Made in Russia

TIK-PLC controllers

Research and production enterprise

TIK-PLC controllers for DIN-rail mounting

TIK-PLC.991.11

- RS-485 digital input interface (Master) with intrinsically safe sensor power supply output;
- two RS-485 digital interfaces (Slave);
- power supply for intrinsically safe circuits;
- two relay outputs, one digital input.

TIK-PLC 481

- one two-wire voltage input channel, one 4-20 mA input channel;
- RS-485 digital input interface (Master) with intrinsically safe sensor power supply output;
- two RS-485 digital interfaces (Slave);
- one 4-20 mA output channel;
- two relay outputs, one digital input.

TIK-PLC 121 type 02

- one two-wire voltage input channel;
- one 4-20 mA output channel;
- two RS-485 digital interfaces;
- two relay outputs, one digital input.

TIK-PLC 112 type 02

- one 4-20 mA input channel;
- one 4-20 mA output channel;
- two RS-485 digital interfaces ;
- two relay outputs, one digital input.

TIK-PLC.896.21

- two 10/100 Mbps Ethernet inputs;
- six sensor inputs with RS-485 interface;
- Ethernet output.

TIK-PLC 112 type 02 controller (TIK-PLC.112.11)

Designed for recording the signals coming from the external sensors with 4-20 mA output, their processing, and transmission of the information obtained to external telemetry and control system

Description

TIK-PLC 112 type 02 controller performs the functions of EPS, power supply for sensors and safety barrier.

The principle of operation is based on the conversion of the input signal of the 4-20 mA “current loop” into digital form, its software averaging, comparison of the obtained value with the programmed settings, transmission of the averaged current value via the digital RS-485 communication interface, analog output 4-20 mA, and the generation of control signals to the EPS.

Features

- two digital RS-485 interfaces;
- OLED display for displaying controller parameters and settings;
- 3-color controller status LED;
- 5-position joystick for menu navigation;
- simplified installation of power supply and RS-485 interface through a bus connector *(not included)*;
- built-in intrinsic safety barrier in the controller;
- quick-release, spring-loaded terminals for easy and reliable installation.

Specifications

Interface

Input signal type ..... 4-20 mA “current loop”; discrete input
Output signal type ..... 4-20 mA “current loop”; relay output
Interface 2*RS-485
Protocol ..... Modbus RTU
Supply voltage, V ..... +24±2
Power consumption, W, not more than 2

Explosion protection

Kind ..... intrisically safe circuit
Marking ..... [Ex ib Gb] IIC

Design features

Overall dimensions, mm 99x113.6x22.6
Weight, kg, not more than 0.2
Protection class IP20
Mounting ..... on DIN-rail

