 · BATTERIES p.56 · SEAL p.57

NIK 2100

SINGLE-PHASE METER

Properties

Two visual elements

Design 1

- Active + reactive energy
- 4 tariffs / 12 zones
- Optical port
- Sensors of influence magnetic and electromagnetic fields
- Battery mode
- Instantaneous values of power, voltage, amperage

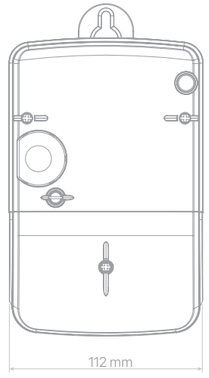
Design 2 (additions to design 1)

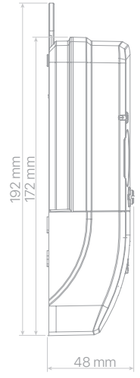
- Voltage quality control
- «RESET» button with configurable actions
- Modern communication interfaces
- Two batteries
- LCD with vector diagram and OBIS codes
- Terminal block for DIN 43857
- Tamper sensor for case and terminal cover
- Enclosure DIN rail mounting (option)

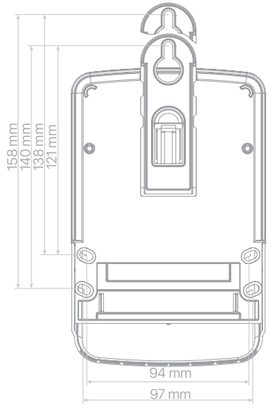
Specifications

Accuracy class for measuring of active energy:	
EN 50470-1	B
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	80 A
Meter constant	6400 imp/(kW*h) 6400 imp/(kWAr*h)
Starting current (active energy)	12,5 mA
Starting current (reactive energy)	15,6 mA
Power consumption, no more: in the voltage circuits without PLC interface in the voltage circuits with PLC interface in current circuits	 10 V•A (2 W) 20 V•A (5 W) 0,2 V•A
Number of digits on LCD	6 + 3
Operating temperature	-40 ... +70 °C
Weight, no more	1 kg
Service life	30 years
Battery lifetime	16 years

Dimensions







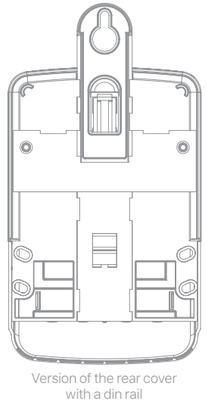

Version of the rear cover with a din rail

Table of construction types

NIK 2100 XPXX.XX0X.X.XX

Nominal voltage
- 2 — 230 V
- 3 — 240 V

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed

Main interface
- 0 — No
- 2 — RS-485
- 9 — PLC-G3

Construction type of the case
- 0 — Non-tariff case
- 1 — Case set with optoport cover
- 2 — Case with «RESET» button

Tariff system
- T — Added for tariff devices

Current
- P6 — 5 (80) A

Energy measurement
- A — Active energy measurement
- AR — Active and reactive energy measurement (for design 2)

Meter type

NIK 2104

SINGLE-PHASE METER

Compatibility

AMI								
NIK AMI	DC-02	CC-01	FP1	A-GSM	OH-03	eBox.1	BATTERIES	SEAL
p.34	p.36	p.38	p.40	p.42	p.46	p.48	p.56	p.57

Properties

DLMS

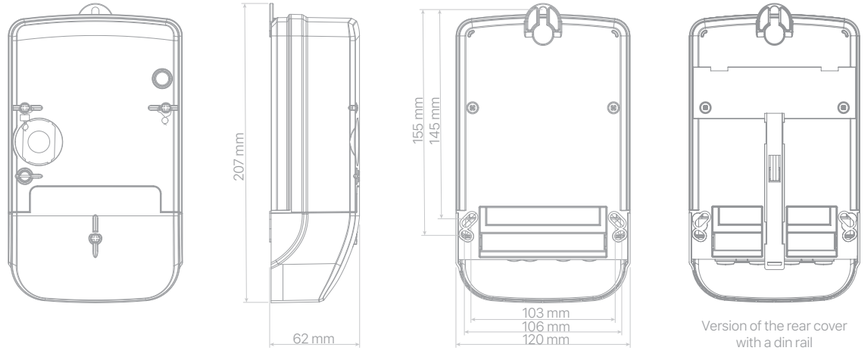
Modern communication interfaces

- Active and reactive energy
- Instantaneous values of power, voltage, amperage
- 4 tariffs / 12 zones
- Two measuring elements
- Prepaid functions (option, together with the NOVASYS software package)
- Voltage quality control
- Optical port
- Disconnector
- Sensors of the influence of magnetic and electromagnetic fields
- Tamper sensor for case and terminal cover
- Transparent case
- Battery mode
- Active and reactive energy
- «RESET» button with configurable actions
- Two batteries
- LCD with vector diagram and OBIS codes
- Data protection by encryption
- Remote firmware change
- Standard terminal block DIN43857 and BS7856
- Enclosure DIN rail mounting (option)

Specifications

Accuracy class for measuring of active energy:	
EN 50470-1	B
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current, I_{max}	100 A
Meter constant	6400 imp/(kW*h) 6400 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy	15,6 mA
Power consumption, no more than:	
in the voltage circuits without GSM or PLC interface	10 V•A (2 W)
in the voltage circuits with GSM or PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Protection level	IP 54
Operating temperature	-40 ... +70 °C
Weight, no more than	0,6 kg
Number of digits on LCD	6 + 3
Intertesting interval and battery lifetime	16 years
Service life	30 years

Dimensions



Version of the rear cover with a din rail

NIK 2104
SINGLE-PHASE METER

Table of construction types

NIK 2104 XPXX.XXXX.X.XX

Nominal voltage
- 2 — 230 V
- 3 — 240 V

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed

Additional interface
- 0 — No
- 3 — Radio M-Bus

The main interface
- 2 — RS-485
- 6 — GSM
- 9 — PLC-G3

Construction type of the case
- 2 — Case with «RESET» button

Tariff system
- T — Added for tariff devices

Current
- P1 — 5 (100) A

Energy measurement
- A — Active energy measurement
- AR — Active and reactive energy measurement

Meter type

NIK 2106

SINGLE-PHASE METER

Compatibility

AMI NIK AMI p.34
DC-02 p.36
CC-01 p.38
FP1 p.40
A-GSM p.42
OH-03 p.46
eBox.1 p.48
BATTERIES p.56
SEAL p.57

NIK 2106

SINGLE-PHASE METER

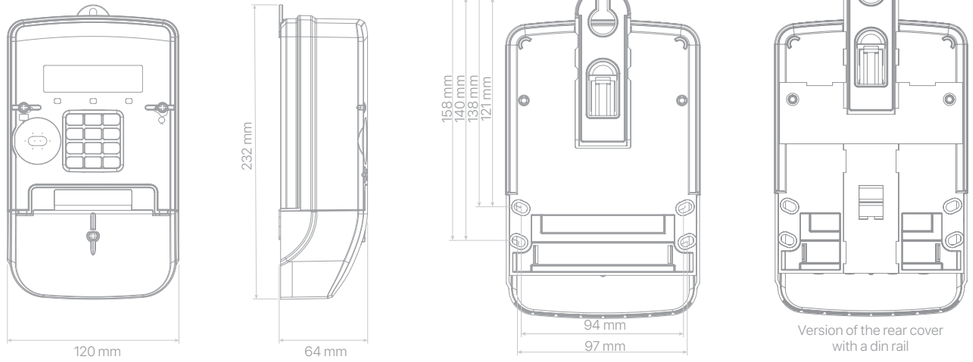
Properties

- **Pre-payment functions according to STS IEC 62055-41**
- Active and reactive energy
- Instantaneous measurements of power, voltage, amperage
- DLMS
- STS
- Modern communication interfaces
- Keypad
- Data protection by encryption
- Remote firmware update
- Voltage quality control
- Optical port
- Disconnector
- Terminal cover sensor
- Meter case sensor
- Transparent case
- Battery mode
- Enclosure DIN rail mounting (option)

Specifications

Accuracy class for measuring of active energy: IEC 62053-21	1
Accuracy class for measuring of reactive energy: IEC 62053-23	2
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	100 A
Meter constant	6400 imp/(kW*h) 6400 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy	15,6 mA
Placement capacity, no more than:	
in voltage circuits without PLC interface	10 V•A (2 W)
in voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Operating temperature	-40 ... +70 °C
Weight, no more than	0,6 kg
Number of digits on LCD	6 + 3
Battery lifetime	16 years
Service life	30 years

Dimensions



NIK 2106
SINGLE-PHASE METER

Table of construction types

NIK 2106 XPXX.XXXX.X.XX

Nominal voltage:
2 230 V
3 240 V

Active energy measurement
1 Import energy
2 Export and import energy

Sensors of influence of magnetic and electromagnetic fields
M Magnetic field sensor

Disconnector
2 Is installed

Additional interface
0 No

The main interface
2 RS-485

Construction type of the case
2 Design with Keypad and internal interface module

Tariff system
T Added for multitariff meters

Current
P1 5 (100) A

Energy measurement
A Active energy measurement
AR Active and reactive energy measurement

Meter type

NIK 2106

SINGLE-PHASE METER

GPRS, 4G/LTE (module)

Compatibility

NIK AMI	DC-02	CC-01	FP1	A-GSM	OH-03	eBox.1	BATTERIES	SEAL
p.34	p.36	p.38	p.40	p.42	p.46	p.48	p.56	p.57

