NiK

WE CREATE SMART SYSTEMS

Nik is one of the largest enterprises in Eastern Europe in the field of devolopment and production of measuring devices, energy management systems, as well as energy consulting and engineering.

Production facilities are in Vyshgorod, Kyiv region and Dnipro.

The company's devices are in high demand in Ukraine and are exported abroad to Eastern Europe, the Middle East and Asia.

ABOUT THE COMPANY

All products manufactured by the company are the work of the specialists of the own design bureau. For 15 years, the company works on the improvement of the products, introduction of the innovative solutions in the field of energy and electrical engineering.

NIK successfully combines:

High – tech automated production sites

Competent assessment of compliance

Design bureau

Service center

The company's products are assessed in accordance with the requirements of national and international legislation, product quality is ensured by a quality management system.

The company conducts business according to a quality management system (ISO 9001: 2014), an environmental management system (ISO 14001: 2015), and an information security system (ISO 27001: 2017), which is confirmed by the relevant certificates of international and certification bodies.

The information provided is for presentation purposes only and is subject to change

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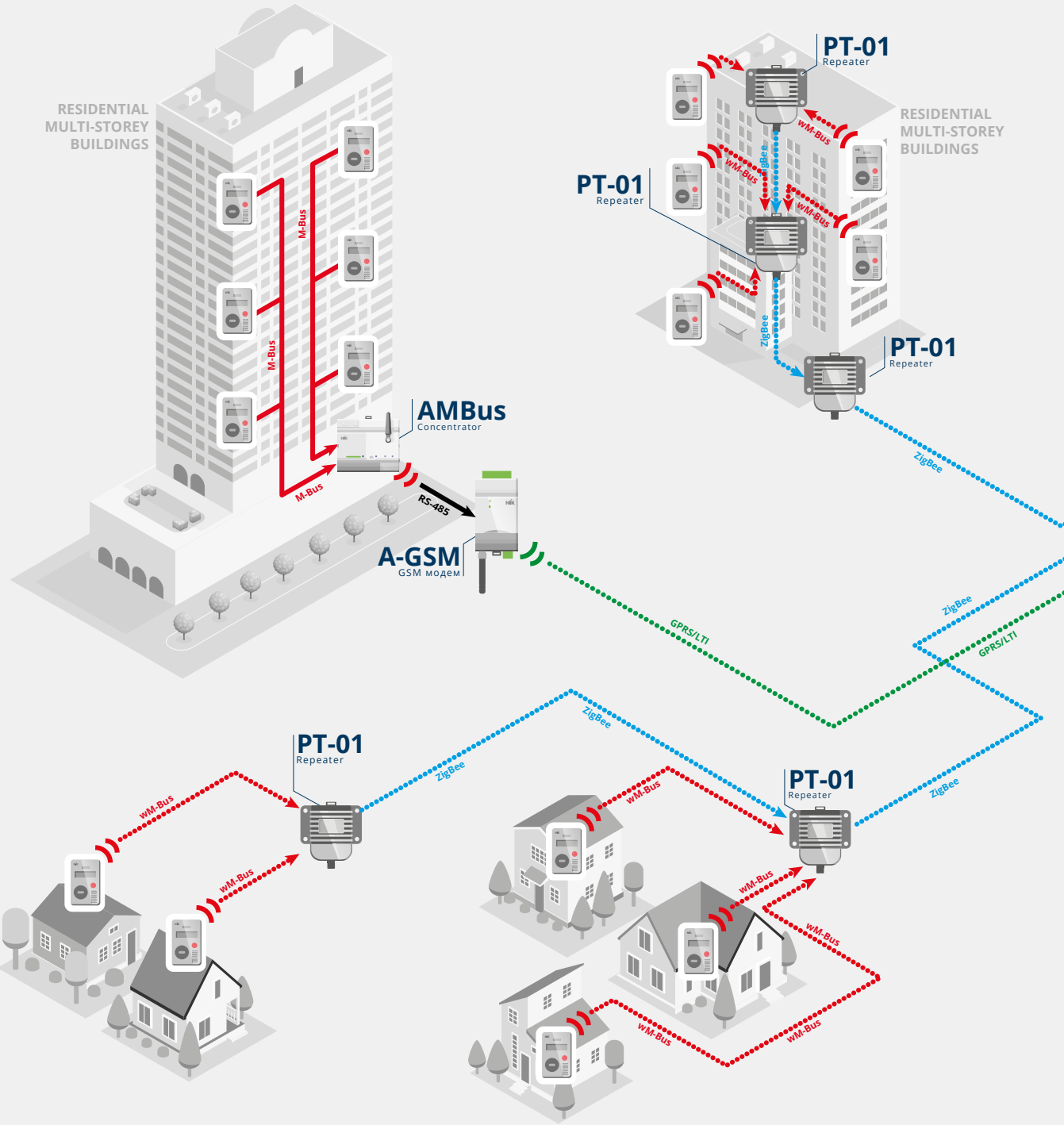
RESIDENTIAL
MULTI-STOREY
BUILDINGS
M-Bus
M-Bus
M-Bus
AMBus
Concentrator
RS-485
A-GSM
GSM модем
GPRS/LTI
PT-01
Repeater
wM-Bus
ZigBee
RESIDENTIAL
MULTI-STOREY
BUILDINGS
PT-01
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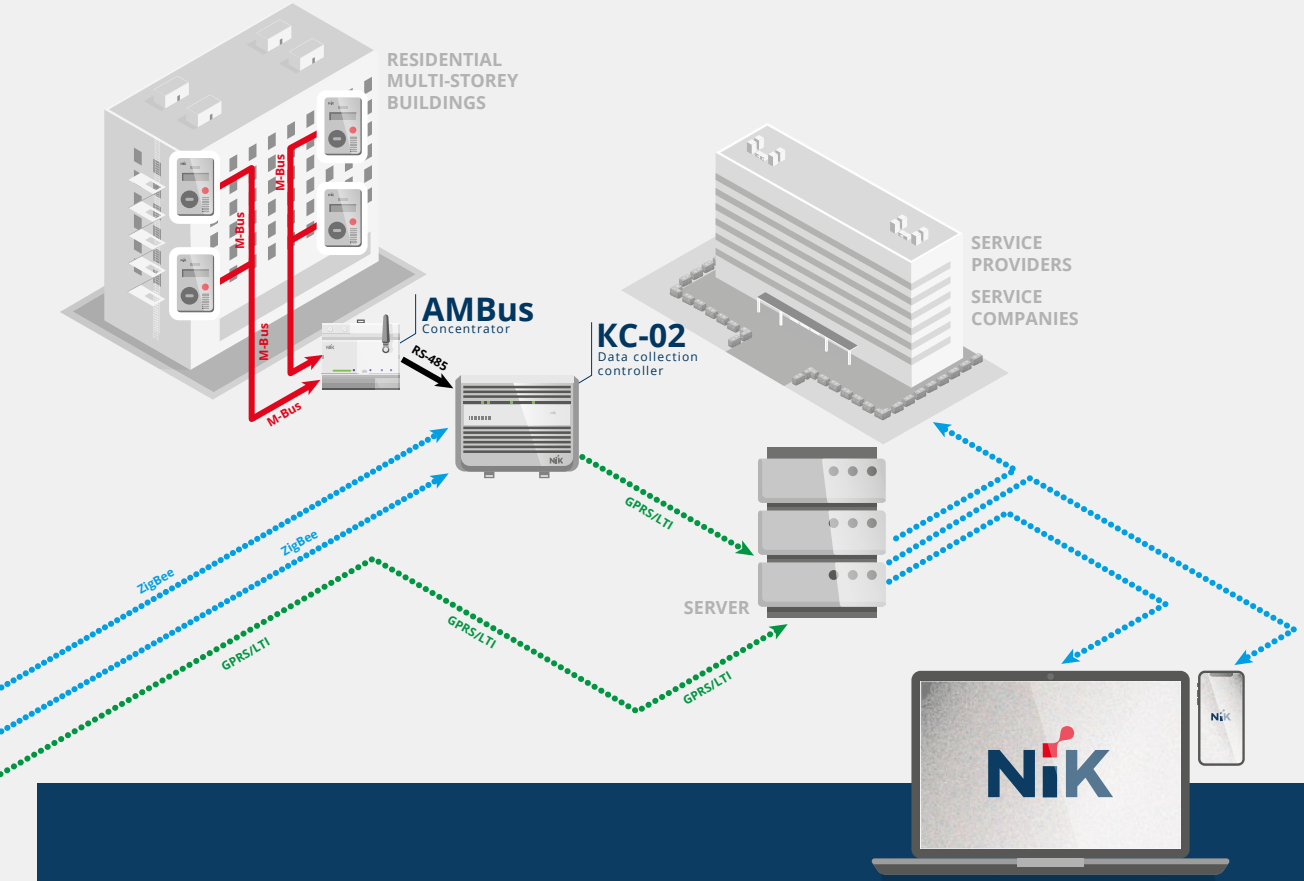


