

Spark Protection Units

IS barrier

BIZ-06

Technical Passport


BASIC DATA

Unit Service

The spark protection unit (hereinafter referred to as the “Unit”) refers to an active type device and provides protection for intrinsically safe circuits when voltage reaches up to 250 V.

It is used to protect the supply and interface circuits with the type of explosion protection as intrinsically safe electric circuit of level “ia”. The unit has galvanic separation between both input/output power circuits and inputs/outputs of interface circuits.

Explosion protection marking of the unit is the following:

 **II (1) G [Ex ia Ga] IIB**
-40°C ≤ Ta ≤ +75°C

The unit must be installed outside explosion hazardous areas.

The unit is powered from DC power supply with a voltage of 9...36 V.

Intrinsic safety of the unit electrical circuits associated with equipment in the explosion hazardous area is ensured by limiting the current and voltage in its electrical circuits to intrinsically safe values, as well as by performing the design of the spark protection unit in accordance with the requirements of DSTU EN 60079-11:2016.

BASIC TECHNICAL SPECIFICATIONS

Characteristic or parameter	Unit of measurement	Value	Remarks
General			
Max. output voltage U _o			
BIZ-06 Model	V	6.0	
Operating temperature range	°C	– 40...+ 75	
IP rating		IP67	
Operating mode		continuous	
Power			
Supply voltage, operating range	V	+9...+36	
Current consumption, max	mA	250	With connected protected product
Permissible applied pulse voltage in power supply circuits	V	+160, 1s -1000, continuous	
Permissible short-term exposure to potential difference between the signal ground and the housing	V	1500 within 1s	
Interfaces			
Communication with protected product		RS-485	
Communication with monitoring device		RS-485, RS-232	Simultaneous operation is possible only with one of interfaces

SCOPE OF DELIVERY

Description	QTY	Remarks	It. On Fig. 3.1
Spark protection unit	1	complete with cables and fuses: -glass Ø5 x 20 mm 0.5A -car knife type 1A	
Mounting unit	1	Inside clip connector 5 cont.	2
Clip connector for 4 cont.	1		6
Ground wire	2	1.0 m length	1
Technical Passport	1		4
Packaging box		with serial number label	3
Spark protection units BIZ-06, BIZ-08, BIZ-10, Installation and Operation Manual	1	Supplied on request	

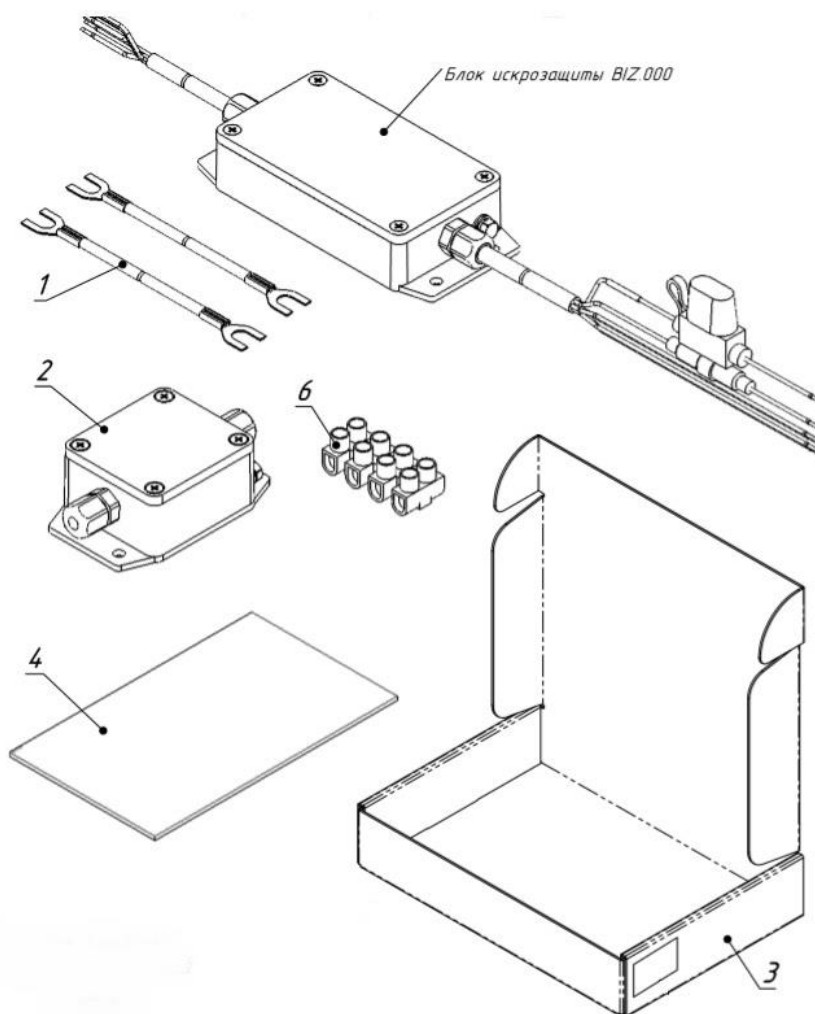


Fig. 3.1 – Scope of delivery

INSTALLATION

The spark protection unit can be fixed, for example, using two metal self-tapping screws Ø3.5x19 (not included in the scope of delivery).