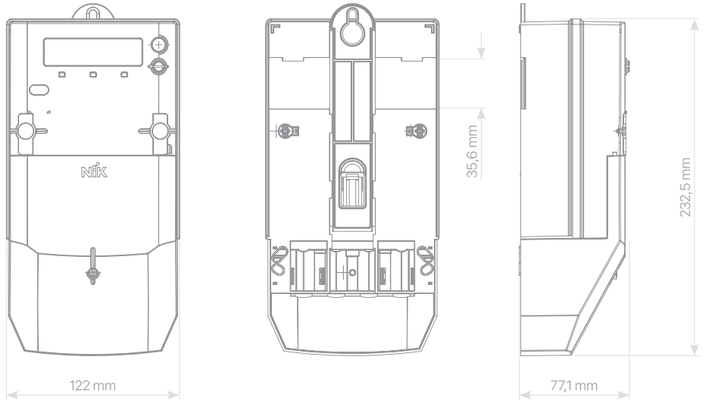
Properties

- **Last GASP** (last breath function) - sending a message to the specified server when there is a power loss with 4G/LTE modules
- Active and reactive energy
- Instantaneous measurements of power, voltage, amperage
- DLMS
- Two measuring elements
- Modern communication interfaces
- Replaceable data transfer module
- Data protection by encryption
- Remote firmware update
- Voltage quality control
- Optical port
- Disconnector
- Terminal cover sensor
- Meter case sensor
- Battery mode
- Enclosure DIN rail mounting (option)

Specifications

Accuracy class for measuring of active energy: EN 50470-1	B
Accuracy class for measuring of reactive energy: IEC 62053-23	2
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	100 A
Meter constant	6400 imp/(kW*h) 6400 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy	15,6 mA
Placement capacity, no more than:	
in voltage circuits without PLC interface	10 V•A (2 W)
in voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Operating temperature	-40 ... +70 °C
Weight, no more than	0,6 kg
Number of digits on LCD	6 + 3
Battery lifetime	16 years
Service life	30 years

Dimensions



NIK 2106
SINGLE-PHASE METER

Table of construction types

NIK 2106 XXXT.XXXX.X.XX

Nominal voltage:
2 230 V
3 240 V

Active energy measurement
1 Import energy
2 Export and import energy

Sensors of influence of magnetic and electromagnetic fields
0 No sensor
M Magnetic field sensor
C Electromagnetic field sensor
MC Both sensors

Disconnector
0 Not installed
2 Is installed

Additional interface
0 No
2 RS-485
3 2xRS-485

Data acqusition interface
0 No
3 Radio M-Bus

Features of the case
3 Case with GSM or PLC-G3 module

Tariff system
T Added for multitariff meters

Current
P1 5 (100) A

Energy accounting
A Active energy
AR Reactive energy

Meter type

NIK 2116

SINGLE-PHASE METER

Compatibility

AMI								
NIK AMI	DC-02	CC-01	FP1	A-GSM	OH-03	eBox.1	BATTERIES	SEAL
p.34	p.36	p.38	p.40	p.42	p.46	p.48	p.56	p.57

Properties

Pre-payment functions according to STS IEC 62055-41

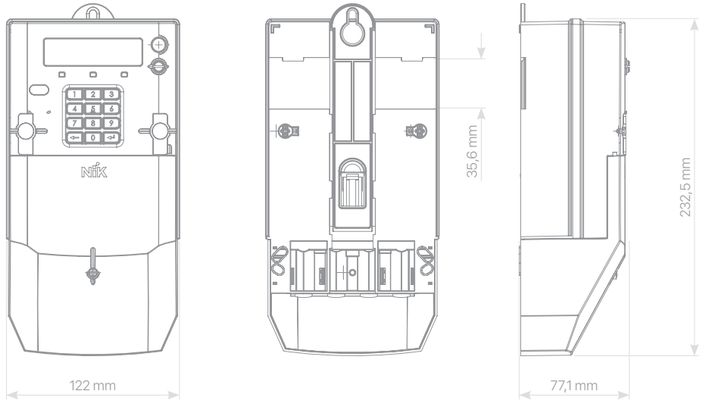
Last GASP (last breath function) - sending a message to the specified server when there is a power loss with 4G/LTE modules

- Active and reactive energy
- Instantaneous measurements of power, voltage, amperage
- DLMS
- STS
- Two measuring elements
- Modern communication interfaces
- Replaceable data transfer module
- Keypad
- Data protection by encryption
- Remote firmware update
- Voltage quality control
- Optical port
- Disconnector
- Terminal cover sensor
- Meter case sensor
- Battery mode
- Enclosure DIN rail mounting (option)

Specifications

Accuracy class for measuring of active energy: IEC 62053-21	1
Accuracy class for measuring of reactive energy: IEC 62053-23	2
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	100 A
Meter constant	6400 imp/(kW*h) 6400 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy	15,6 mA
Placement capacity, no more than:	
in voltage circuits without PLC interface	10 V•A (2 W)
in voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Operating temperature	-40 ... +70 °C
Weight, no more than	0,6 kg
Number of digits on LCD	6 + 3
Battery lifetime	16 years
Service life	30 years

Dimensions



NIK 2116
SINGLE-PHASE METER

Table of construction types

NIK 2116 XXXT.XXXX.X.XX

Nominal voltage:
2 230 V
3 240 V

Active energy measurement
1 Import energy
2 Export and import energy

Sensors of influence of magnetic and electromagnetic fields
0 No sensor
M Magnetic field sensor
C Electromagnetic field sensor
MC Both sensors

Disconnector
0 Not installed
2 Is installed

Additional interface
0 No
2 RS-485
3 2xRS-485
4 PLC-G3

Data acqusition interface
0 No
3 Radio M-Bus

Features of the case
3 Case with GSM or PLC-G3 module

Tariff system
T Added for multitariff meters

Current
P1 5 (100) A

Energy accounting
A Active energy
AR Reactive energy

Meter type

NIK 2108

SINGLE-PHASE METER

Compatibility

A-GSM p.42 | OH-03 p.46 | iBox p.52 | SEAL p.57

NIK 2108

SINGLE-PHASE METER

Properties

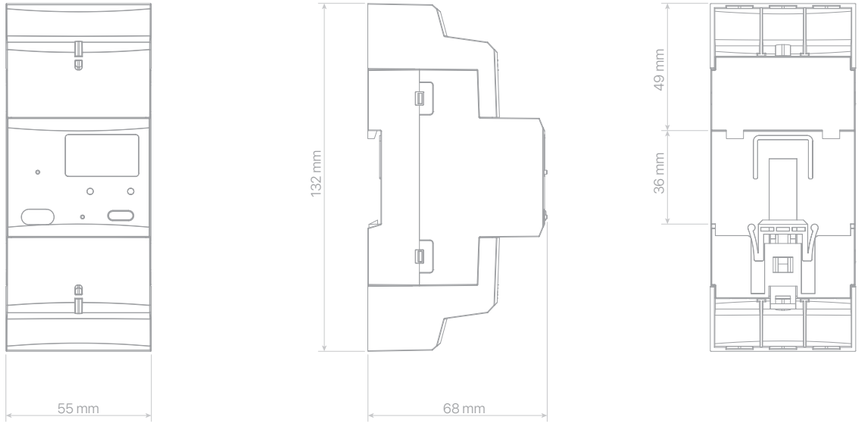
CE

- **Dimensions of the three-phase circuit breaker (DIN 43880)**
- **Disconnector**
- Export and import of active energy
- Instantaneous values of power, voltage, amperage
- RS-485
- 4 tariffs / 12 zones
- Optical port
- Transparent case

Specifications

Accuracy class for measuring of active energy: EN 50470-1	B
Nominal voltage	230 V; 240 V
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	80 A
Meter constant	6400 imp / (kW*h)
Starting current	12,5 mA
Power consumption, no more than	
in voltage circuits	10 V•A (2 W)
in current circuits	0,2 V•A
Protection level	IP 51
Operating temperature	-40 ... +70 °C
Weight, no more than	0,5 kg
Number of digits on LCD	6 + 2
Service life	30 years