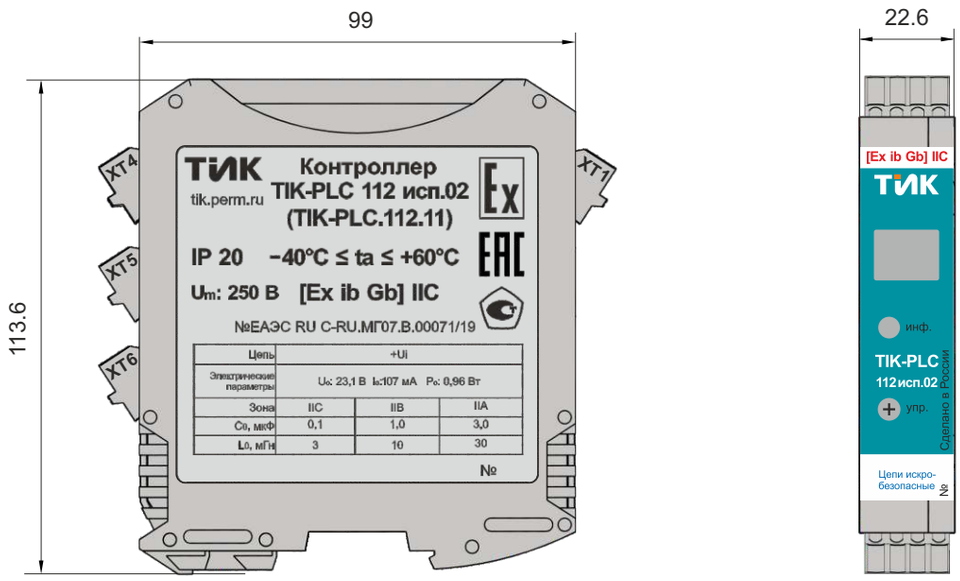
Performance

Operating temperature range, °C ..... -40...+60

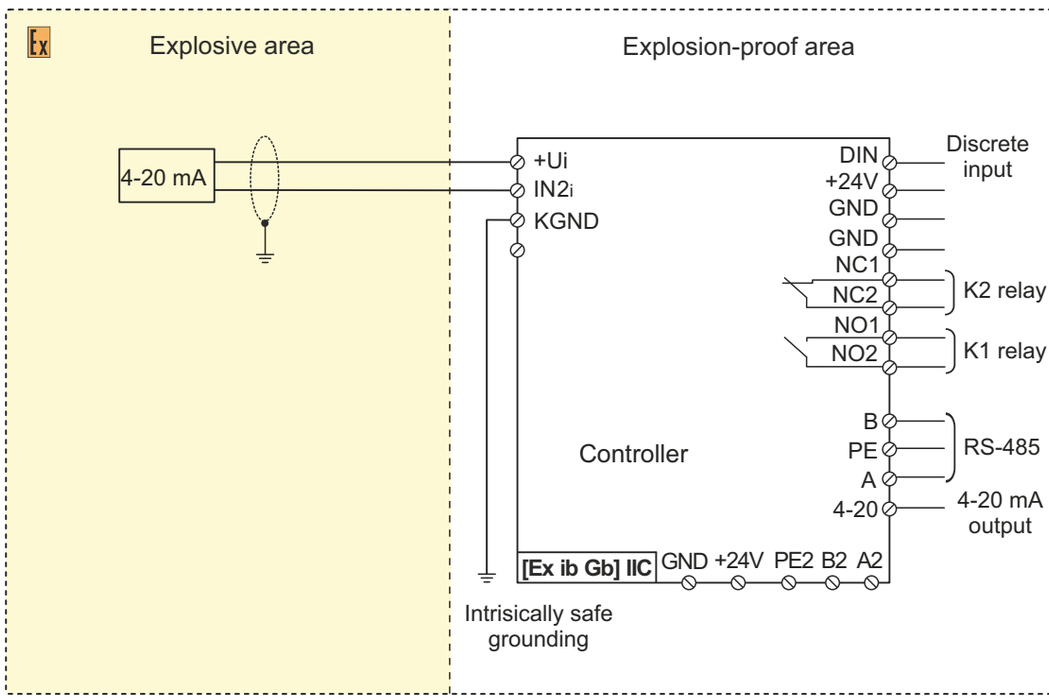
Reliability and manufacturer’s warranties

MTBF, hours, not less than 20 000
Service life, years 10
Warranty period, months 18

General view, dimensions and mounting dimensions



Wiring diagrams



TIK-PLC 121 type 02 controller (TIK-PLC.121.11)

Designed for recording the signals coming from the external sensors with two-wire voltage output, their processing and transmission to external telemetry and control system

Description

TIK-PLC 121 type 02 controller performs the functions of EPS, power supply for sensors and safety barrier.

The principle of operation is based on receiving an input signal, converting it into digital form and integrating it, software averaging, comparing the obtained value with programmed settings, transmission of the averaged current value via the digital RS-485 communication interface, analog output 4-20 mA, and the generation of control signals to the EPS.

Features

- calculation of all vibration parameters (vibration acceleration, vibration velocity, vibration displacement) according to the initial signal;
- custom conversion factor;
- two digital interface RS-485;
- output of any measured parameter to 4-20 mA;
- OLED display for displaying controller parameters and settings;
- 3-color controller status LED;
- 5-position joystick for menu navigation;
- simplified installation of power supply and RS-485 interface through a bus connector *(not included)*;
- built-in intrinsic safety barrier in the controller;
- quick-release, spring-loaded terminals for easy and reliable installation.