AMI COMPLEX SOLUTION

Elimination of unaccounted consumption;

Location of unauthorized consumption;

Consumption and payment monitoring;

Determining the actual accounting imbalance by districts, substations, and consumer groups;

Resource consumption planning in the owner's network;

Interaction with billing systems;

SOFTWARE FROM THE COMPANY

Data collection without loss of accuracy independently;

from the number of floors of the building and the number of consumers;

Automation of all calculations;

Remote monitoring of network imbalance;

Differentiation of access to information;

Merging any number of subscribers into the general information system;

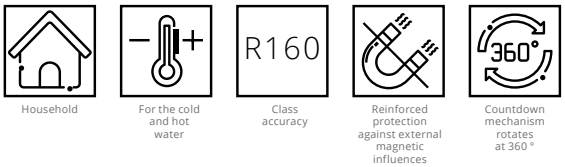
Automated transfer of information to billing energy company systems;

Reports of varying complexity;

WATER
AND HEAT METERS

NIK 7011 M

WATER METER MECHANICAL



PROPERTIES

For the cold and hot water

Compatible with pad NIK RT-11

Mechanical type (tachometric)

Single - jet type construction

Dry type meter

Coupling type connection

Mounting position vertical or horizontal

Calibration interval four years

Improved protection against external magnetic influences

The counting mechanism rotates 360°

The meter meets the requirements of a series of standards EN ISO 4064

FEATURES OF THE DEVICE WITH NIK RT-11 PAD (P.22)

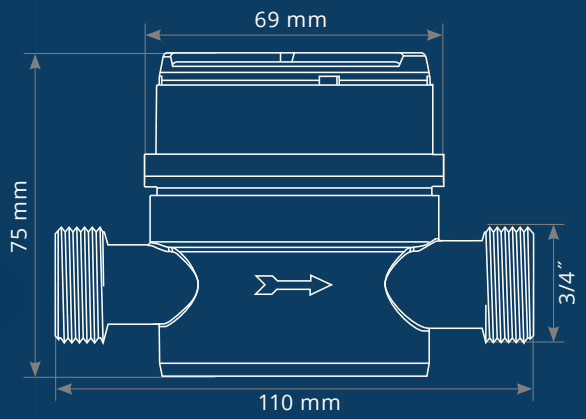
Wireless data transmission according to the WM-Bus standard (T1, S1m mode) or wired according to the M-Bus standard or pulse output

Fixation of influence of external magnetic and electromagnetic influences

Data archiving

Automatic switch to summer/winter time

DIMENSIONS



SPECIFICATIONS NIK 7011 M

Nominal diameter (Dn)	DN 15
Nominal consumption Q_n	1600 l/h
Maximum consumption Q_{max}	2000 l/h
Flow transient Q_t for H R160	16 l/h
Transient flow Q_t for V R63	40 l/h
The minimum consumption Q_{min} for H R160	10 l/h
The minimum consumption Q_{min} for V R63	25 l/h
Sensitivity threshold	5 l/h
Q_t/Q_{min}	1,6
Temperature class	T30/T50/T90
Capacity of the reading device	99999 m³
Classes that are not sensitive to the flow profile	U0, D0
Accuracy class for cold water	2.0
Accuracy class for hot water	3.0
Value of division	0,0001 m³
Maximum pressure, P_{max}	1,6 MPa
Pressure loss at Q_{max}, not more, ΔP	63 kPa
Approximation error limits при $Q_t \le Q \le Q_{max}$ for cold water, ε	±2%
Limits of relative error at $Q_t \le Q \le Q_{max}$ for hot water, ε	±3%
Limits of relative error at $Q_{min} \le Q \le Q_t$, ε	±5%
Protection class	IP65
Carving, G	G¾" B
Weight (without fittings)	0,5 kg

TABLE OF CONSTRUCTION TYPES

NIK 7011M X-XX

- **The diameter of the conditional passage**
  15
- **Water temperature**
  X cold
  Г hot
- **Type of water meter**

NIK 7071

HEAT METER ULTRASONIC

PROPERTIES

Household and commercial purposes

For measuring thermal energy

Ultrasound method of measurement

Battery-powered (battery service life 10 years)