Dimensions



NIK 2108
SINGLE-PHASE METER

Table of construction types

NIK 2108 AP6X.XX0X.0.XX

Nominal voltage
2 230 V
3 240 V

Active energy measurement
1 Import energy
2 Export and import energy

Disconnector
0 Not installed
2 Is installed

Additional interface
0 No
2 RS-485

Construction type of the case
0 Non-tariff case
1 Case with optoport

Tariff system
T Added for tariff devices

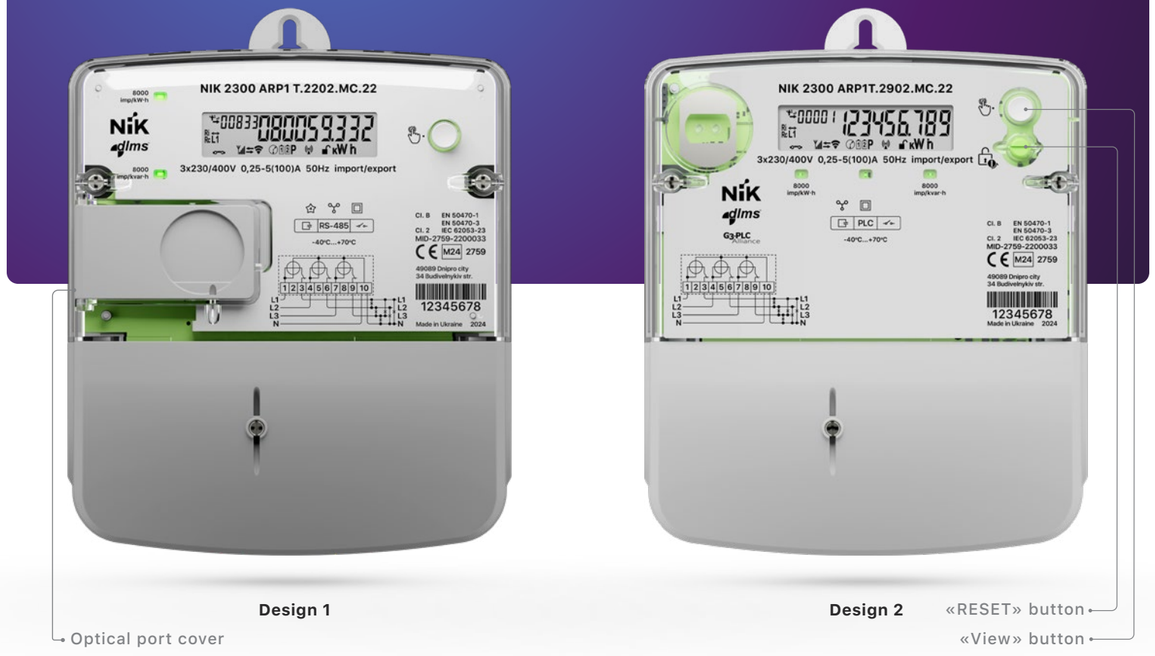
Current
P6 5(80) A
One measuring element

Energy measurement
A Active energy measurement

Meter type

NIK 2300

THREE-PHASE METER



Design 1

Design 2

Compatibility

NIK AMI	DC-02	CC-01	FP1	A-GSM	TERMINAL BLOCK	OH-03
p.34	p.36	p.38	p.40	p.42	p.44	p.46

eBox.3	TOPN-0,66	BATTERIES	SEAL
p.48	p.52	p.56	p.57

NIK 2300

THREE-PHASE METER

Properties

Measurement with accuracy class 0,5 s

DLMS

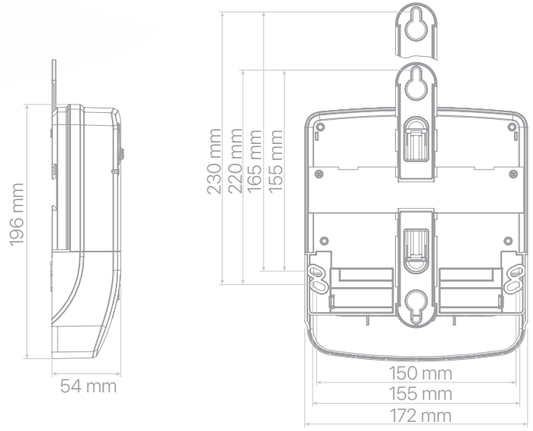
DESIGN 1

- Active energy
- Transparent case
- 4 tariffs / 12 zones
- Optical port
- Sensors of magnetic and electromagnetic fields
- Tamper sensor for case and terminal cover
- Battery mode
- Instantaneous values of power, voltage, amperage

DESIGN 2 *(in addition to DESIGN 1)*

- Active + reactive energy
- «RESET» button with configurable actions
- Two batteries
- LCD with vector diagram and OBIS codes
- Data protection by encryption
- Remote firmware update
- Voltage quality control with measurement of voltage harmonics
- Operation voltage range from 100...400 V for transformer connection
- Disconnector with a current of 100 A
- Enclosure DIN rail mounting (option)

Dimensions



Specifications

Accuracy class for measuring of active energy:	
EN 50470-1	B
EN 50470-3	0,5 s *(transformer connection)*
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	3x230/400; 3x240/416 V 3x57,7/100 V - 3x240/416 V, *(Wide range, for transformer connection)*
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	10 A; 80 A; 100 A
Meter constant	8000 imp/(kW*h) 8000 imp/(kWAr*h)
Starting current for measuring of active energy :	
for meters of direct connection class 1,0	12,5 mA
for meters of transformer connection class 1.0 (0.5 S)	10 mA (5 mA)
Starting current for measuring of reactive energy :	
for meters of direct connection class 1,0	15,6 mA
for meters of transformer connection class 1.0 (0.5 S)	15,0 mA (9,3 mA)
Power consumption, no more than:	
in the voltage circuits without PLC interface	10 V•A (2 W)
in the voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,05 V•A
Operating temperature	-40 ... +70 °C
Protection level	IP 54
Weight, no more than	0,73 kg
Number of digits on LCD	6 + 3
Battery life	16 years
Service life	24 years

NIK 2300
THREE-PHASE METER

Table of construction types

NIK 2300 XXXXX.XX0X.X.XX

Nominal voltage:
- 2 — 3x230/400 V
- 3 — 3x240/416 V
- 5 — 3x57.7/100 V

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed *(for direct connection only)*

Additional interface
- 0 — No
- 2 — RS-485
- 9 — PLC-G3

Construction type of the case
- 1 — Case with optical port cover
- 2 — Case with the RESET button

Tariff system
- T — Added for tariff devices

Current and switching circuit
- P1 — 5(100) A
- T — 5 (10) A

Energy measurement
- A — Active energy measurement
- AR — Active and reactive energy measurement

Meter type
- 2300 — Accuracy class1
- 2300 0,5 s — Accuracy class 0,5 s *(for transformer connection)*

NIK 2306

THREE-PHASE METER

Compatibility

AMI NIK AMI p.34
DC-02 p.36
CC-01 p.38
FP1 p.40
A-GSM p.42
TERMINAL BLOCK p.44
OH-03 p.46
eBox.3 p.48
TOPN-0,66 p.52
BATTERIES p.56
SEAL p.57

Properties

Plug-in modules

Last GASP (last breath function) - sending a message to the specified server when there is a power loss with 4G/LTE modules

Active and reactive energy

Instant values of power, voltage, amperage

DLMS

IDIS

Wide choice of communication interfaces

Additional interface *(backup transmission channel)*

Replaceable data transfer module

Optical port

Load disconnection relay

Voltage quality control

Remote firmware update

Data protection by encryption

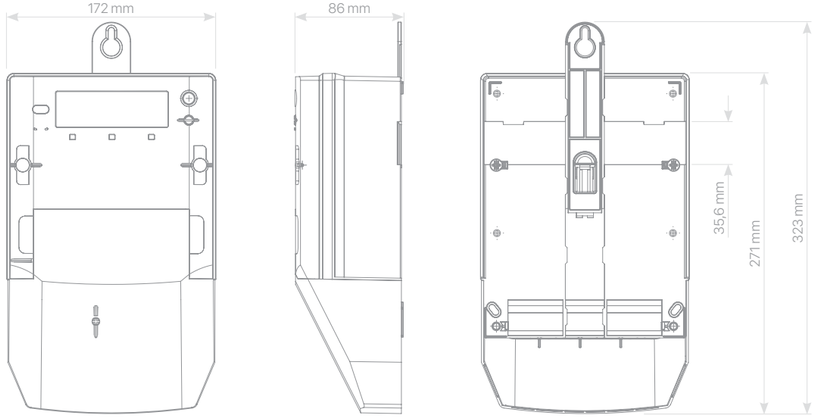
Sensors of influence of magnetic and electromagnetic fields

Tamper sensor for case and terminal cover

Battery mode

Enclosure DIN rail mounting (option)

Dimensions



Specifications

Accuracy class for measuring of active energy:	
EN 50470-1	B
EN 50470-3	0,5 s *(transformer connection)*
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	3x230/400 V; 3x240/416 V; 3x57,7/100 V *(for transformer connection)* 3x57,7/100 V ... 3x240/416 V, *(wide range, for transformer connection)*
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	10 A; 100 A
Meter constant	8000 imp/(kW*h) 8000 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy :	15,6 mA
Power consumption, no more	
in the voltage circuits without PLC interface	10 V•A (2 W)
in the voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Operating temperature	-40 ... +70 °C
Protection level	IP 54
Number of digits on LCD	6 + 3
Weight, no more than	1,3 kg
Service life	24 years

NIK 2306
THREE-PHASE METER

Table of construction types

NIK 2306 XXXT.XXXX.X.XX

Voltage
- 2 — 3x230 / 400 V
- 3 — 3x240 / 416 V
- 4 — 3x57,7 / 100 V ... 3x240 / 416 V *(wide range, for transformer connection)*
- 5 — 3x57,7 / 100 V *(for transformer connection)*

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed

Additional interface
- 0 — No
- 2 — RS-485
- 3 — 2xRS-485
- 4 — PLC-G3

Data acqusition interface
- 0 — No
- 3 — Radio M-Bus

Features of the case
- 3 — Case with GSM or PLC-G3 module

Tariff system
- T — Added for multitariff meters

Current
- T — Transformer connection 5 (10) A
- P1 — 5 (100) A

Energy accounting
- A — Active energy
- AR — Reactive energy

Meter type
- 2306 — Accuracy class 1
- 2306 0,5 s — Accuracy class 0,5 s *(for transformer connection)*

NIK 2316

THREE-PHASE METER

Compatibility

AMI NIK AMI p.34
DC-02 p.36
CC-01 p.38
FP1 p.40
A-GSM p.42
TERMINAL BLOCK p.44
OH-03 p.46
eBox.3 p.48
TOPN-0,66 p.52
BATTERIES p.56
SEAL p.57