Specifications

Interface

Input signal type . . . . . two-wire voltage (IEPE / ICP compatible); discrete input
Output signal type . . . . . 4-20 mA “current loop”; relay output
Interface 2*RS-485
Protocol . . . . . Modbus RTU
Supply voltage, V . . . . . +24±2
Power consumption, W, not more than 2

Explosion protection

Kind . . . . . intrisically safe circuit
Marking . . . . . [Ex ib Gb] IIC

Design features

Overall dimensions, mm 99x113.6x22.6
Weight, kg, not more than 0.2
Protection class IP20
Mounting . . . . . on DIN-rail

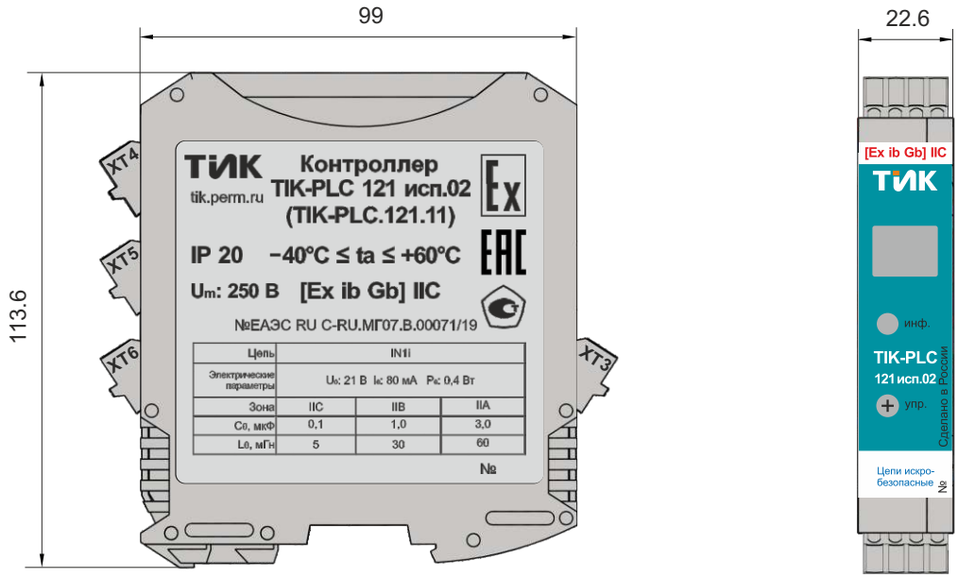
Performance

Operating temperature range, °C . . . . . -40...+60

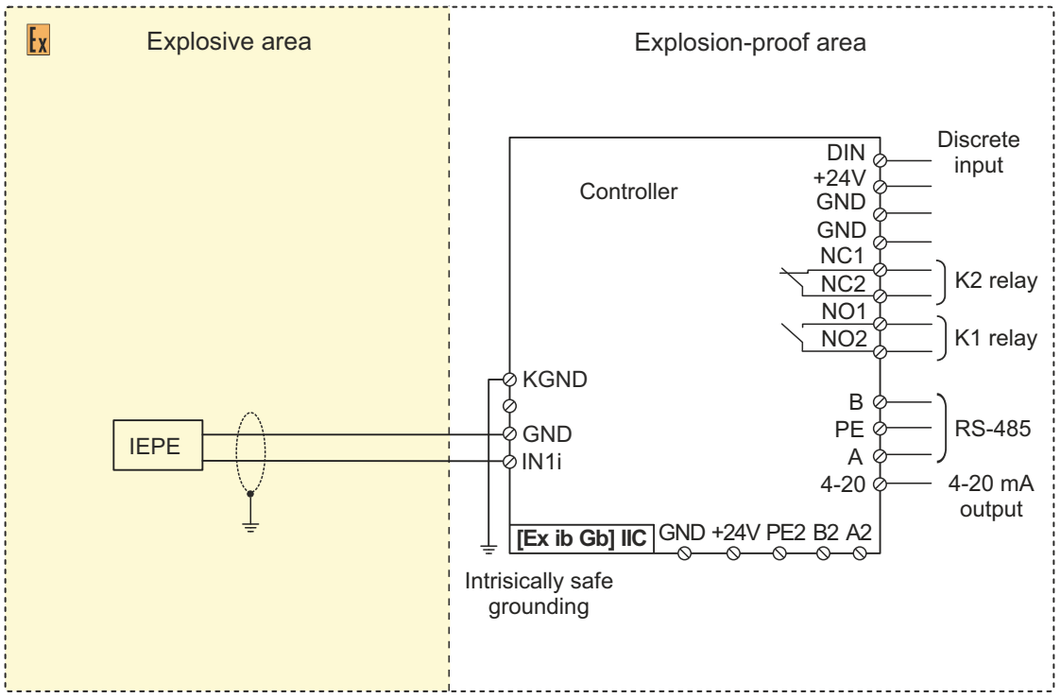
Reliability and manufacturer’s warranties

