

THRESHOLD PHOTOELECTRIC SMOKE DETECTOR

IP 212-31 DIP-31

HCO 9001

OPERATIONS MANUAL



1 DESCRIPTION AND OPERATION

1.1 Product Purpose

1.1.1 IP 212-31 DIP-31 Threshold Photoelectric Smoke Detector (hereinafter referred to as the detector) is to be used in fire detection and fire alarm systems to detect smoke released by fires in closed premises of buildings through monitoring the light reflected by smoke particles and generating fire alarms automatically.

1.1.2 The detector is powered via an alarm loop of a control and indicating unit S2000-4, Signal-20P, S2000-ASPT, Signal-10, control and indicating equipment Signal-20M or similar, which provide loop voltage up to 30 V and limit the current in a loop at a level not exceeding 25 mA. A fire alarm is triggered by increasing of the current in the alarm loop of the control and indicating equipment as a result of reducing the equivalent resistance of the detector.

1.1.3 The detector is intended for round-the-clock operation.

1.1.4 The detector is classified as a recoverable and periodically maintained item.

1.1.5 The design of the detector doesn't provide its operating in aggressive and dusty environments or in ex-hazardous premises.

1.2 Specifications

Table 1.2.1

Parameter	Value
1.2.1 Power supply voltage (in the alarm loop)	10 through 30 V dc
1.2.2 Consumed current: - In the quiescent mode - In the fire alarm mode	140 uA max 10 mA max
1.2.3 Potential number of the detectors that can be brought into an alarm loop of the control and indicating equipment mentioned in Clause 1.1.2	At least 35 units
1.2.4 Maximum active resistance of alarm loop wires	100 Ohm max
1.2.5 Minimum insulation resistance between alarm loop wires	50K Ohm min
1.2.6 Start-up time	40 s max
1.2.7 Internal equivalent resistance of the detector in the fire alarm mode at the current value of: - 8 mA - 2 mA	2.4K Ohm max; 4.2K Ohm max
1.2.8 Immunity to background illumination due to artificial and natural lighting	12,000 lux min
1.2.9 Sensitivity	0.1 dB/m to 0.2 dB/m
1.2.10 Enclosure protection degree as per GOST 14254-2015	IP40
1.2.11 Resistance to mechanical exposure as per OST 25 1099-83	Arrangement Category III
1.2.12 Vibration exposure: - Frequency range - Max acceleration	1-35 Hz (for Category III) 0.5 g (for Category III)

Parameter	Value
1.2.13 Operating temperature range	Minus 10 to + 50°C
1.2.14 Weight	0.1 kg max
1.2.15 Overall dimensions	47 × Ø100 mm
1.2.16 Non-stop operation	24/7
1.2.17 MTBF in the quiescent mode	80,000 hours min
1.2.18 Survival probability	0.98758
1.2.19 Expected lifetime	10 years

1.2.20 As to immunity to electromagnetic interference, the detector meets the requirements of Test Severity Level III as per the relevant standards listed in Annex 'B' of GOST R 53325-2012.

1.2.21 The detector passes the industrial interference standards prescribed for Class 'B' equipment as per GOST R 30805.22.

1.3 Standard Delivery

The detectors are delivered in group packages, being packed in ten pieces.

Find the following unpacking a group package (see Table 1.3.1).

Table 1.3.1

Item	Quantity, pcs.
IP 212-31 DIP-31 Smoke Detector (body)	10
IP 212-31 DIP-31 Detector Base	10
Dust Cover	10
Operations Manual	1
MK-3 Recessed Mounting Kit *	—
Protection Wire Cage *	—

* – Supplied separately

2 USAGE

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

2.2 Do shut off power from the detector before mounting, installing, and maintaining this one.

2.3 Operating restrictions, design, mounting, connecting, settings, testing and operation procedures for the detector are defined in its User's Manual (the full version), which is available online at bolid.ru in the section PRODUCTS on the page of DIP-31. Also you can get the full information using the mobile app "Mobile Product Catalogue" <https://bolid.ru/support/mobile-catalogue/>.



2.4 If a technical failure of the detector has been found, the equipment shall be taken out of operation and sent for repair in accordance with Clause 4.

3 MAINTENANCE

3.1 The detector should be maintained by personnel qualified for the Electrical Safety of Level II or higher.

3.2 Maintenance works for the detector are described in its User's Manual (the full version), see Clause 2.3.

4 REPAIR

4.1 Repair of a faulty detector is to be conducted by the manufacturer or in authorized repair centers. The detector 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/>.

Attention!



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 A detector's failure 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

Tel./fax: +7 (495) 775-71-55 (PBX). 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 In a transport container the detectors can be stored at ambient temperatures -50°C through +50°C and relative humidity up to 95% at +35°C.

5.2 In the consumer package the detectors can be stored only in heated premises at ambient temperatures +5°C through +40°C and relative humidity up to 80% at +20°C.

6 TRANSPORTING

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

7 DISPOSAL

7.1 The detector 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 detector 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 details, please see DIP-31 User's Manual (the full version), see Clause 2.3.

10 ACCEPTANCE AND PACKAGING CERTIFICATE

IP 212-31 DIP-31 threshold photoelectric smoke detectors are manufactured and accepted in line with mandatory requirements of national standards and actual technical documentation, approved as ready for operation, and packaged.

The factory number, quarter and year of production of the detector are indicated on its housing. The BOLID trademark is placed on the detector body and on the package.