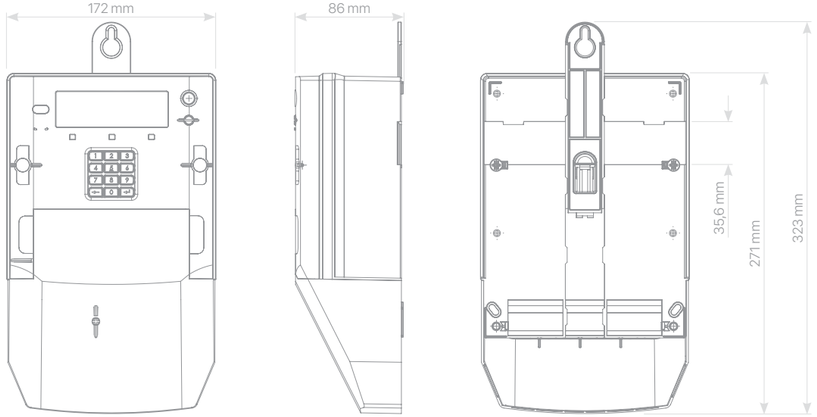
NIK 2316

THREE-PHASE METER

Properties

- **Prepaid functions according to STS IEC 62055-41**
- **Plug-in modules**
- **Last GASP** (last breath function) - sending a message to the specified server when there is a power loss with 4G/LTE modules
- Active and reactive energy
- Instant values of power, voltage, amperage
- DLMS
- STS
- Wide choice of communication interfaces
- Additional interface *(backup transmission channel)*
- Keyboard
- Replaceable data transfer module
- Optical port
- Load disconnection relay
- Voltage quality control
- Remote firmware update
- Data protection by encryption
- Sensors of influence of magnetic and electromagnetic fields
- Tamper sensor for case and terminal cover
- Battery mode
- Enclosure DIN rail mounting (option)

Dimensions



Specifications

Accuracy class for measuring of active energy:	
IEC 62053-21	1
IEC 62053-22	0,5 s *(for transformer connection)*
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	3x230/400 V; 3x240/416 V; 3x57,7/100 V *(for transformer connection)* 3x57,7/100 V ... 3x240/416 V, *(wide range, for transformer connection)*
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	10 A; 100 A
Meter constant	8000 imp/(kW*h) 8000 imp/(kWAr*h)
Starting current for measuring of active energy	12,5 mA
Starting current for measuring of reactive energy :	15,6 mA
Power consumption, no more	
in the voltage circuits without PLC interface	10 V•A (2 W)
in the voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,2 V•A
Operating temperature	-40 ... +70 °C
Protection level	IP 54
Number of digits on LCD	6 + 3
Weight, no more than	1,3 kg
Service life	24 years

NIK 2316
THREE-PHASE METER

Table of construction types

NIK 2316 XXXT.XXXX.X.XX

Voltage
- 2 — 3x230 / 400 V
- 3 — 3x240 / 416 V
- 4 — 3x57,7 / 100 V ... 3x240 / 416 V *(wide range, for transformer connection)*
- 5 — 3x57,7 / 100 V *(for transformer connection)*

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed

Additional interface
- 0 — No
- 2 — RS-485
- 3 — 2xRS-485

Data acqusition interface
- 0 — No
- 3 — Radio M-Bus

Features of the case
- 3 — Case with GSM or PLC-G3 module

Tariff system
- T — Added for multitariff meters

Current
- T — Transformer connection 5 (10) A
- P1 — 5 (100) A

Energy accounting
- A — Active energy
- AR — Reactive energy

Meter type
- 2316 — Accuracy class 1
- 2316 0,5 s — Accuracy class 0,5 s *(for transformer connection)*

NIK 2307 D

THREE-PHASE METER

Compatibility

NIK AMI p.34
DC-02 p.36
CC-01 p.38
FP1 p.40
A-GSM p.42
TERMINAL BLOCK p.44
OH-03 p.46
eBox.3 p.48
TOPN-0,66 p.52
BATTERIES p.56
SEAL p.57

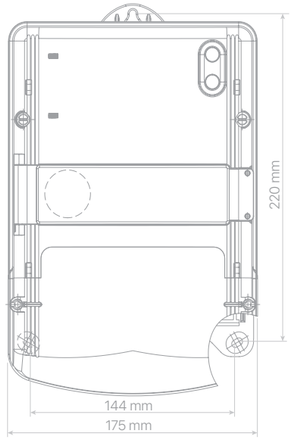
NIK 2307 D

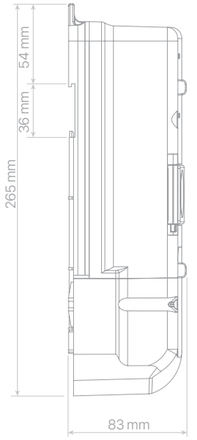
THREE-PHASE METER

Properties

- **Two interfaces**
- **GPRS/LTE**
- **Last GASP** (last breath function) - sending a message to the specified server when there is a power loss with 4G/LTE modules
- Active and reactive energy
- Instant values of power, voltage, amperage
- 4 tariffs / 12 zones
- Modern communication interfaces
- Additional interface
- Optical port
- Disconnector
- Sensors of magnetic and electromagnetic fields
- Tamper sensor for case and terminal cover
- Transparent / not transparent case *(optional - integral)*
- Battery mode *(optional - two batteries)*, connecting an external power supply
- Measurement with accuracy class 0.5 S
- Voltage quality control
- Operation voltage range
- Enclosure DIN rail mounting (option)

Dimensions





Specifications

Accuracy class for measuring of active energy:	
EN 50470-1	B
EN 50470-3	0,5 s *(transformer connection)*
Accuracy class for measuring of reactive energy:	
IEC 62053-23	2
Nominal voltage	3x230/400 V; 3x240/416 V; 3x57,7/100 V *(for transformer connection)* 3x57,7/100 V ... 3x240/416 V, *(wide range, for transformer connection)*
Operation voltage range	-20 ... +15%
Nominal frequency	50 Hz
Nominal current	5 A
Maximum current	10 A; 80 A; 120 A
Meter constant	8000 imp/(kW*h) 8000 imp/(kWAr*h)
Starting current for measuring of active energy :	
for meters of direct connection class 1,0 for meters of transformer connection class 1.0 (0.5 S)	12,5 mA 10 mA (5 mA)
Starting current for measuring of reactive energy :	
for meters of direct connection class 1,0 for meters of transformer connection class 1.0 (0.5 S)	15,6 mA 15,0 mA (9,3 mA)
Power consumption, no more	
in the voltage circuits without PLC interface	10 V•A (2 W)
in the voltage circuits with PLC interface	20 V•A (5 W)
in current circuits	0,05 V•A
Operating temperature	-40 ... +70 °C
Protection level	IP 54
Weight, no more than	2,3 kg
Number of digits on LCD	6 + 3
Service life	24 years

NIK 2307 D
THREE-PHASE METER

Table of construction types

NIK 2307 D XXXT.1XXX.X.XX

Nominal voltage:
- 2 — 3x230 / 400 V
- 3 — 3x240 / 416 V
- 4 — 3x57,7 / 100 V ... 3x240 / 416 V *(wide range, for transformer connection)*
- 5 — 3x57,7 / 100 V *(for transformer connection)*

Active energy measurement
- 1 — Import energy
- 2 — Export and import energy

Sensors of influence of magnetic and electromagnetic fields
- 0 — No sensor
- M — Magnetic field sensor
- C — Electromagnetic field sensor
- MC — Both sensors

Disconnector
- 0 — Not installed
- 2 — Is installed

(For direct connection only)

Additional interface #1
- 0 — No
- 2 — Interface RS-485

Additional interface #2
- 0 — No
- 2 — Interface module RS-485
- 6 — Interface module GPRS/LTE
- 7 — Interface module Ethernet
- 8 — Interface module PLC

Main interface
- 1 — «Optical port» installed

Tariff system
- T — Added for tariff devices

Current
- P3 — Direct connection 5 (120) A
- P6 — Direct connection 5 (80) A
- T — Transformer connection 5 (10) A

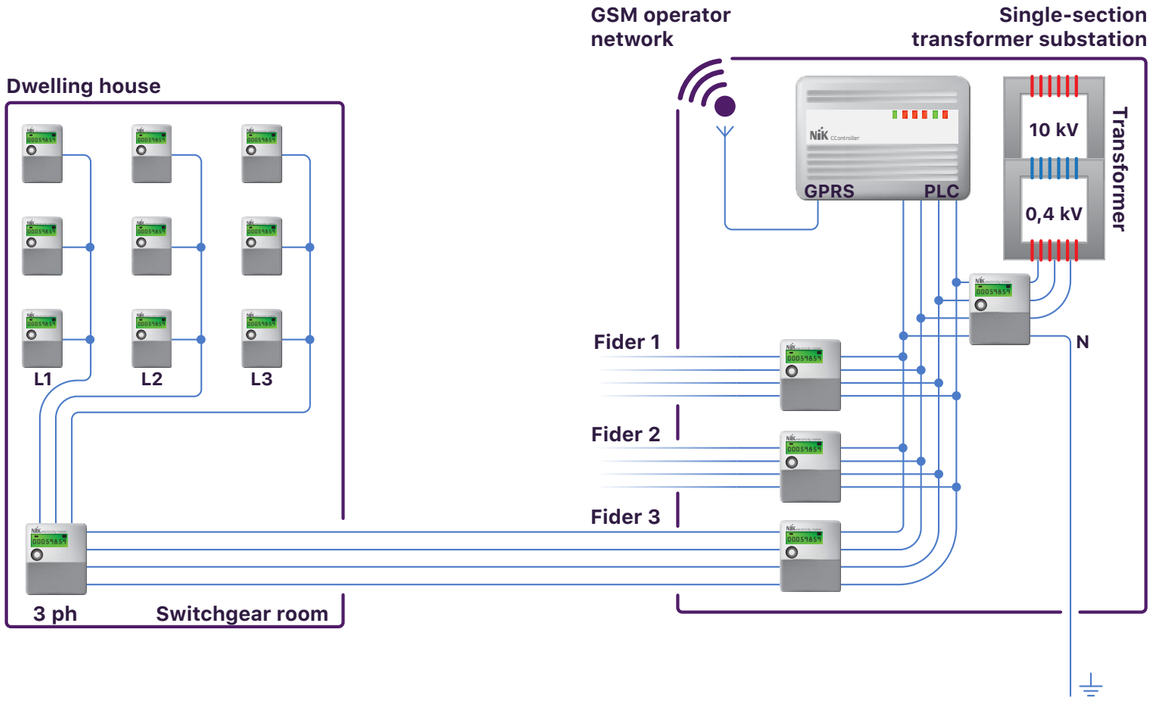
Energy measurement
- A — Active energy measurement
- AR — Active and reactive energy measurement