MTBF, hours, not less than 20 000
Service life, years 10
Warranty period, months 18

General view, dimensions and mounting dimensions



Wiring diagrams



TIK-PLC 481 controller (TIK-PLC.481.11)

Designed to register signals from external sensors, processing them and transmitting received information to an external telemechanics and control system

*The TIK-PLC 481 doesn't have a **type approval certificate**, the certificate is in the process of being issued.*

Description

TIK-PLC 481 controller performs the functions of EPS and power supply for sensors.

The principle of operation is based on the conversion of a unified input signal 4-20 mA or voltage (IEPE / ICP compatible) into digital form, its software averaging, comparison of the obtained value with the programmed settings, transmission of the averaged value via the RS-485 communication interface, analog output 4- 20 mA, receiving a discrete signal and the generation of control signals to the EPS.

Features

- simultaneous polling of up to 40 registers from various devices;
- OLED display for displaying controller parameters and settings;
- 3-color controller status LED;
- 5-position joystick for menu navigation;
- simplified installation of power supply and RS-485 interface through a bus connector *(not included)*;
- built-in intrinsic safety barrier in the controller;
- quick-release, spring-loaded terminals for easy and reliable installation.

Specifications

Interface

Input signal type ..... 4-20 mA "current loop"; two-wire voltage (IEPE / ICP compatible); RS-485; discrete input
Output signal type ..... 4-20 mA "current loop"; relay output
Interface 2*RS-485
Protocol ..... Modbus RTU (Master / Slave)
Supply voltage, V ..... +24±2
Power consumption, W, not more than 5
Graphic OLED display resolution, pixels 64x48

Performance

Operating temperature range, °C ..... -40...+60

Design features

Overall dimensions, mm 99x113.6x22.6
Weight, kg, not more than 0.2
Protection class IP20
Mounting ..... on DIN-rail