Coupling type connection

Mounting position vertical or horizontal

8-digit display

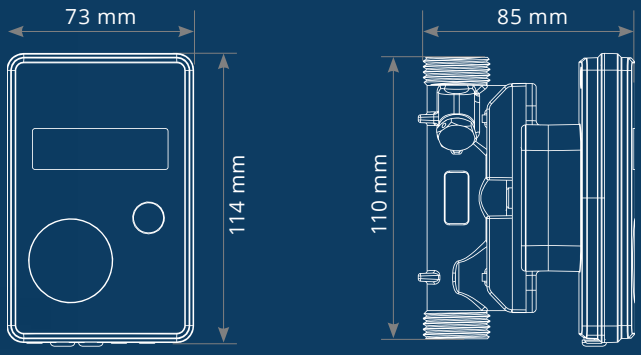
Calibration interval four years

Data transmission wireless according to the WM-Bus standard (T1, S1m mode)
or wired according to the M-Bus standard

Optoport IEC 62056-21 mode C

The meter meets the requirements of a series of standards EN 1434

DIMENSIONS



SPECIFICATIONS NIK 7071

Nominal diameter (Dn)	DN 15	DN 20	DN 25	DN 32	DN 40
Nominal consumption, Q_n	600/1 500 l/h	2 500 l/h	3 500 l/h	6 000 l/h	10 000 l/h
Maximum consumption, Q_{max}	1 200/2 500 l/h	5 000 l/h	7 000 l/h	12 000 l/h	20 000 l/h
Minimal consumption, Q_{min}	12/30 l/h	50 l/h	35 l/h	60 l/h	100 l/h
Connection, G	G¾"B	G1" B	G1¼" B	G1½" B	G2" B
Length	110 mm	130 mm	160 mm	180 mm	200 mm
Accuracy class	2.0	2.0	2.0	2.0	2.0
Maximum pressure, P_{max}	1,6 MPa	1,6 MPa	1,6 MPa	1,6 MPa	1,6 MPa
Pressure loss, not more, ΔP	25 kPa	25 kPa	25 kPa	25 kPa	25 kPa
Heat transfer fluid t°, Θ	4...95 °C	4...95 °C	4...95 °C	4...95 °C	4...95 °C
Temperature difference, ΔΘ	3...70 °C	3...70 °C	3...70 °C	3...70 °C	3...70 °C
Protection class	IP65	IP65	IP65	IP65	IP65

TABLE OF CONSTRUCTION TYPES NIK 7071

NIK 7071 DNXX.X.X.X.X.X.XX.XX.XX

Heat meter type

Nominal diameter:
DN 15
DN 20
DN 25
DN 32
DN 40

Communication interface type:
0 optoport
1 optoport + M-Bus
2 optoport + WM-Bus
3 optoport + M-Bus + WM-Bus.

Units of measurement of thermal energy:
W kWh
G Gcal
J MJ

Temperature sensor cable length:
S 1,5 m

Flow length of the sensor sensor:
03 0,3 m
10 1 m
15 1,5 m

The value of the nominal consumption:
06 600 l/h
15 1 500 l/h
25 2 500 l/h
35 3 500 l/h
60 6000 l/h
100 10 000 l/h

Number of batteries
B1 1 pc
B2 2 pc
B3 3 pc

Type of measuring circuit:
I flow sensor in the direct pipeline
O flow sensor in the return pipeline
X the location of the sensor is programmed at initial installation of the heat meter

Material of the case:
L brass

NIK 7021

WATER METER ULTRASONIC

PROPERTIES

Household and commercial purposes

For the cold and hot water

Ultrasound method of measurement

Battery-powered (battery service life 10 years)

Coupling and flange connection type

Mounting position vertical or horizontal

8-digit display

Calibration interval four years

Data transmission wireless according to the WM-Bus standard (T1, S1m mode)
or wired according to the M-Bus standard