Meter type
- 2307 D — Accuracy class 1
- 2307 D 0,5 s — Accuracy class 0,5 s *(for transformer connection)*

AMI COMPLEX SOLUTION

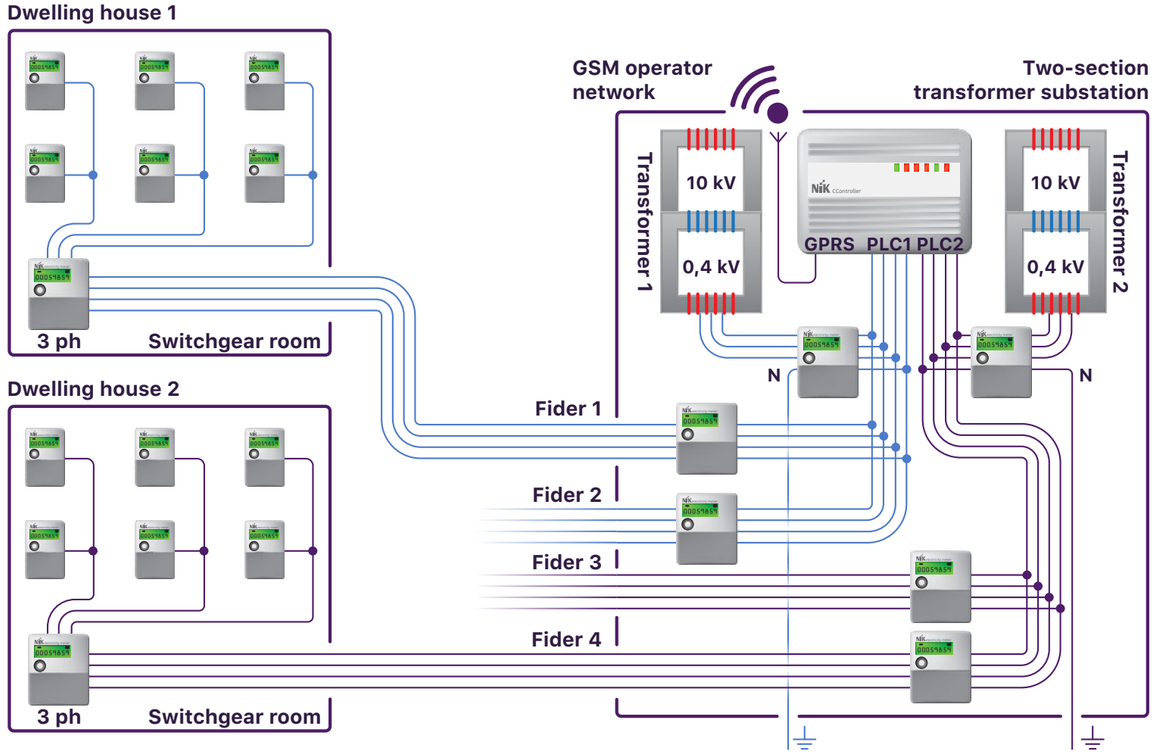
Operational scheme

SINGLE-SECTION TRANSFORMER SUBSTATION



Operational scheme

TWO-SECTION TRANSFORMER SUBSTATION



KC-02

DATA CONCENTRATOR UNIT

Design in a box with circuit breakers

Properties

Two PLC interfaces in one case

Linux

Plug & play

RS-485 / Ethernet / USB

PLC / RF / GPRS / 4G GSM

Compatibility with various meters

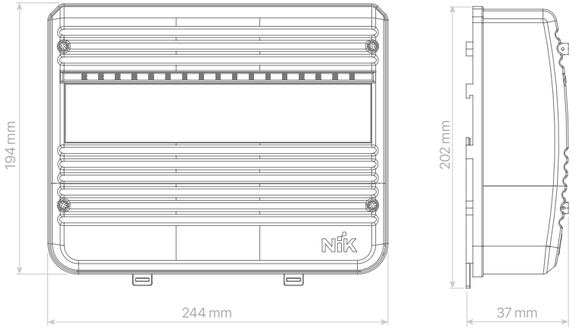
Battery

I / O module

External antenna

DC - industrial controllers, main task is to communicate with metering devices, receive, store and transmit data from them. PLC modules of various standards, radio modules, RS-485 interfaces are used for data collection. The top level uses a LTE/GPRS network or Ethernet channel. The Linux operating system greatly simplifies software updates and additional features. A special module of information input / output provides the possibility of implementing some SCADA functions.

Dimensions



Specifications

Memory	512 МБ / ONFI NAND
RAM	512 МБ
Processor	ARM Cortex-A5
CPU frequency	536 MHz
Radio module frequency	2,4 GHz
Output power of the radio module	17 dBm
GSM	900/1800/1900/2100 MHz
Communication class	B
Communication by standard	
GSM / GPRS	Class 4 (2 W for EGSM900) Class 1 (1 W for DCS1800)
UMTS/HSPA	Class 4 (0,13 W for WCDMA)
Nominal voltage	3x230 / 400 V, 50 Hz
Operating voltage range single-phase or three-phase	143 ... 275 V
Nominal frequency	50 Hz
Power consumption, no more than	20 W
Temperature range:	-45 ... +80 °C
Relative humidity at a temperature of + 30 ° C, no more	95%
Weight, no more	2 kg

Table of construction types

KC-02.XXX.X

GSM
- 0 No
- 1 GPRS
- 2 4G GSM

Interface #3
- 0 No
- 7 PLC G3 BAND 2
- 8 PLC G3 BAND 1
- Y PLC (DCSK)

Interface #2
- 0 No
- 7 PLC G3 BAND 2
- 8 PLC G3 BAND 1
- Y PLC (DCSK)
- 9 I / O module (4 inputs, 2 outputs)

Interface #1
- 0 No
- 2 RS-485 *(additional)*
- 4 module radio channel 2,4 GHz

Controller type

CC-01

COMMUNICATION CONTROLLER

Properties

Coordinator or repeater for PLC network

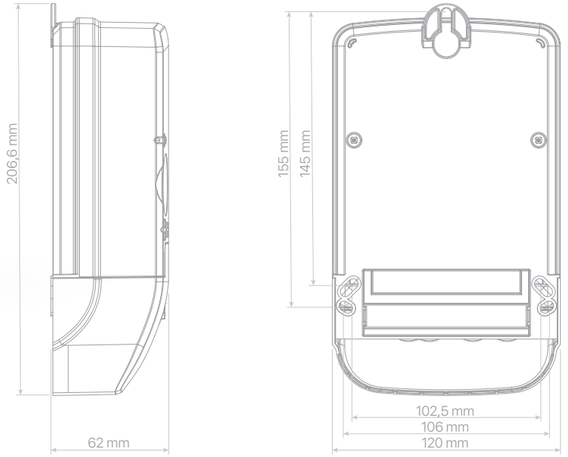
RS-485

PLC / RF

Protection level IP 54

A simplified version of the controller helps meters create PLC networks due to increased levels of data transmission. Also, the devices can be used as network coordinators with a connection to the KS-02 via the RS-485 interface.