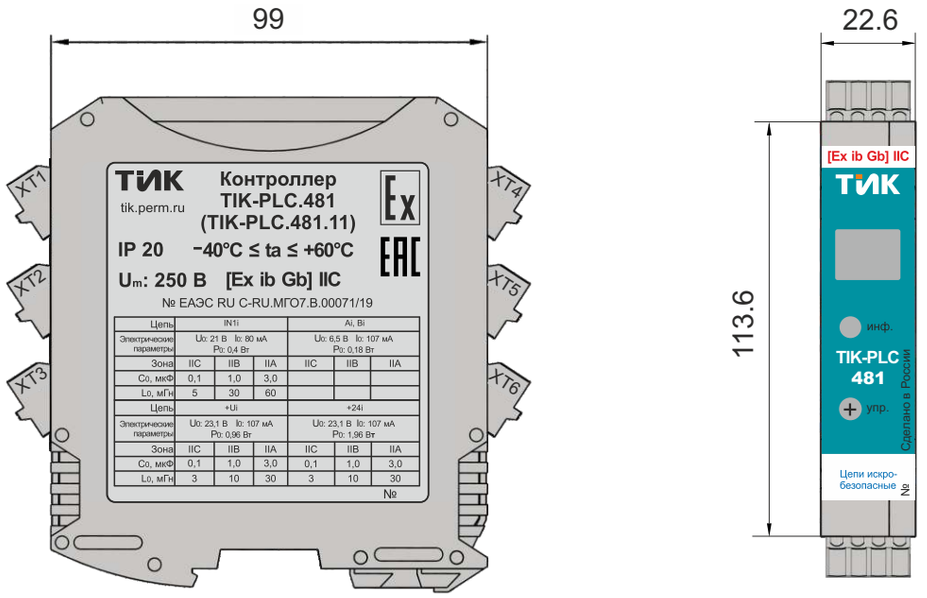
Explosion protection

Kind ..... intrisically safe circuit
Marking ..... [Ex ib Gb] IIC

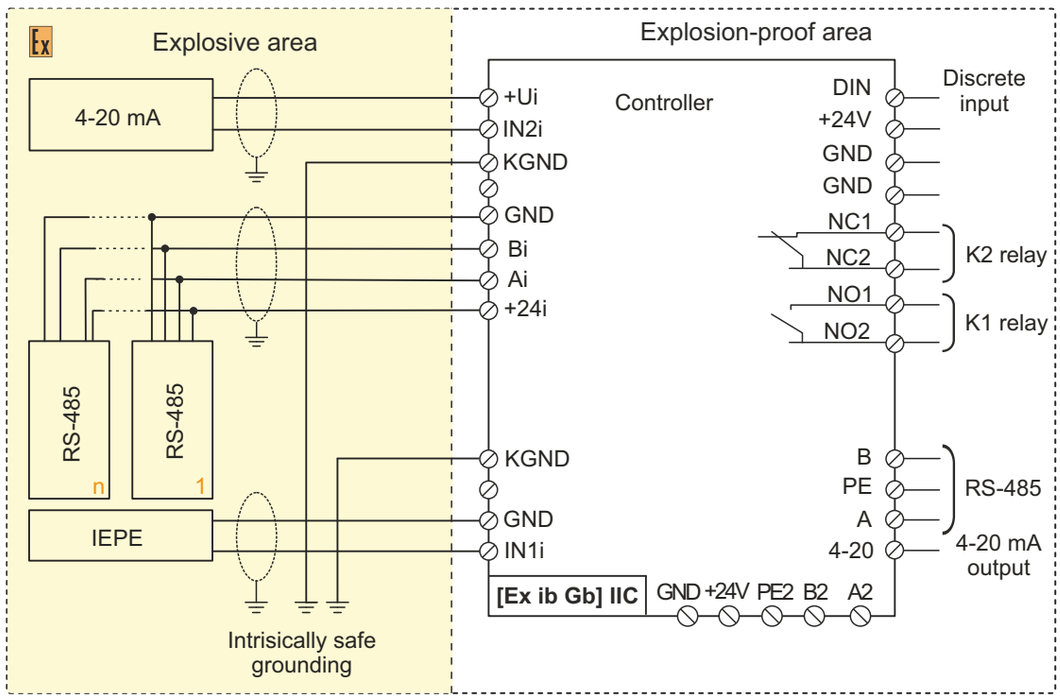
Reliability and manufacturer's warranties

MTBF, hours, not less than 20 000
Service life, years 10
Warranty period, months 18

General view, dimensions and mounting dimensions



Wiring diagrams



The maximum number n is limited in accordance with the manual

TIK-PLC 896 controller (TIK-PLC.896.21)

Designed to record signals from external sensors with digital interface RS-485, processing and transmission of the received information to the external telemechanics and control system

The TIK-PLC 896 doesn't have a ***type approval certificate***

Description

The principle of operation of the controller is based on receiving queries through the Ethernet interface, redirecting these queries to the RS-485 digital communication interface and transmitting the received responses from the RS-485 interface to the Ethernet interface.

The principle of OPC server function in the controller is based on polling the values of configured tags and transmitting these values over the Ethernet interface to the OPC client.

Features

- two redundant inputs for connection to a 10/100 Mbit/s Ethernet data network ;
- six inputs for connecting sensors with RS-485 communication interface at 3 Mbit/s (e.g. DVA484.XXX);
- Ethernet output (OPC UA specification);
- time synchronization via PTP protocol;
- configurable number of tags;
- possibility to add Modbus TCP ports;
- configurable «diagnostics» tasks;
- 5-position joystick for menu navigation;
- simplified installation of power supply and RS-485 interface through a bus connector *(not included)*;
- built-in intrinsic safety barrier in the controller;
- quick-release, spring-loaded terminals for easy and reliable installation.