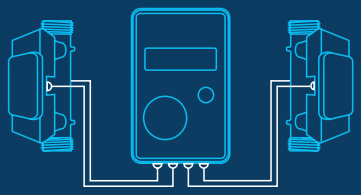
Optoport IEC 62056-21 mode C

The presence of a pulse output

The meter meets the requirements of a series of standards EN ISO 4064

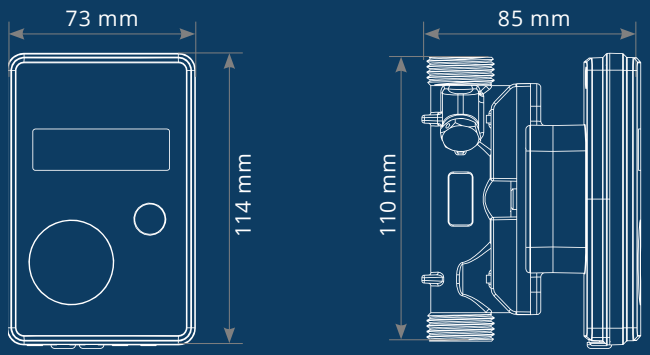
Material flowmeters brass or composite

It is possible to connect one meter to two flow meters (for example, cold and hot water)



Example
of connection
to two flow meters

DIMENSIONS

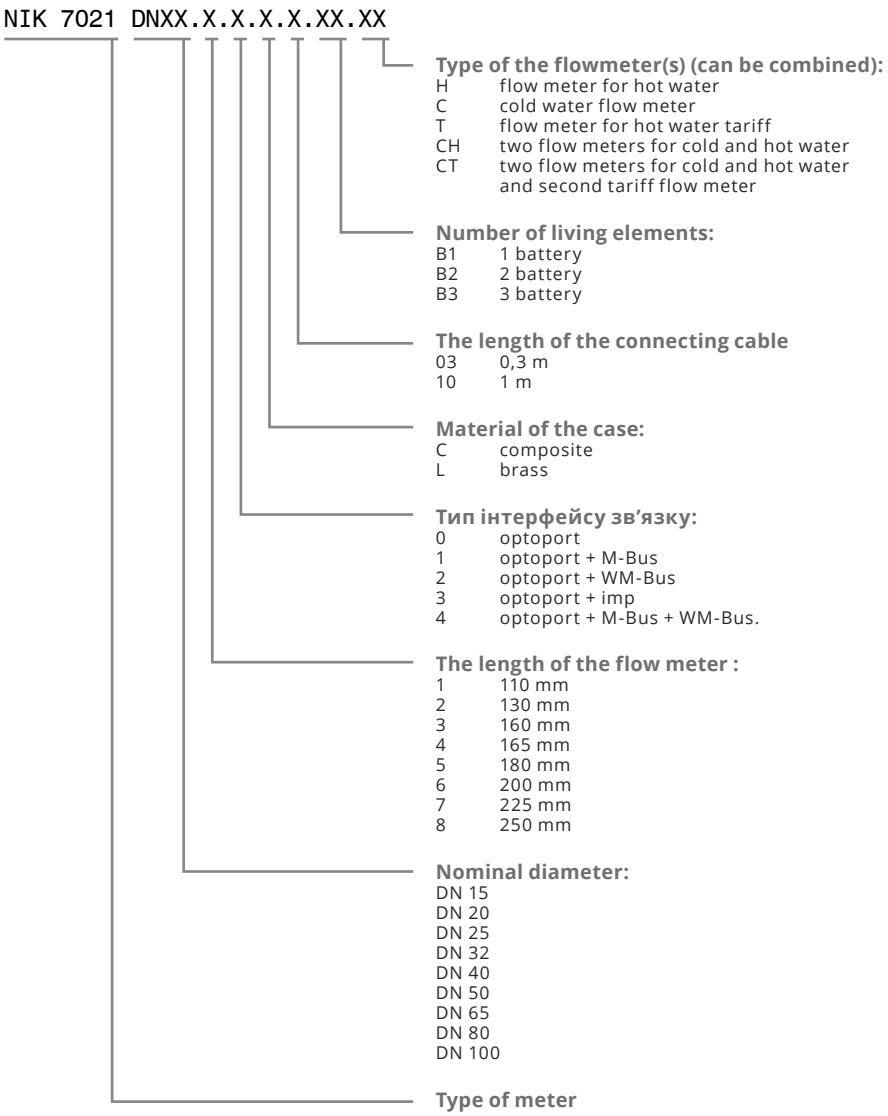


SPECIFICATIONS

Nominal diameter(Dn)	DN 15	DN 20	DN 25	DN 32	DN 40
Nominal consumption, Q_n	2 500 l/h	4 000 l/h	6 300 l/h	10 000 l/h	16 000 l/h
Maximum consumption, Q_{max}	3 250 l/h	5 000 l/h	7 870 l/h	12 500 l/h	20 000 l/h
Minimal consumption, Q_{min}	15,6 l/h	25 l/h	40 l/h	62,5 l/h	0,1 l/h
Connection, G	Thread G¾"B	Thread G1"B	BThreadG1¼"B	Thread G1½"B	Thread G2"B
Accuracy class	2.0	2.0	2.0	2.0	2.0
Maximum pressure, P_{max}	1,6 MPa	1,6 MPa	1,6 MPa	1,6 MPa	1,6 MPa
Protection class	IP 65	IP 65	IP 65	IP 65	IP 65
Ambient temperature	+5...+55 °C	+5...+55 °C	+5...+55 °C	+5...+55 °C	+5...+55 °C
Air humidity	0...93%	0...93%	0...93%	0...93%	0...93%
$R=Q_n/Q_{min}$	160	160	160	160	160
The length of the flow meter	110 / 130 / 165 mm	130 mm	160 mm	180 mm	200 mm

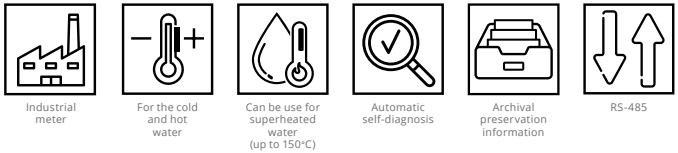
Nominal diameter (Dn)	DN 50	DN 65	DN 80	DN 100
Витрата номінальна, Q	25 000 l/h	40 000 l/h	63 000 l/h	100 000 l/h
Витрата максимальна, Q_{max}	31 250 l/h	50 000 l/h	78 750 l/h	125 000 l/h
Витрата мінімальна, Q_{min}	156 l/h	250 l/h	315 l/h	500 l/h
Connection	Flange	Flange	Flange	Flange
Accuracy class	2.0	2.0	2.0	2.0
Maximum pressure, P_{max}	1,6 MPa	1,6 MPa	1,6 MPa	1,6 MPa
Protection class	IP 65	IP 65	IP 65	IP 65
Ambient temperature	+5...+55 °C	+5...+55 °C	+5...+55 °C	+5...+55 °C
Air humidity	0...93%	0...93%	0...93%	0...93%
$R=Q_n/Q_{min}$	160	160	200	200
The length of the flow meter	200 mm	200 mm	225 mm	250 mm

TABLE OF CONSTRUCTION TYPES NIK 7021



NIK 7051

HEAT METER ULTRASONIC



PROPERTIES

Work with open and closed heat supply systems