Dimensions

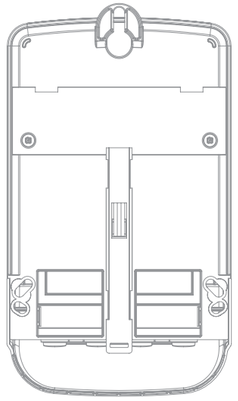


Specifications

Nominal voltage	220 V
Operating voltage range	143 ... 253 V
Nominal frequency	50 Hz
Power consumption, no more	20 W
Radio module frequency	2,4 GHz
Operating temperature	-40 ... +70 °C
Weight, no more	1 kg
Modem PLC operating frequency band	65 - 95 кHz
Modem PLC output signal level, (maximum)	130 dBmcV
Modulation type of PLC modem output signal	PLC G3
Nominal output voltage of the internal power supply	5 V
Maximum load current of the internal power supply	0,2 A

Table of construction types

	CC-01-10	CC-01-10 R	CC-03-10 BAND 1	CC-03-10 BAND 2
Type PLC: DCSK	+	+		
Type PLC: G3-PLC (OFDM PHY)			+	+
The function of the device	coordinator	repeater	coordinator / repeater in 1 frequency range	coordinator / repeater in 2 frequency range



Version of the rear cover with a din rail

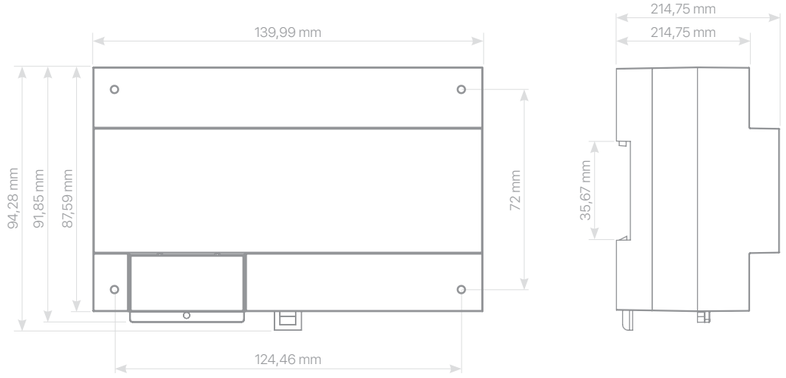
FP1

FILTER PLC

Properties

- Noise filter for PLC network
- Designed for smart meters, with PLC technology
- EN 50065-1 compliant

Dimensions



Specifications

Nominal voltage	230 V
Nominal frequency	50 Hz
Nominal current	63 A
Operating temperature	-50 ... +70 °C
Insulation level	4 kV
Service life, min	30 years
Dimensions	161 x 70 x 155 mm
Weight, no more	0,5 kg

Table of construction types

FP1 - LN - 63

Nominal current
63 A

Connection
LN line, zero
L line

Number of phases
1 single-phase
3 three-phase

Filter PLC

RM A-GSM

RADIO COMMUNICATION MODULE

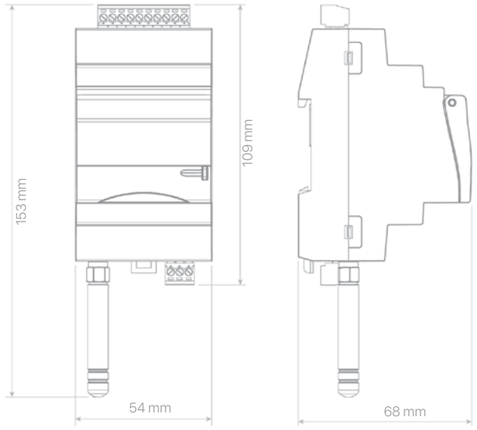
Properties

- Data transfer between GPRS and RS-485 interface
- Administration through the GPRS network
- Isolated input and output
- Output 5V (300 mA)
- Simple SIM card replacement
- Remote control
- DIN rail mounting

Indication:

- Network
- RS-485 communication
- Power

Dimensions



Specifications

GSM / GPRS operating bands	900/1800 MHz
GPRS communication class	V
Compliance with GSM classes	Class 4 (2 W при EGSM900) Class 1 (1 W при DSC1800)
Range of supply voltages from the AC network	220 V
Power consumption from AC network	12 W
Operating voltage range when supplied from the DC network	7 ... 15 V
Power consumption from DC network, no more than	5 W
Output settings for powering external devices	5 B, 300 mA
Operating temperature	-40 ... +70 °C
Weight, no more	0,5 kg

Table of construction types

RM A-GSM-0X.X.X0.X

Power Supply:
1 AC
2 DC
3 AC+DC

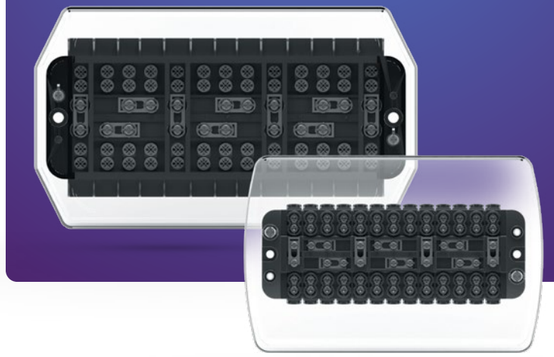
Interfaces:
1 RS-485
2 2xRS-485

Antenna:
0 internal
1 external antenna 3 m

GSM
1 GPRS
2 LTE

Name of device

Terminal block



Properties

- Measurement of current and voltage without disconnection of load
- Conformity with the standard IP 30
  (for indoor use without aggressive steam, dust and gas)
- Isolation between phases 2000 V (50 Hz, 1 min)
- Cover made of UV-stabilized polycarbonate
- Possibility of sealing

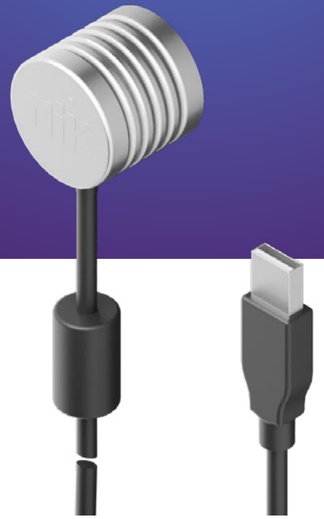
Wiring diagram

Specifications

Type	**TB 125** *(adapter terminal block)*	**TB 25**	**TB 125**
Operating voltage, U_{nom}	3x220/380 V	3x220/380 V	3x220/380 V
Maximum amperage	125 A	25 A	125 A
Amperage overload	x 10 In (0,5 s)	x 10 In (0,5 s)	x 10 In (0,5 s)
Nominal voltage frequency	50, 60 Hz	50, 60 Hz	50, 60 Hz
Operating temperature	-40 ... +50 °C	-40 ... +50 °C	-40 ... +50 °C
Isolation between the phases	2000 V (50 Hz, 1 min)	2000 V (50 Hz, 1 min)	2000 V (50 Hz, 1 min)
Service life	30 years	30 years	30 years
Weight, no more than	0,5 kg	0,5 kg	1 kg
Dimensions	80 x 45 x 30 mm	170 x 112 x 36 mm	218 x 126 x 48 mm

OH-03

OPTICAL HEAD



Properties

The NIK optical head is a two-way interface for data exchange between the tariff device and the meter using infrared waves.

Compliance with the standard IEC 62056-21 and can be used with any meter that meets this standard

USB connector for connection to a computer or laptop

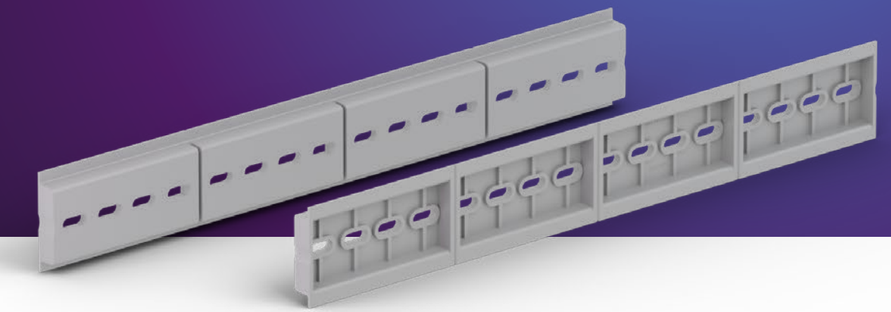
Compatible with modern operating systems

Specifications

Power supply	USB interface
Voltage	5±0,25 V
Maximum amperage	64 mA
Current (transmission)	about 20 mA
Data transfer rate	300 - 19200 baud
Mode of operation with parity control and without it	5, 6, 7, 8 bit
FIFO buffer depth	16 bytes
Operating temperature	- 30 ... + 55 °C
Dimensions (Ø x H)	32 x 29 mm
Cable length	3 m
Weight without cable, no more than	80 g

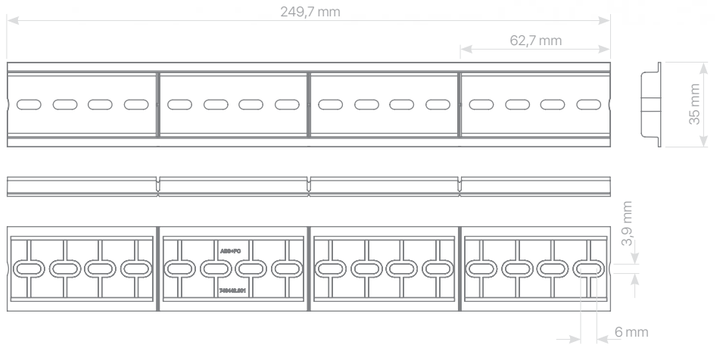
DIN rail plastic

DIN RAIL PLASTIC



Properties

DIN rail plastic mounting bracket. Suitable for use in distribution cabinets, meter cabinets in industrial applications. The mounting of enclosures is supported by many drill holes. Tool-free mounting on a 35 mm wide DIN rail is possible without further effort.