Specifications

Interface

Input signal type	Ethernet; RS-485; discrete input
Output signal type	relay output; RS-485
Interface	6*RS-485; 2*Ethernet
Protocol	Modbus RTU
Supply voltage, V	20-30
Power consumption, W, not more than	7
Graphic OLED display resolution, pixels	64x48

Performance

Operating temperature range, °C	-20...+50

Design features

Overall dimensions, mm	99x113.6x45.2
Weight, kg, not more than	0.3
Protection class	IP20
Mounting	on DIN-rail

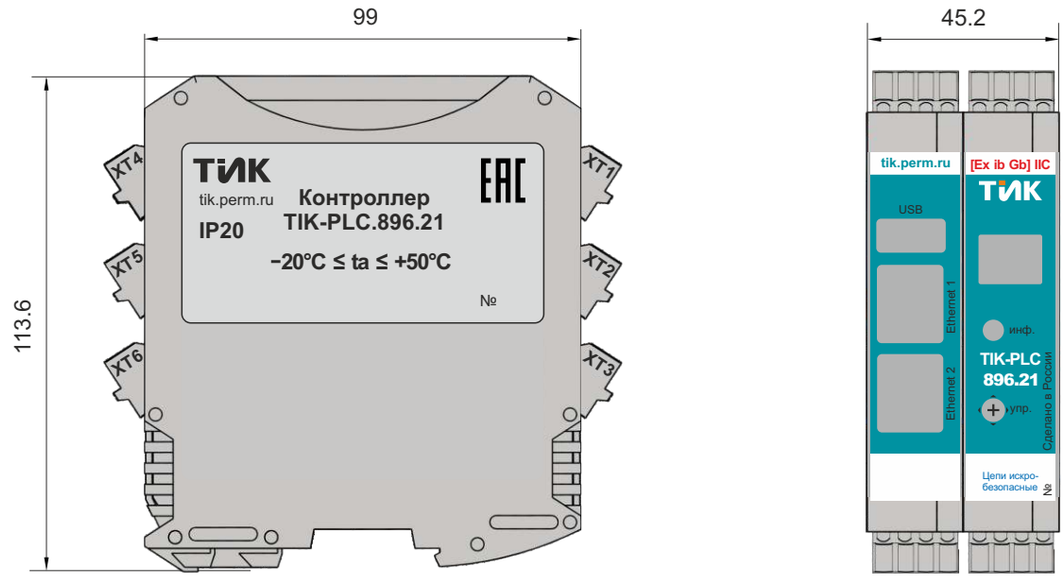
Explosion protection

Kind	intrisically safe circuit
Marking	[Ex ib Gb] IIC

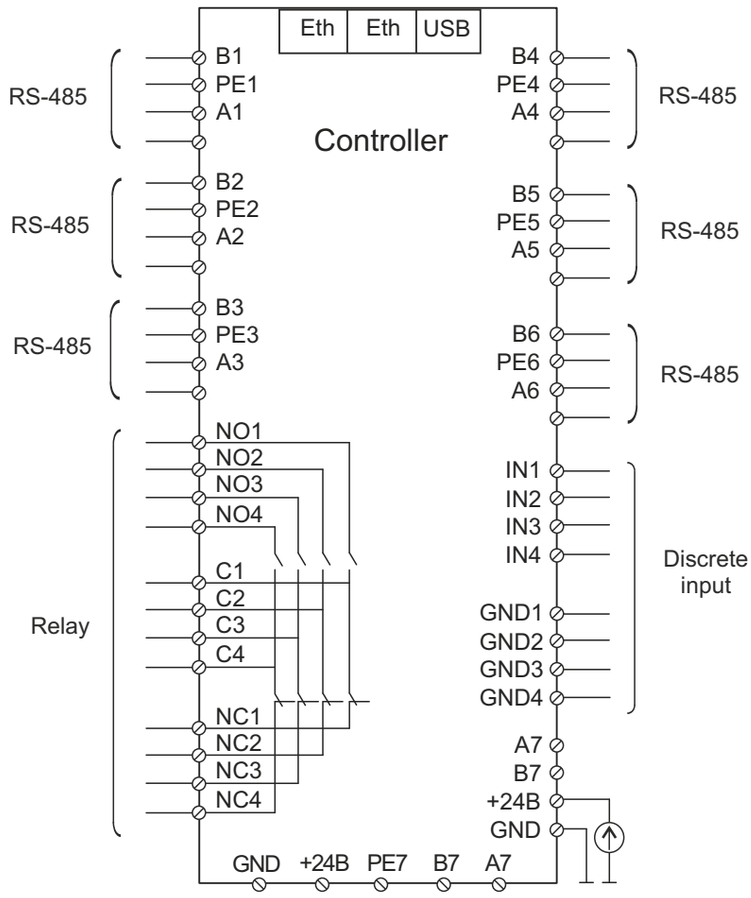
Reliability and manufacturer's warranties