Heat meters satisfy to accuracy class 2.0 by EN 1434-1 and 4.0 by 3339-96

RS-485 interface module

Maximum 3 flow measuring sections

A maximum of 3 resistance thermocouples are possible (two- or four-wire)

The presence of an optical interface

Automatic self-diagnosis

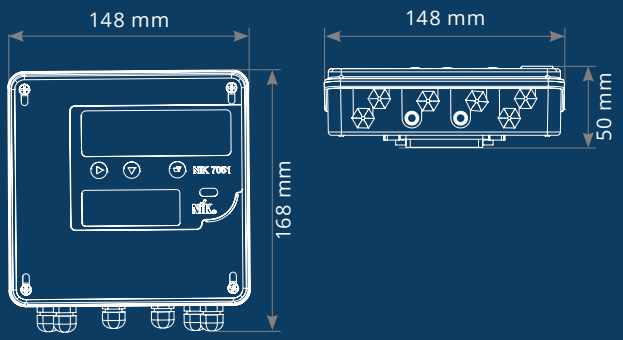
Event log and data archiving (hourly, daily, monthly annually)

Can work with various flowmeters

External power source or an internal battery (service life battery from 4 years)

Meter protection class IP 54

DIMENSIONS



Type of heat meter

Designs:

01 calculator, one flow converter, which is installed in the supply pipeline, a selected pair of temperature converters, which are installed on the supply and return pipelines.

02 calculator, one flow converter to be installed in the supply line, a selected pair of temperature converters to be installed on the supply and return lines, one additional (control) flow converter to be installed in the return line

03 calculator, one flow converter, which is installed in the supply pipeline, a selected pair of temperature converters, which are installed on the supply and return pipelines, two additional (control) flow converters, which are installed in the return pipeline and water supply pipeline

04 calculator, one flow converter, which is installed in the return pipe, a selected pair of temperature converters, which are installed on the supply and return pipelines

05 calculator, one flow converter to be installed in the return line, a selected pair of temperature converters to be installed on the supply and return lines, one additional (control) flow converter to be installed in the supply line

06 calculator, one flow converter, which is installed in the return pipe, a selected pair of temperature converters, which are installed on the supply and return pipelines, two additional (control) flow converters, which are installed in the supply pipeline and water supply pipeline.