eBox.1 and eBox.3

EXTERNAL BOX

Properties

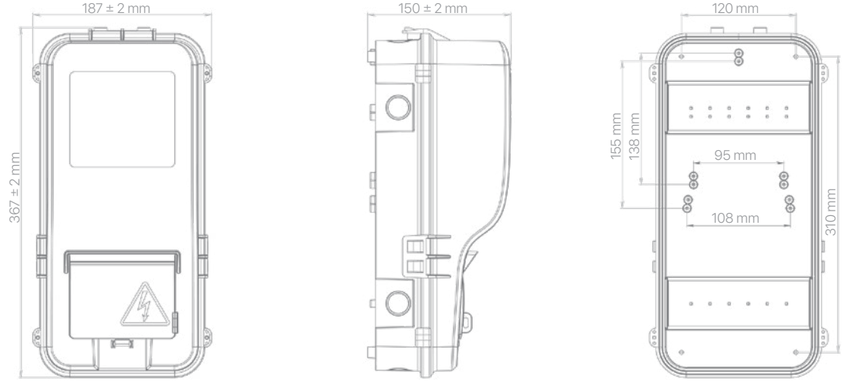
- Outdoor installation 1- and 3- phase meters
- Requests for theft of electricity
- Protection against mechanical damage, dust, precipitation
- Fire-resistant material
- Window made of UV-stabilized plastic, which retains transparency for a long time
- Receiving data from the meter through the overview window
- Universal fastenings for installation of the meter on three screws + DIN rail
- Possibility of sealing

Specifications

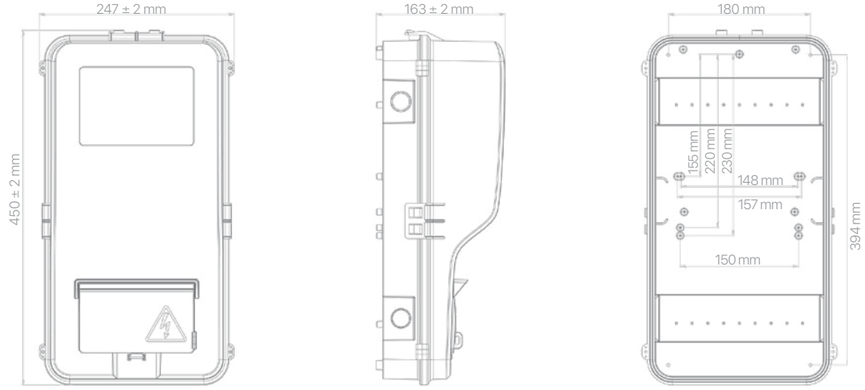
Design of a box	**eBox.1**	**eBox.3**
Type of installed meter	single phase	three-phase
Maximum number of meters installed in one box	1	1
Operating temperature	-40 ...+85 °C	-40 ...+85 °C
Level of electrical insulation	4 kV	4 kV
Service life	25 years	25 years
Warranty period	3 years	3 years
Weight, no more	1,5 kg	1,5 kg
Dimensions	187x366x148 mm	247x450x162 mm

Dimensions

eBox.1

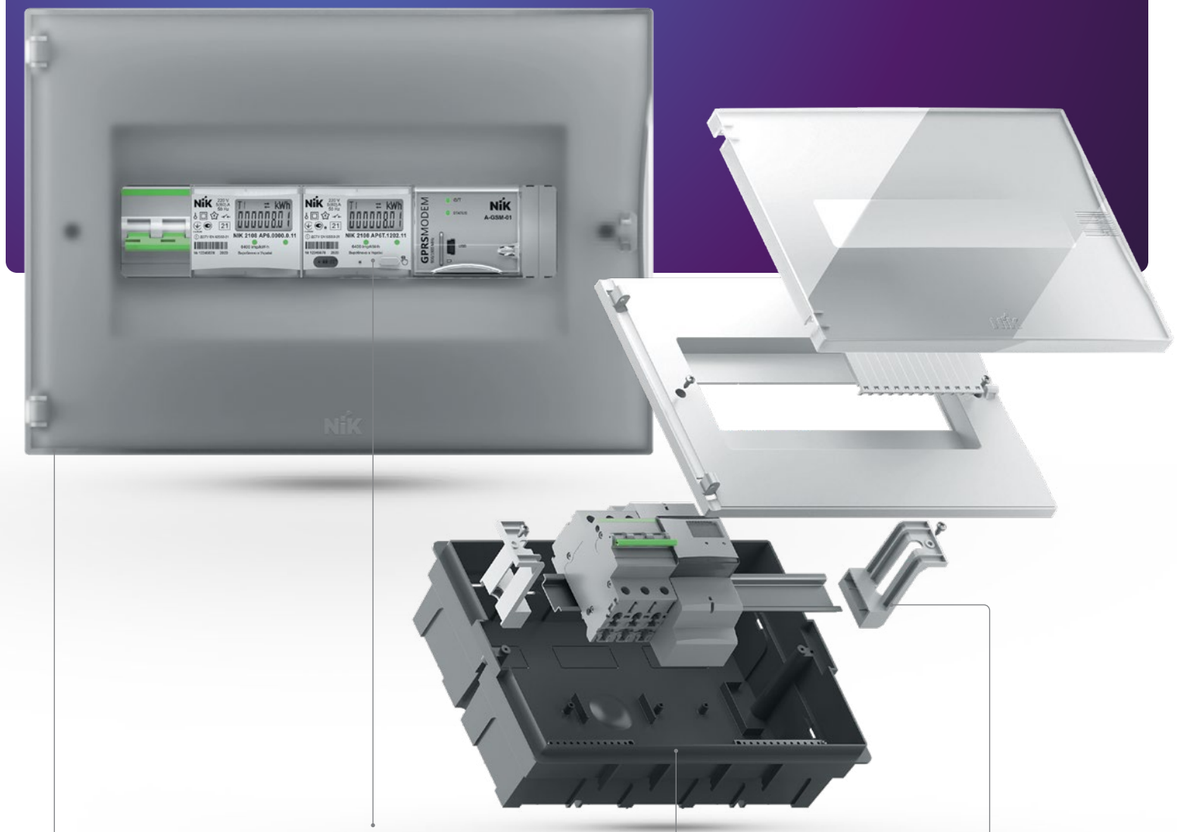


eBox.3



iBox-01

INTERNAL BOX



height×width×depth		
310 × 220 × 106 mm	12	up to 63 A
310 × 346 × 106 mm	24	up to 100 A

iBox-01

INTERNAL BOX

Properties

For households and commercial use, for placement of devices for distribution, protection and management of electric networks

Minimalistic design for households and commercial premises

Easy-to-remove chassis

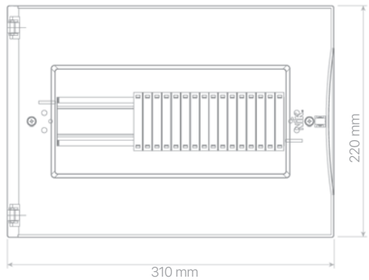
Ability to install modular devices and connect them outside the box

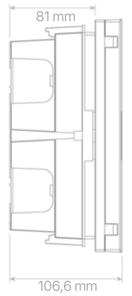
The box housing does not support combustion and is resistant to the effects of elements heated to 650 ° C as a result of a short circuit.

Specifications

Material:	Polycarbonate
Shield mounting method	Built-in
Number of modules	12 and 24
Degree of dust and moisture protection (in the closed state)	IP40
Insulation class -	II
Pre-perforated holes in the body of the shield for cables and wires	Top, bottom, back and sides
Separate terminal blocks	N and PE conductors
Chassis	Removable
DIN-rail	Removable
DIN-rail material	Polycarbonate based plastic or metal
Door type	Translucent or opaque
Color of the front panel	RAL 9010

Dimensions



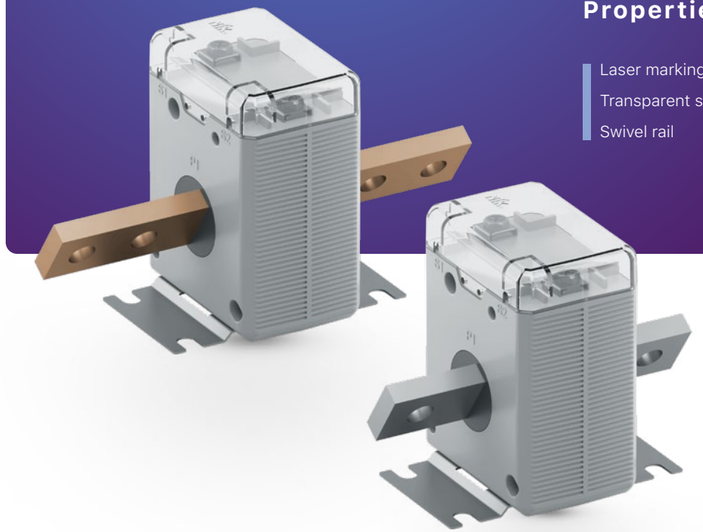


CT-0,66

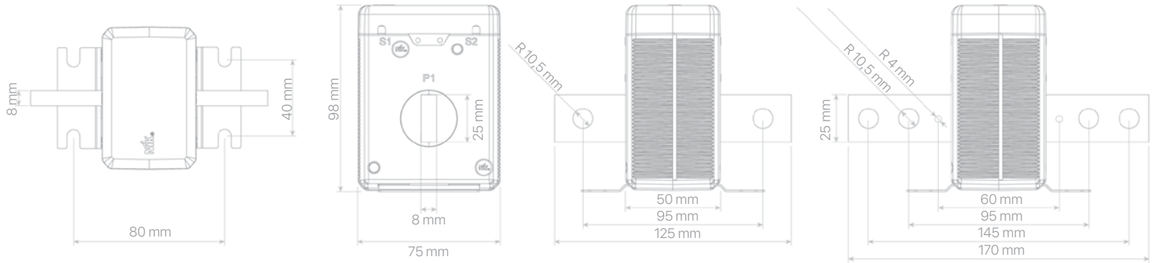
MEASURING CURRENT TRANSFORMER

Properties

- Laser marking of the case
- Transparent sealed terminal cover
- Swivel rail



Dimensions



design for 500, 600 A

CT-0,66

MEASURING CURRENT TRANSFORMER

Specifications

Nominal voltage	0,66 kV
Maximum operating voltage	0,72 kV
Insulation level	3 kV
Nominal primary current	100 ... 600 A
Nominal secondary current	5 A
Nominal frequency	50 Hz
Nominal load (cos ϕ = 0,8)	5 V•A
Accuracy class	0,5 S
Safety factor of devices FS	5
Thermal insulation class	E
Calibration interval	16 years
Operating temperature range	-45 ... +40 °C

