

FIRE ALARM AND EXTINGUISHING CONTROL UNIT S2000-ASPT

HCO 9001



OPERATIONS MANUAL

1 DESCRIPTION AND OPERATION

1.1 Purpose

1.1.1 S2000-ASPT Fire Alarm and Extinguishing Control Unit (hereinafter referred to as the S2000-ASPT or the unit) is designed to operate as part of a fixed clean agent, dry chemical powder, aerosol, or water mist fire suppression system.

The S2000-ASPT operates only under a network controller (either S2000M Monitoring and Control Panel or Sirius Fire Alarm Control Panel) in cooperation with an S2000-PT control and indicator module.

1.1.2 The unit is designed to operate with non-addressable wired threshold detectors.

1.1.3 The unit features a function of processing signals from linear fixed temperature (rate-compensated) heat detectors and provides operation with sensing elements which can detect temperature threshold exceeding (linear heat sensing cables).

1.1.4 The main functions of the unit are:

- Control of extinguishing modules and automatic fire-fighting equipment in gas, dry chemical powder, and aerosol fire suppression systems;
- Control of extinguishing modules and automatic fire-fighting equipment in water mist fire suppression systems;
- Control of light and sound alarms which are not appliances of Type 1 and Type 2 in Russian standard classification;
- Generating control signals for engineering equipment, process signaling equipment and other devices which participate in fire safety providing;
- Receiving signals from both automatic detectors and manual call points, powered and not powered via alarm loop, four-wire fire detectors, with normally closed or normally open internal contacts;
- Receiving signals from manual release stations (remote control units) with normally closed or normally open internal contacts;
- Monitoring for status of auxiliary sensors (door sensors, pressure switches, Mass / Pressure fault outputs etc.).

1.1.5 The unit provides automatic fault monitoring for communication lines to detectors, auxiliary sensors, and executive appliances (extinguishing modules and light / sound alarms) in fire protection systems.

1.1.6 Operation controls of the unit are protected against unauthorized access through an electric contact lock.

1.1.7 As to possibility to expand its functionality and/or quantitative characteristics, the unit is classed as an expandable item. The unit can be expanded (via increasing its monitored inputs and controlled outputs) by means of using slave S2000-KPB Executive Units.

1.1.8 The unit provides a possibility to use computer hardware for operating and programming.

1.1.9 The unit is classed as a restorable, inspectable, reusable, periodically maintained, and multipurpose item.

1.1.10 The unit is intended for round-the-clock operation.

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

1.1.12 The design of the unit doesn't provide its operation in aggressive and / or dusty environments as well as in explosion hazardous and flammable premises.

1.2 Specifications

Table 1.2.1

Parameter	Value
1.2.1 Primary power supply voltage (AC, (50±1) Hz), V	130 ... 250
1.2.2 Backup power supply* (built-in batteries) voltage, V	22 ... 28
1.2.3 Power consumed from the primary power supply, V*A	30
1.2.4 Capacity of built-in batteries (2 × 12V), Ah	4.5
1.2.5 Start-up time, s	5
1.2.6 Inputs: - Initiating device circuits - Remote control circuit - Auxiliary sensor circuits	3 1 3
1.2.7 Voltage on the terminals of a no-load input, V	26.5 ... 27.5
1.2.8 Alarm loop short circuit current limit, mA	26.5
1.2.9 Input circuit termination resistor, kOhm	4.7±5 %
1.2.10 Max total current consumed by all the fire detectors in an alarm loop the quiescent mode, mA - For Type 1 inputs (Fire Smoke) - For Type 2 inputs (Fire Combined)	3.0 1.2
1.2.11 Resistance of an alarm loop for various conditions	See Table 1.2.2
1.2.12 Maximum permissible resistance of linear heat detector sensor (heat sensing cable), kOhm	1.5
1.2.13 Parameters of an initiating device circuit: - Max wire resistance (without regard to termination resistor), Ohm - Wire insulation resistance, kOhm, not less than	100 50
1.2.14 Time to reset alarm loop power, s	3.0

Parameter	Value
1.2.15 Outputs: - w/o fault monitoring, dry contact (100 V dc, 0.1 A; Fire, Fault); - w/o fault monitoring, dry contact – switch over (128 V ac, 0.5 A; 28 V dc, NO-NC-C) - with fault monitoring (24±2 V, 1 A, up to 2 A within 2 s; LED emergency sign) - with fault monitoring (24±2 V, 1 A, up to 2 A within 2 s; Siren) - with fault monitoring (24±2 V, 1 A, up to 2 A within 2 s; Release circuit)	2 1 3 1 1
1.2.16 Output circuit fault monitoring current, mA, max	1.5
1.2.17 S2000-KPB units to slave, max	16
1.2.18 Enclosure protection degree as per GOST 14254-2015	IP30
1.2.19 Operating temperatures, °C	Minus 10 ... +50
1.2.20 Relative humidity, % (at +40°C)	Below or equal to 93
1.2.21 Overall dimensions, mm	305×255×95
1.2.22 Weight (without batteries), kg, max	6
1.2.23 MTBF in the quiescent mode, hours, at least	40,000
1.2.24 Survival probability after 1,000 hours	0.98758
1.2.25 Average lifetime, years (Provided that batteries within the unit shall be replaced at least once every 5 years)	10
1.2.26 Time to recover the unit, minutes, max (without regard to a time to deliver spare parts)	30

*** WARNING! Operating the unit without connected batteries is prohibited!**

Batteries AB 1205S or AB 1205M of Bolid series are advised to be used.

