



Warning!

All the BZS parts carry dangerous mains voltage! Operation with removed cover is prohibited! Mounting and maintenance of the product can be carried out only when mains voltage is off!

1 DESCRIPTION AND OPERATION

1.1 Purpose

BZS AC Line Protection Module (hereinafter referred to as the BZS) is to be applied in electric mains (~220 V, 50 Hz) to protect various electronic equipment against high-voltage surge noise (noise of natural origin induced by lightning, industrial noise from power switching devices) as well as long-duration overvoltages above 265 V.

The BZS provides protection against surge overvoltages (8/20 μ s shape surges)* with peak voltage value of up to 10 kV and against long-duration overvoltages higher than 253 V when one or both fuses are blown. The device restores functionality after replacing the fuses.

The BZS provides indication of presence of output voltage.

The BZS is designed for round-the-clock operation.

The BZS is intended to operate in residential, commercial, and industrial areas.

The BZS shall be operated within mounting enclosures (cabinets, boxes etc.) which provide protection against atmospheric precipitations and mechanical damage. The BZS design does not provide operating it in explosion hazardous premises.

The BZS is classed as a restorable and periodically maintained item.

1.2 Specifications

Technical parameters of the BZS are as shown in Table 1.

Table 1

No.	Parameter	Value
1.2.1	Power inputs	1
1.2.2	Working range of input voltage, V	150...253
1.2.3	Insertion resistance (mains frequency 50 Hz), ohm, max	1
1.2.4	Supply voltage frequency, Hz	50/60
1.2.5	Maximum power, VA / load current, A	500/3
1.2.6	Maximum symmetrical surge voltage between 220 V (L) и 220 V (N) (with blowing fuse(s), mains frequency 50/60 Hz), V, max	320
1.2.7	Surge peak voltage (8/20 μ s)*, kV	10
1.2.8	Peak surge discharge current (8/20 μ s)*, kA	4.5
1.2.9	Enclosure protection degree as per GOST 14254-2015	IP30
1.2.10	Resistance to mechanical exposure as per OST 25 1099-83	Arrangement Category III

*8 μ s signifies the time taken for the surge to reach 90% of its peak value; 20 μ s is the time taken for the surge to decay to half of the peak value.

No.	Parameter	Value
1.2.11	Vibration exposure: - Frequency range, Hz - Max acceleration, g	1-35, 0.5
1.2.12	Environmental category as per OST 25 1099-83	O3
1.2.13	Operating temperatures, °C	Minus 30 through plus 50
1.2.14	Relative air humidity, %	93
1.2.15	Weight, kg, max	0.12
1.2.16	Overall dimensions, mm	102×107×39
1.2.17	MTBF in the quiescent mode ¹ , hours	40,000
1.2.18	Survival probability after 1,000 hours ¹	0.975
1.2.19	Expected lifetime, years	10

¹ – Not including blowing fuses.

1.2.20 The BZS is ready for operation no later than one second after the input power is turned on.

1.2.21 As to immunity to man-made radio disturbance, the BZS meets the requirements for Test Severity Level II as per GOST R 50009.

1.2.22 The BZS passes the industrial interference standards prescribed for Class ‘Б’ equipment as per GOST R 30805.22.

1.3 Standard Delivery

The standard delivery for BZS is shown in Table 2.

Table 2

Item	Quantity, pcs.
BZS AC Line Protection Module	1
Operations Manual	1
Fuse ВПБ6-11 3.15 А (or similar)	2
Fastening elements (screw with wall plug)	3
Tapping screw 2.2×6.5	1
Packaging	1

2 INTENDED USE

2.1 The design of the module meets the requirements of electric and fire safety including emergency operation in accordance with the Russian standards GOST 12.2.007.0-75 and GOST 12.1.004-91.

2.2 Do SHUT OFF power from the equipment before mounting, installing, and maintaining this one.

2.3 Operating restrictions, design, mounting, connecting, settings, testing and operation procedures for the module are defined in details in its User’s Manual (the full version), which is available online at bolid.ru in the section Products on the page of BZS.

2.4 If a technical failure of the module has been found, this one shall be taken out of operation and sent for repair in accordance with Section 4.



3 MAINTENANCE

- 3.1 The BZS shall be maintained by persons qualified for Accident Prevention of Level III or higher.
- 3.2 The BZS is to be maintained according to a planned preventive strategy which provides annual scheduled maintenance.
- 3.3 Maintenance works for the BZS are described in its User's Manual (the full version), see Section 2.3 of this manual.

4 REPAIR

- 4.1 Repair of faulty equipment is to be conducted by the manufacturer or in authorized repair centers. The product shall be sent for repair in compliance with Company Standard QMS 8.5.3-2015, which can be found online at our website <https://bolid.ru/support/remont/>.



Warning!

The equipment shall be submitted for repair being assembled and clean and along with all the parts listed in the documentation.

Claims are accepted only if a reclamation report describing the failure is applied to the submitted equipment.

- 4.2 An equipment fault resulted from consumer's not observing rules of mounting and operation is not a reason for claims and warranty repair.

- 4.3 Claims shall be submitted to the following address:

NVP BOLID, #4 Pionerskaya Str., Korolyov, Moscow Region, 141070, Russia

Phone: +7 (495) 775-71-55, E-mail: info@bolid.ru.

- 4.4 In case of any issue related to use of the product, please contact the technical support: +7 (495) 775-71-55 or e-mail: support@bolid.ru.

5 STORAGE

- 5.1 Storage in a transport container is permitted at ambient temperatures ranged from minus 30 through plus 50°C and relative humidity up to 95% at plus 35°C.
- 5.2 Storage in the consumer package is permitted only in heated premises at temperatures plus 5 through plus 40 °C and relative humidity up to 80 % at plus 20 °C.

6 TRANSPORTING

The BZS can be transported in a transport container at ambient temperatures minus 30°C through plus 50°C and relative humidity up to 95% at plus 35°C.

7 DISPOSAL

- 7.1 The module should be disposed of considering that there are no toxic components in it.
- 7.2 The content of precious materials: doesn't require accountability for storage, retirement, and disposal (Clause 1.2 of GOST 2.608-78).
- 7.3 The content of non-ferrous metals: does not require accountability for retirement and further disposal.

8 MANUFACTURER WARRANTY

8.1 The manufacturer guaranties the product meets with technical requirements stated in the manuals if the user follows the instructions for transportation, storage, installation, and usage.

8.2 The warranty period is 18 months since putting the product into operation but no more than 24 months from the manufacturer's date of production.

9 CERTIFICATION INFORMATION

For certification information, please refer to BZS User's Manual (the full version), please see para 2.3 of this manual.

10 ACCEPTANCE AND PACKING CERTIFICATE

BZS AC Line Protection Module, Factory No. _____, is manufactured, accepted in line with mandatory requirements of national standards and applicable technical documentation, approved as ready for use, and packed by the NVP Bolid Company.

Responsible for Acceptance and Packing

QCD _____
Full Name

Date, Month, Year