Design	Weight, no more	Material of bus	Dimensions of bus
100/5	700 g	Aluminum	125x25x8 mm
150/5	700 g	Aluminum	125x25x8 mm
200/5	700 g	Aluminum	125x25x8 mm
300/5	700 g	Aluminum	125x25x8 mm
400/5	700 g	Aluminum	125x25x8 mm
500/5	1000 g	Copper	170x25x8 mm
600/5	1000 g	Copper	170x25x8 mm

Table of construction types

CT - 0,66 - 0,5 S - XXXX / 5U3

- **Climatic performance and accommodation category**
- **Nominal secondary current, A**
- **Nominal primary current**
  100 A
  150 A
  200 A
  300 A
  400 A
  500 A
  600 A
- **Accuracy class 0,5 S**
- **Nominal voltage, kV**
- **Transformer type**

CT(B)-0,66

MEASURING CURRENT TRANSFORMER

Properties

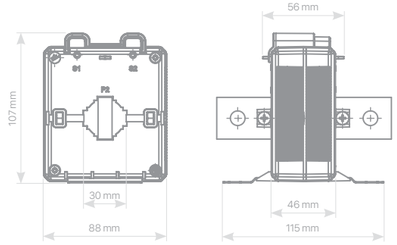
- Laser marking of the case
- Transparent sealed terminal cover

Specifications

Nominal voltage	0,66 kV
Maximum operating voltage	0,72 kV
Insulation level	3 kV
Nominal primary current	100 ... 2000 A
Nominal secondary current	5 A
Nominal frequency	50 Hz
Nominal load (cos ϕ = 0,8)	5 V•A
Accuracy class	0,5 S
Safety factor of devices FS	5
Thermal insulation class	E
Calibration interval	16 years
Operating temperature range	-45 ... +40 °C

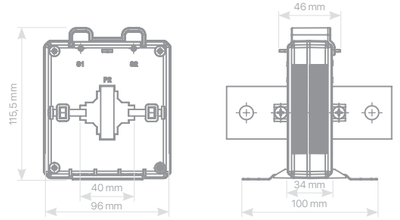
Rated current of thermal withstand for 1 s	100 A	150 A	200 A	300 A	400 A	500 A	600 A	800 A	1000 A	1200 A	1500 A	2000 A
Rated primary current	9,6 kA	9,6 kA	9,6 kA	19,2 kA	19,2 kA	24kA	24 kA	46 kA	58 kA	108 kkA	115 kA	115 kA

Design 1



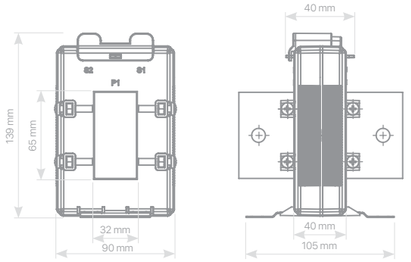
Design of bus-bar	Weight without bus-bar	Material of bus	Weight of bus	Dimensions of bus
100/5	550 g	Aluminum	60 g	125x25x8 mm
150/5	450 g	Aluminum	60 g	125x25x8 mm
200/5	380 g	Aluminum	60 g	125x25x8 mm
300/5	310 g	Aluminum	60 g	125x25x8 mm
400/5	260 g	Aluminum	60 g	125x25x8 mm
500/5	270 g	Copper	270 g	170x25x8 mm
600/5	260 g	Copper	270 g	170x25x8 mm

Design 2



Design of bus-bar	Weight without bus-bar	Material of bus	Weight of bus	Dimensions of bus
300/5	310 g	Aluminum	60 g	125x25x8 mm
400/5	260 g	Aluminum	60 g	125x25x8 mm
500/5	270 g	Copper	270 g	170x25x8 mm
600/5	260 g	Copper	270 g	170x25x8 mm
800/5	410 g	Aluminum	220 g	180x60x8 mm
1000/5	430 g	Aluminum	215 g	180x60x8 mm
1200/5	440 g	Copper	705 g	180x60x8 mm

Design 3



Design of bus-bar	Weight without bus-bar	Material of bus	Weight of bus	Dimensions of bus
300/5	310 g	Aluminum	60 g	125x25x8 mm
400/5	260 g	Aluminum	60 g	125x25x8 mm
500/5	270 g	Copper	270 g	170x25x8 mm
600/5	260 g	Copper	270 g	170x25x8 mm
800/5	410 g	Aluminum	220 g	180x60x8 mm
1000/5	430 g	Aluminum	215 g	180x60x8 mm
1200/5	440 g	Copper	705 g	180x60x8 mm
1500/5	470 g	Copper	1215 g	180x100x8 mm
2000/5	520 g	Copper	1210 g	180x100x10 mm

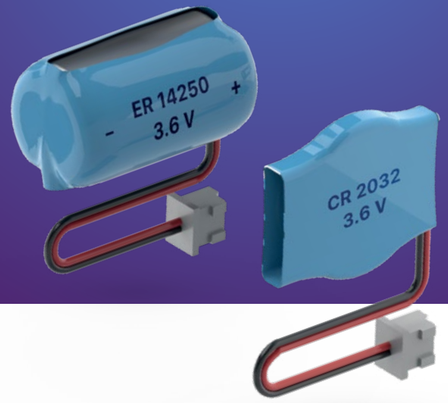
Table of construction types

CT(B) . X-0,66-XXX/5-1

- **The transformer is completed with the bus-bar***
- **Nominal secondary current, A**
- **Nominal primary current**
  - 1 — 100 A
  - 1 — 150 A
  - 1 — 200 A
  - 1/2/3 — 300 A
  - 1/2/3 — 400 A
  - 1/2/3 — 500 A
  - 1/2/3 — 600 A
  - 2/3 — 800 A
  - 2/3 — 1000 A
  - 2/3 — 1200 A
  - 3 — 1500 A
  - 3 — 2000 A
- **Nominal voltage, kV**
- **Design:**
  - 1 design 1, bus-bar port 26x11
  - 2 design 2, bus-bar port 61x11
  - 3 design 3, bus-bar port 101x16
- **Designation of the current transformer, sign of LLC NIK-ELECTRONIKA (developer and producer)**

* - Prodused at the request of the customer

Batteries



Properties

ER 14250

Lithium thionyl chloride battery (Li-SOCl2)

Nominal voltage: 3,6 V

Lithium 0,31 g

CR 2032

Manganese Dioxide Primary Lithium Battery

Nominal voltage: 3,6 V

Lithium 0,06 g

Dimensions

ER 14250
with wire and connector:

CR 2032
with hard wire:

Seal

Properties

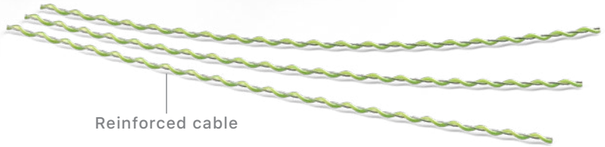
Installation of seals is simply manual, without additional devices and tools

Seal design eliminates the possibility of multiple use

Compliance with ISO 17712:2013 requirements

Upon production unique two letters and 8-digit number are mandatory marked on all components of the seal. All numbers are stored in a single database, that prevents forgery.

Seals are of multiple purpose, suitable for any objects, vehicles, devices, etc.



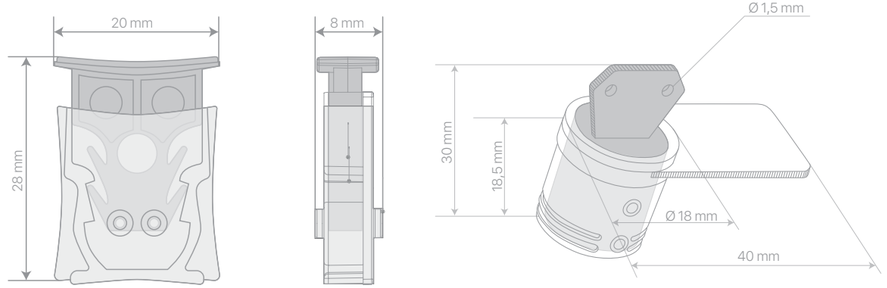
Reinforced cable

Used with plastic and lead seals; Diameter: 0.8-0.98 mm; Number of cores: 2 (two) = material: stainless steel + polymer; Destructive force: 45 kg; Color: green and transparent; Universal and suitable for sealing any objects, vehicles, devices, etc.

Specifications

	NIK Click	NIK Twist
Material	polycarbonate	polycarbonate
Operating temperature range	-50 ... +120 °C	-50 ... +120 °C
Dimensions	31 x 500 x 4 mm	39 x 30 x 18,2 mm
Diameter of the hole for the cable	1,3 mm	1,5 mm
Breaking efforts	40 kg	40 kg
Tightening effort, no more	40 N	40 N

Dimensions



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