1.2.27 As to immunity to man-made radio disturbance, the unit meets the requirements for Test Severity Level III of the relevant standards listed in Appendix “B” to GOST R 53325-2012.

1.2.28 The unit passes the industrial interference standards prescribed for Class ‘B’ equipment as per GOST R 30805.22.

1.2.29 As to resistance to mechanical exposure the unit is related to the LX group in accordance with GOST R 52931-2008: vibration with the frequencies of 1 through 35 Hz range at maximum acceleration of 4.9 m/s² (0.5 g).

1.2.30 An electric strength of insulation of current-carrying parts of the unit is at least 1500 V (50 Hz) between the circuits coupled with the 220 V utility mains and any circuits not coupled with it.

1.2.31 An electrical resistance of insulation between current carrying circuits is at least 20 megaohms (in normal conditions as per GOST R 52931-2008).

Table 1.2.2. Resistance of Initiating Device Circuits in Various Conditions

Input Type	Alarm Loop Conditions				
Type 1: Fire Smoke	Short circuit	At least two smoke detectors responded with alarm	A single smoke detector responded	Norm	Open Circuit
	R < 100 Ω	0.15...1.56* kΩ * – Depends on the value of the current consumed by detectors in the quiescent mode	1.1*...2.0 kΩ	2.4...5.4 kΩ	R > 6.6 kΩ
Type 2: Fire Combined	Short circuit	A smoke detector responded	Norm	A heat detector responded	Open Circuit
	R < 100 Ω	0.15...1.8 kΩ	2.2...5.4 kΩ	6.6...14.4 kΩ	R > 16 kΩ
Type 3: Fire Heat	Short circuit	Norm	A heat detector responded	Two or more heat detectors responded	Open Circuit
	R < 1.8 kΩ	3.0...5.4 kΩ	6.6...11 kΩ	12.5...22.5 kΩ	R > 25 kΩ
Connecting manual release stations (RCU), auxiliary sensors	Short circuit	Norm	Activation		Open Circuit
	R < 100 Ω	2.2...5.4 kΩ	200 Ω ... 1,8 kΩ 6.6 kΩ ... 25 kΩ		R > 30 kΩ

1.3 Standard Delivery

The scope of delivery for the unit is shown in Table 1.3.1.

Table 1.3.1

Item	Q-ty	Note
S2000-ASPT Fire Alarm and Extinguishing Control Unit	1	
Accessory Kit:		
Resistor 0.5 W-4.7 kOhm $\pm 5\%$	7	MF 1/2W-4K7-5%
Load connection module	5	
Fuse 0.5 amp ВПТ6-5 (0.5A) ОЮ0.481.021 ТУ	1	
Mechanical lock key	2	
Electric-contact lock key	2	
Battery connector АЦДР.685611.157	1	
Woodscrew 1-4x30.20.019 ГОСТ 1144-80	3	
Wall plug 8x35 (for woodscrew)	3	
Grommet ИИ7.860.603-09	2	
S2000-ASPT Fire Alarm and Extinguishing Control Unit Operations Manual	1	

2 INTENDED USE

2.1 The unit design meets the requirements of electric and fire 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 unit before mounting, installing, and maintaining this one.

2.3 Operating restrictions, design, mounting, connecting, settings, testing and operation procedures for the unit 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 S2000-ASPT Fire Alarm and Extinguishing Control Unit.

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



3 MAINTENANCE

3.1 The unit shall be maintained by persons qualified for electrical safety of Level II or higher.

3.2 Maintenance works for the unit are described in its User's Manual (the full version).

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

Storage of the unit in the consumer package shall comply with storage conditions 1 as per GOST 15150-69.

The rooms to store the unit shall not contain vapors of acids, alkalis, corrosive gases and other harmful impurities that cause corrosion.

6 TRANSPORTING

Packaged S2000-ASPT units shall be transported by any kind of transport in covered vehicles.

The conditions for transportation of S2000-ASPT units shall comply with storage conditions according to Clause 5 of GOST 15150-69.

A packaged S2000-ASPT withstands under transportation:

- Transport shaking with acceleration up to 30 m/s^2 with a beat frequency of 80 to 120 per minute or 15,000 beats with the same acceleration;
- Vibration in the frequency range 10 through 55 Hz with an amplitude of displacement up to 0.35 mm;
- Ambient temperatures from 223 K (minus 50°C) to 323 K (+50 °C);

– Relative humidity not exceeding 95% at 40°C.

After transporting at low temperatures or high humidity, an S2000-ASPT unit must be kept unpacked for at least 24 hours in a room with normal climatic conditions before putting it into operation.

7 DISPOSAL

The equipment should be disposed of considering that there are no toxic components in it.

Batteries are classed as hazardous waste of Class II, so batteries after the end of their service life shall be disposed of by a specialized company that is licensed for this activity.

The content of precious materials: doesn't require accountability for storage, retirement, and disposal (Clause 1.2 of GOST 2.608-78).

The content of non-ferrous metals: does not require accountability for retirement and further disposal.

8 MANUFACTURER WARRANTY

The manufacturer guarantees the unit meets with technical requirements if the user follows the instructions for transportation, storage, installation, and usage.

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.

When the product is submitted for repair, a reclamation report describing the potential problem shall be applied to it.

9 CERTIFICATION INFORMATION

For unit certification details, please refer to its User's Manual (the full version).

10 ACCEPTANCE AND PACKING CERTIFICATE

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

The logo for BOLID, featuring the word "BOLID" in a bold, white, sans-serif font inside a black rectangular box. A registered trademark symbol (®) is located to the upper right of the box.