ИСО 9001

ANALOG ADDRESSABLE
RATE-OF-RISE AND FIXED TEMPERATURE DETECTOR
S2000-IP-03

TP₍BY₎ EAC C(TP)

INSTRUCTION MANUAL

1 TECHNICAL DATA

1.1 General

S2000-IP-03 Analog Addressable Rate-of-Rise and Fixed Temperature Heat Detector (hereinafter referred to as the detector) of Response Class A1R is to be used in fire alarm systems to protect premises against fires by monitoring the rate of ambient temperature rise, exceeding the response value, and sending Fire Alarm, Fire Prealarm, or Norm messages. The detector operates under a polling loop controller S2000-KDL or S2000-KDL-2I as a part of an Orion Integrated security system. Moreover, the S2000-IP-03 responds with the measured ambient temperature values in degrees Centigrade upon the relevant requests of the network controller. The detector supports DPLS_v2.xx protocol and provides measuring of the addressable loop voltage at the point where it is connected. Electromagnetic compatibility of the detector meets the requirements of the third immunity level in line with Russian standards. The version of S2000-IP-03 firmware is v.1.10. The detector can be tested by means of a laser-based tester (for example, manufactured by System Sensor).

1.2 Specifications

1) Fixed Temperature (factory setting) - +54°C
2) Consumed Current - max 0.5 mA
3) Input Loop Voltage - 8 V to 11 V
4) Pre-operation Time - max 60 s
5) Heat Detection Accuracy - ± 1.5°C
6) Operation Temperature - Minus 30°C to +55°C
7) Relative Humidity - Up to 93% at +40°C
8) Ingress Protection Rating - IP41
9) Weight - max 0.2 kg
10) Transportation and Storage Temperature - Minus 50°C to +50°C
11) Overall Dimensions:
– Diameter - max 100 mm
– Height - max 47 mm
12) The detector does not contain precious materials (Clause 1.2 of Russian GOST 2.608-78).

1.3 Standard Delivery

Single-piece delivery:
– S2000-IP-03 Detector - 1 pc.;
– Instruction Manual - 1 copy;
– Base Plate - 1 pc.;
– Address Label - 1 pc.;
– Individual Packing - 1 pc.

Group delivery:
– S2000-IP-03 Detector - 10 pcs.;
– Instruction Manual - 1 copy;
– Base Plate - 10 pcs.;
– Address Label - 10 pcs.;
– Group Packing - 1 pc.

2 OPERATION INSTRUCTIONS

2.1 Connection Diagram

Figure 1 shows a typical diagram for connecting the detector into the polling loop of a polling loop controller. If the S2000-IP-03 is used as a fire detector, the input type for the detector in the configuration of the polling loop controller should be set to:

- "3 – Heat Fire" for which the rate of rise of temperature and exceeding of the +54°C maximum value are monitored, or
- to the value "9 – Heat Analog Addressable" which provides defining temperatures of thresholds for generating messages "Fire Prealarm" and "Fire Alarm" (+54… +65°C) without regard to temperature rise rate.

If the detector is to be used for measuring ambient temperatures, the input type for the detector is to be set to the value "10 - Thermostatic".

For the S2000-KDL of versions v1.38 and below the input type for the detector should be "3 – Heat Fire".

To get information about input types and setting them in the controller configurations, please refer to the operating documentation for the polling loop controller and Orion Pro Workstation.

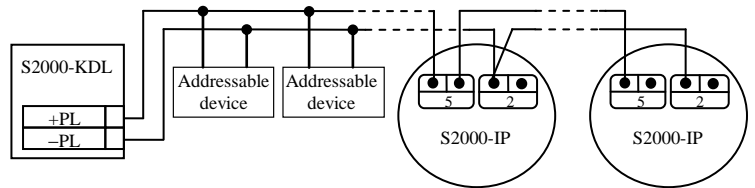The first terminal of the detector base can be used to connect a shield of the connecting wire.

Figure 1. Connection Diagram

2.2 Mounting

Detectors should be located in line with construction regulations of Russian СП 5.13130.2009.

The detector can be attached in accordance with one of the two variants below (Figure 2). To attach the detector to a solid surface (Variant A) the detector base plate provided is used. Optionally, MK-2 Recessed Mounting Kit (Variant B) can be purchased additionally to install the detector into a suspended ceiling.
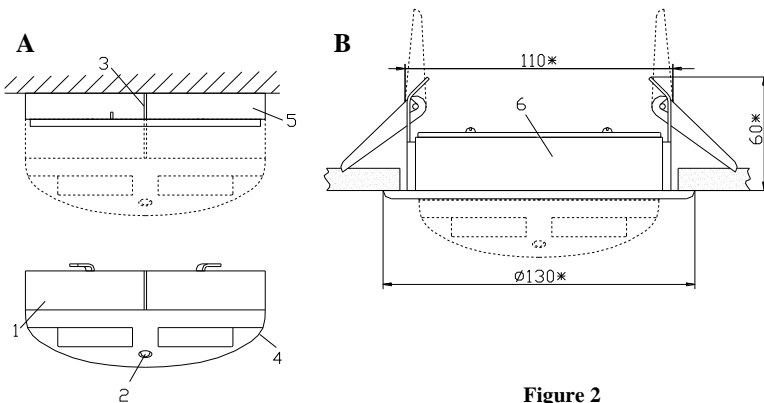

1: S2000-IP-03 Detector;
2: Light Emitter;
3: Alignment Guide;
4: Mark and Bar, **OPEN HERE**;
5: Base Plate;
6: MK-2 Recessed Mounting Kit for suspended ceilings (ordered separately).
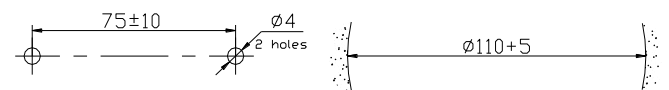
Figure 2

Figure 3

Figure 3 shows the drilling pattern to install the detector base plate for Variant A as well as the diameter of a mounting hole in a suspended ceiling for Variant B.