Service and marking of input wires (spark-hazardous circuits)

Service	Wire color	Remarks
U+	brown	0.5 A fuse in the circuit
U-	black	1.0 A fuse in the circuit
Tx	white	RS-232 transfer data
Rx	grey	RS-232 received data
A	yellow green	RS-485
B	blue	RS-485

Service and marking of output wires (intrinsically safe circuits)

Service	Wire insulation marking
U+	1
U-	2
A	3
B	4
GND (Screening)	Screen

PRODUCT INDIVIDUAL CHARACTERISTICS

Explosion proof

The unit can be installed externally and only in an explosion-proof area.
The parameter values of the intrinsically safe electrical circuits of the unit are the following:

BIZ-06

Characteristic or parameter	Unit of meas.	Value
Max. output voltage, U_o	V	6.0
Max. output current, I_o	mA	480
Max. external capacitance, C_o^*	μ F	900
Max. external inductance, L_o^*	mH	1.0
* - Max. values of L_o , C_o for the spark protection unit are set considering 1.5-fold safety factor		

Operational conditions

The unit must be connected to the mains through two fuses with ratings of 0.5 A (U+) and 1.0 A (U-).

When operating the unit, it is prohibited:

- to use the unit for purposes other than intended;
- to connect the unit to devices whose interface does not correspond to the operational documentation;
- to apply supply voltage exceeding the limit value of +36 V;
- to expose the device to aggressive environments.

TRANSPORTATION AND STORAGE

Transportation of the units in the manufacturer's transport packaging is allowed by all types of closed land and sea transport (in railway cars, containers, closed cars, holds, etc.). Transportation in sealed compartments of aircraft is allowed.

When transporting the units in their original packaging by open transport, the measures must be taken to protect them against the effects of atmospheric precipitation, dust and dirt.

During transportation and storage, the requirements of the handling signs on the group transport packaging must be observed.

MANUFACTURER (SUPPLIER) WARRANTY

Manufacturer (Supplier) Warranty

The warranty period of operation is 12 months from the date of sale of the transmitter through a retail or wholesale distribution network to the final user. If there is no mark of the selling organization on the sale date in the warranty card, the warranty period is 18 months (from the date the transmitter was made by the manufacturer).

Warranty Limitation

Warranty obligations are valid if the user complies with the requirements of the current operational documentation. In case of violation of these requirements, or in the presence of traces of exposure of high-voltage, aggressive media or mechanical damage, the warranty is considered invalid.

SERVICE CENTRE ADDRESS

Warranty and post-warranty repairs are carried out by the company specified by the supplier of the unit or by the following company:

10 Priorska Str., Kyiv, 04114, Ukraine

Phone/Fax: (+38044) 502-46-55

E-mail: support@technotrade.ua

ACCEPTANCE CERTIFICATE

The spark protection unit BIZ - __ with serial number _____ is manufactured and accepted in accordance with the mandatory requirements of state standards, current technical documentation and considered as fit for service.

Note: the manufacturer reserves the right to make design changes that do not impair performance.

QCD Representative

Seal

signature

full name

_____ 201_

PACKING CERTIFICATE

The spark protection unit is packed according to the requirements provided for in the current technical documentation.

_____ post

_____ signature

_____ full name

_____ 201_

PURCHASE CERTIFICATE

The spark protection unit is sold by

_____ name of the company that sold

Seal

_____ signature

_____ full name

_____ 201_

INSTALLATION CERTIFICATE

The spark protection unit is installed on _____, automobile license plate _____

_____ post

_____ signature

_____ full name

_____ 201_

CLAIMS DATA

Claims are sent to the manufacturer if the unit has failed operation during the warranty period, and if it is not associated with a violation of the storage and operating rules.

The manufacturer does not accept claims if there is no information in the technical passport about the installation date of the unit, the date of failure and a brief description of the malfunction.

Failure Date	Content of claim	Taken measures	Full name and signature of the person responsible for troubleshooting