07 calculator, two flow converters, which are installed in the supply and return pipelines, a selected pair of temperature converters, which are installed in the supply and return pipelines(with software setting of cold water temperature)

08 calculator, two flow converters to be installed in the supply and return pipelines, a selected pair of temperature converters to be installed in the supply and return pipelines, one additional (control) flow converter to be installed in the water supply pipeline (with software cold water temperature setting)

09 calculator, two flow converters to be installed in the supply and return pipelines, a selected pair of temperature converters to be installed in the supply and return pipelines, an additional temperature converter to be installed in the water supply pipeline

10 calculator, two flow transducers to be installed in the supply and return pipelines, a selected pair of temperature transducers to be installed in the supply and return pipelines, an additional temperature converter to be installed in the water supply pipeline, one additional (control) flow converter to be installed in the water supply.

TABLE OF CONSTRUCTION TYPES NIK 7051

NIK 7051-XX-X-X-XXXX/X.XXXX/X.XXXX/X.XXXX

The pulse value of the flow converter #3, l

The pulse value of the flow converter #2, l

The pulse value of the flow converter #1, l

Type of the thermal converters:

2T15	2-wire PT500, cable 1,5m
2T30	2-wire PT500, cable 3m
2T50	2-wire PT500, cable 5m
4T15	4-wire PT500, cable 1,5m
4T30	4-wire PT500, cable 3m
4T50	4-wire PT500, cable 5m
4T100	4-wire PT500, cable 10m

Computer power supply:

B	internal battery
E	internal battery and external power supply

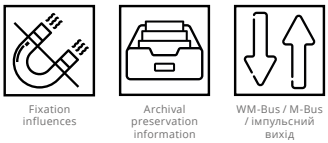
Units of measurement:

W	kilowatt•hour(kWh, MWh)
G	Gigacalories (Gcal)
J	Joule (MJ, GJ)

TOP LEVEL SYSTEM COMPONENTS

NIK RT-11

OVERLAY ON THE WATER METER NIK 7011 M



PROPERTIES

Overlay on the mechanical water meter NIK 7011 M for data transfer to top level systems

Simple installation

Automatic switch to summer/winter time

Data archiving

Wireless data transmission according to the WM-Bus standard (T1, S1m mode) or wired according to the M-Bus standard or pulse output

Fixation of influence of external magnetic and electromagnetic influences

SPECIFICATIONS

Data transfer protocol	M-Bus / Wireless M-Bus
Data transmission frequency	868 MHz
Readout method	optical
Voltage	3.6 V; 1/2 AA (up to 12 years)
Protection class	IP 65
Output power	10 mW
Operating temperature	0...+55 ºC
Height / diameter	26 / 66 mm
Weight	0.025 kg

EVENT REGISTRATION

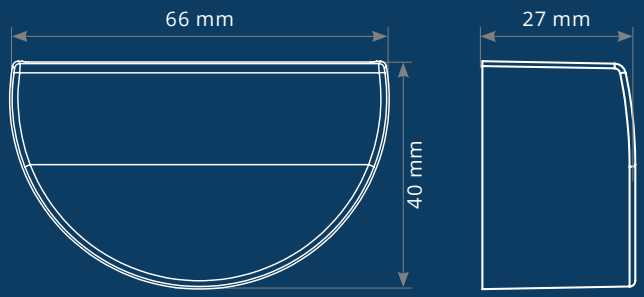
Consumption:
maximum
minimal
reverse
without changes
a leak

Battery:
low
exhausted time

Intruder:
magnetic field
tighter light

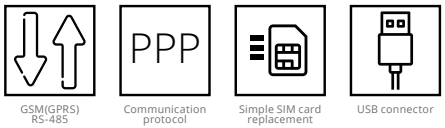
Other:
measurement error
disconnection
processor error
access error