ATTENTION!

To install the detector into the base plate, align the guide on the detector with the short guide of the base plate. Then turn the detector clockwise until the detector guide is aligned with the guide 3 as shown in Figure 2(A).

2.3 Setting Polling Loop Address

The detector provides storing its polling loop address in the non-volatile memory. The factory address of the detector is 127. In order to assign a polling loop address to the detector, send one of the following commands from the network controller to the polling loop controller:

Set the Device Address

If the detector PL address is unknown or two devices have the same address then use the *Set Device Address* command specifying a required address as the parameter. Not later than 5 min since sending the command push the light emitter or light it with a laser beam of a laser test tool. The network controller shall display events about loss of communication with the device with an old address and connecting with a device with the new address. For the case of two or more devices which have the same address, there will be no messages about missing the device with an old address.

Change the Device Address

If you need to change the device address which is known, send the *Change Device Address* command from the network controller specifying the current device address and the new device address as the parameters. The network controller will display the messages about disconnecting the device with the old address and then detecting the device with newly programmed address.

Finally, write the assigned address onto the address label provided and stick this label to the detector base.

2.4 Testing and Maintenance

2.4.1 Prior to testing disconnect all outputs of control devices and executive modules that can run automated fire-fighting systems and notify the proper authorities that the detector is undergoing maintenance and will be temporarily out of service.

2.4.2 Power on the network controller and the polling loop controller and observe the steady lighting of the detector light emitter. After establishing communications with the polling loop controller the light emitter shall start pulsing once per 4 s indicating normal state of the detector.

2.4.3 Blow the sensor of the detector with a hot air of 70 C to 100°C temperature (by a hair dryer). The network controller shall display a Fire Alarm for the relevant address. The light emitter of the detector shall pulse doubly (0.5 s between two flashes) every 4 s.

2.4.4 A more simplified functional test can be performed by pressing the light emitter down or by lighting it with the laser beam of a laser test tool. After stimulation the light emitter shall illuminate for 3 s and then start pulsing doubly (0.5 s between two flashes) every 4 s. The network controller shall display:
– Fire Alarm for the relevant address for a S2000-KDL of version 1.35 or below; or
– Test of Fire Alarm depending on the test mode for an S2000-KDL of versions 1.36 and higher.

2.4.5 When the detector's thermal sensor gets cold or the light emitter is no longer pushed or lighted, the detector shall enter the normal mode. If the network controller has registered no messages said above from the address of the S2000-IP-03 or the detector LED operation does not match to that described above, the detector appears to be inoperable and must be replaced.

2.4.6 When testing is finished make sure the detector is ready for normal operation. Restore all links between control and indicating equipment and actuators with automated fire-fighting equipment and notify the proper authorities that the system is back in operation.

All the equipment used in testing must be known functioning!

If a detector has failed please replace it for an operable one and contact the technical support. A failed detector is to be repaired by a manufacturer or in a certified repair center.

2.5 Indication

Pulses once per 4 s	OK
Four pulses every 4 s	Setting an address
Double pulses every 4 s	Fire Alarm or Test in case of local indication
Solid light	Waiting for establishing communications with the polling loop controller. The light emitter is pushed or lighted with a laser beam. Fire Alarm or Test if the polling loop controller controls detector's indication.
Others	Trouble

3 MANUFACTURER WARRANTY

3.1 The average lifetime of the detector is at least 10 years.

3.2 Warranty period is 18 months since putting the detector into operation but no more than 24 months from the manufacturer's date of issue.

3.3 When submitting the detector for repair, it shall be accompanied with a description of the possible fault.

The claims shall be submitted to the following address:

Bolid Company, # 4, Pionerskaya Str., Korolyov, Moscow Region, 141070, Russia.

Phone/fax: +7 **(495) 775-71-55** (multiline), +7 **(495) 777-40-20**, +7 **(495) 516-93-72**.   **E-mail: info@bolid.ru**,   **http://bolid.ru**.

4 CONFORMITY CERTIFICATES

4.1 S2000-IP-03 Addressable Rate-of-Rise and Fixed Temperature Detector is approved by Conformity Certificate № С-RU.ЧС13.В.00149.

4.2 Conformity Certificate TC № RU Д-RU.ME61.В.00315 certifies that S2000-IP-03 Addressable Rate-of-Rise and Fixed Temperature Detector meets the requirements of Technical Regulations of Custom Union TR CU 020/2011.

4.3 S2000-IP-03 Addressable Rate-of-Rise and Fixed Temperature Detector is a part of Orion Addressable Fire Alarm System which is approved by Conformity Certificate № BY/112 02.01.033 00573.

4.4 Production of S2000-IP-03 Addressable Rate-of-Rise and Fixed Temperature Detector is certified in line with Russian Standard GOST ISO 9001 – 2011 by Conformity Certificate № РОСС RU.ИК32.К00153.

5 ACCCEPTANCE AND PACKAGE CERTIFICATE

S2000-IP-03 analog addressable rate-of-rise and fixed temperature detectors (serial numbers are specified on the enclosure of every detector) are approved as proper for operation and packaged by the Bolid Company.

Responsible for acceptance and packaging

QCD _____   _____
              Full Name   Date, Month, Year

BOLID®

Made in the Bolid Company
RUSSIA