MTBF, hours, not less than	20 000
Service life, years	10
Warranty period, months	18

General view, dimensions and mounting dimensions



Wiring diagrams



TIK-PLC 991 controller (TIK-PLC.991.11)

Designed to register signals from external sensors with a digital interface, process them and transmit the received information to an external telemechanics and control system

The TIK-PLC 991 doesn't have no ***type approval certificate***

Description

TIK-PLC 991 controller performs the functions of EPS, power supply for sensors and safety barrier.

The principle of operation is based on the transmission of digital values obtained by polling sensors with a RS-485 digital communication interface, comparing the obtained values with programmed settings, transmitting values via the RS-485 output digital communication interface, based on the selected parameter, and generating control signals to the EPS.

Features

- built-in explosion-proof power supply for primary converters (23 V, 0.058 A);
- one 4-20 mA output channel with the ability to translate and recalculate values from any polled register;
- simultaneous polling of up to 40 registers from various devices;
- OLED display for displaying controller parameters and settings;
- 3-color controller status LED;
- 5-position joystick for menu navigation;
- simplified installation of power supply and RS-485 interface through a bus connector *(not included)*;
- built-in intrinsic safety barrier in the controller;
- quick-release, spring-loaded terminals for easy and reliable installation.

Specifications

Interface

Input signal type ..... RS-485; discrete input
Output signal type ..... 4-20 mA "current loop"; relay output; RS-485
Interface 2*RS-485
Protocol ..... Modbus RTU (Master / Slave)
Supply voltage, V ..... +24±2
Power consumption, W, not more than 5
Graphic OLED display resolution, pixels 64x48

Performance

Operating temperature range, °C ..... -40...+60

Design features

Overall dimensions, mm 99x113.6x22.6
Weight, kg, not more than 0.2
Protection class IP20
Mounting ..... on DIN-rail