DIMENSIONS



NIK A-GSM

COMMUNICATION MODULE



PROPERTIES

Designed for data transfer between GPRS and RS-485 interface

Administration through the network of the mobile operator

Galvanically isolated discrete input and output

Output 5V for outer devices

Simple SIM card replacement

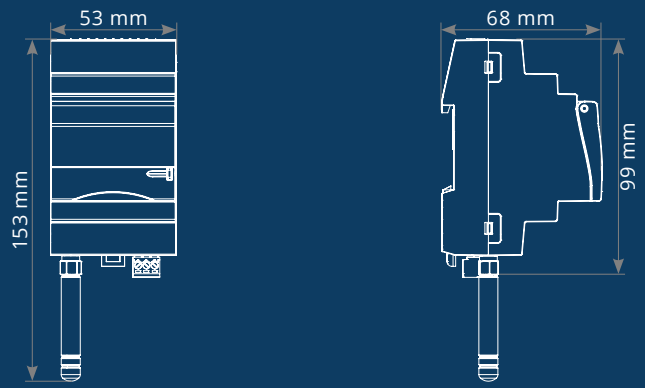
Remote control

DIN rail mounting

SPECIFICATIONS

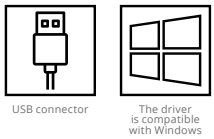
Operating temperature	-40°C ... +70°C
Power	220 V AC or source 12 V DC
Indication:	Network availability RS-485 communication Power availability

DIMENSIONS



NIK OP-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.

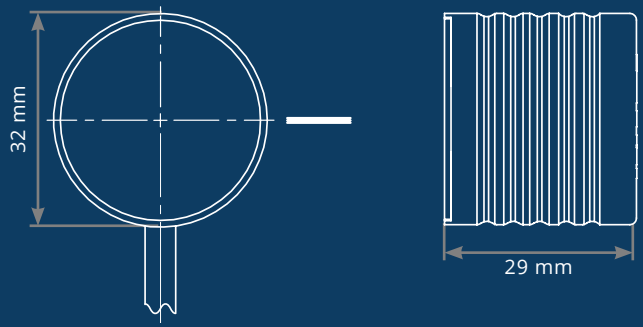
Compliance with the standard IEC 62056-21 and can be used with any meter that meets this standard.

It has a standard USB connector that connects to a PC running Windows98 / Windows2000 / WindowsXP / Windows7 / Windows 10 / Android

SPECIFICATIONS

Power supply	USB interface
Voltage	5±0,25 V
Maximum amperage	64 mA
Current (transmission)	about 20 mA
Data transfer rate	300 - 19200 Bd
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 then	80 g

DIMENSIONS



NIK PT-01

REPEATER

PROPERTIES

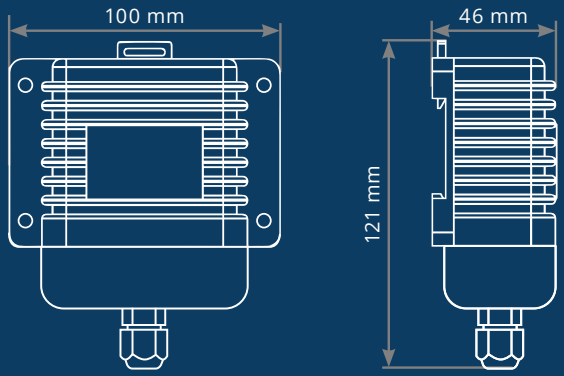
Extension for networks by standard IEEE 802.15.4 (2.4 GHz)

DIN rail mounting

SPECIFICATIONS

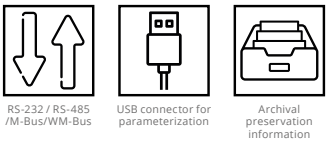
Nominal voltage, Unom	220 V
Operating range of voltage	143 ... 264 V
Consumption, no more then	1 W
Operating frequency	2,4 GHz
Maximum power of the radio module	+ 17 dBm
Operating temperature	-40 ... +80 °C
Weight	0,3 kg
Protection class	IP 65

DIMENSIONS



NIK AMBUS

CONCENTRATOR



PROPERTIES

Introduced transmission interface data: radio channel, RS-232, RS-485, M-Bus

The device can work as an M-Bus Master or as a signal repeater

External power source or an internal battery

DIN rail mounting

Simultaneous connection of up to 300 devices on one bus

USB-input for simple parameterization

Data archiving in internal storage and removable SD cards.

SPECIFICATIONS

Internal power supply voltage, U_n	220 V
External power supply voltage, U_n	24...42 V direct current
Protection class	IP 20
Operating temperature	-40 ... +70 °C
Weight	0,3 kg
Indication	Availability of power RX/TX line M-Bus USB SD card

2021 · 03

Regional representative

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