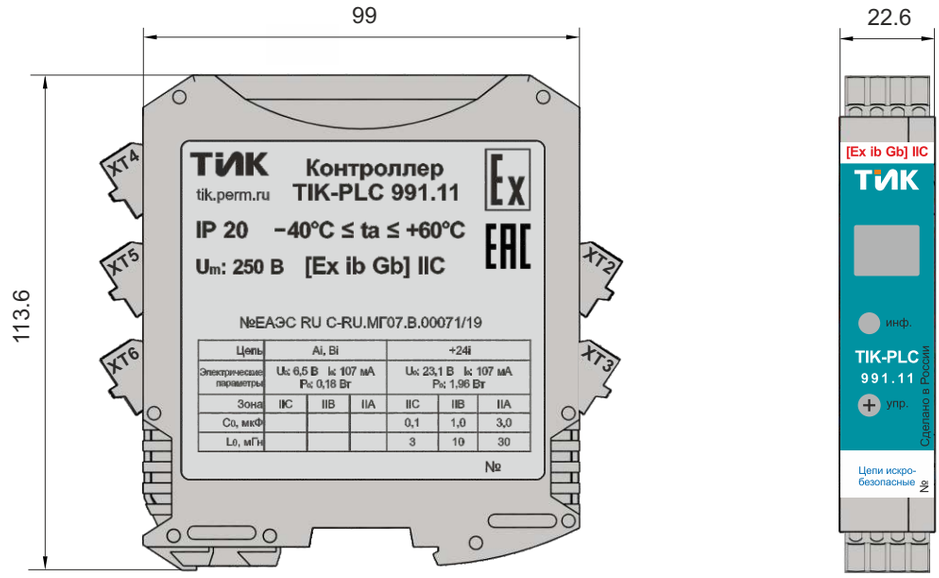
Explosion protection

Kind ..... intrisically safe circuit
Marking ..... [Ex ib Gb] IIC

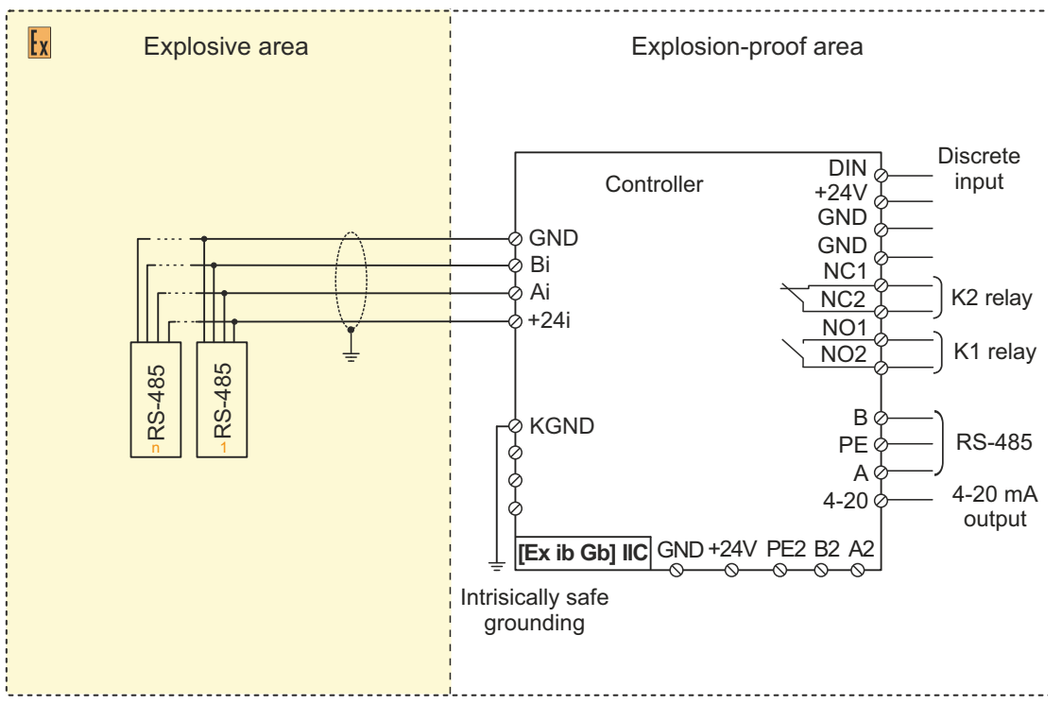
Reliability and manufacturer's warranties

MTBF, hours, not less than 20 000
Service life, years 10
Warranty period, months 18

General view, dimensions and mounting dimensions



Wiring diagrams



The maximum number n is limited in accordance with the manual

Approval documents

Certificate of conformity for TIK-PLC controllers №РОСС RU.HE06.H10461
Certification body “Exspert-C” Ltd.
Test report №0302D of 08/02/23, issued by the testing laboratory “Test-Grupp”

Valid till 08/01/2026

Certificate of conformity for TIK-PLC controllers №РОСС RU.HE06.H06212
Certification body "Expert-S" Ltd. Test report №0104D of 05/04/23, issued by the testing laboratory "Test Group".

Valid till 05/03/2026

Declaration of conformity of TP TC 020/2011 “Electromagnetic compatibility of technical devices” for TIK-PLC controllers,
Registration number of EEU N RU D-RU.HB27.B.13862/20
Test report №35597R dd. 08/04/20, issued by the testing laboratory
“Express-Test” LLC Rusfline Investments.

Valid till 08/03/2025

Certificate of conformity with TP TC 012/2011 “About safety of equipment for operation in explosive environments” for TIK-PLC equipment, EAEC registration number RU C-RU.МГ07.B.00358/23,
Series RU №0390283
Test Report №13И-23 of 09/14/23

Valid till 10/18/2028

Type Approval Certificate No. 62594-15 for TIK-PLC instrumentation

Valid till 10/22/2025

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