ИСО 9001

INDICATOR MODULE
S2000-BI, S2000-BI Rev.02

INSTRUCTION MANUAL

1 TECHNICAL INFORMATION

1.1 General

1.1.1 S2000-BI / S2000-BI Rev.02 Indicator Module (hereinafter referred to as the module) is designed to operate as a part of an Orion integrated security system under the network controller (S2000M control panel or Orion Pro Software Suite) together with control and indicating equipment Signal-10, Signal-20, Signal-20M, Signal-20P Rev.01, Signal-20P SMD, S2000-4, or S2000-KDL polling loop controller. To be part of a modular control and indicating device the module shall be used only with an S2000M control panel of versions 3.00+.

1.1.2 The module provides light and sound indication of conditions of partitions (zones). The module is to be installed inside protected premises and is intended for round-the-clock operation.

1.1.3 For monitoring a fire alarm system use the *Fire Alarm* indication type, and for monitoring fire-fighting equipment use the *Operated Appliance* indication type.

1.1.4 The module is not intended to be operated in aggressive and dusty environments and in ex-hazardous premises.

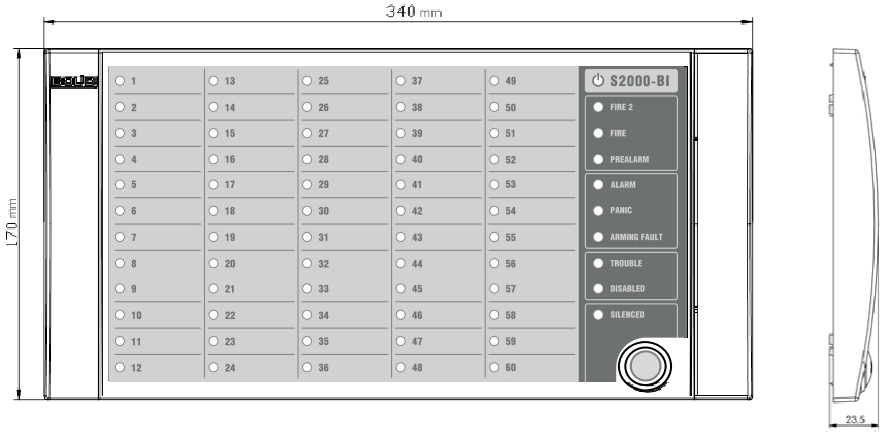
1.2 Specifications

- **Light Indication**
  - 60 two-color LEDs to indicate conditions of up to 60 partitions of Orion ISS
  - 8 single-color LEDs to display alarms and troubles in Orion ISS
  - One LED to indicate the module conditions
  - One LED to show that a sound is silenced
  - One LED to show whether or not operating by iButton is permitted
- **Built-in Buzzer** - Yes
- **Tamper Switch** - Yes
- **RS-485 Port (to operate as part of an Orion ISS)** - Yes
- **Power Voltage** - 10.2 – 28.4 VDC. Bolid manufactured battery backed power supplies of RIP-12 and RIP-24 series are advised to be used
- **Consumed Power** - 3 W max
- **Consumed Current**
  - Alarm mode
    - 200 mA max at 12 VDC
    - 100 mA max at 24 VDC
  - Quiescent mode (all LEDs are off)
    - 50 mA max at 12 VDC
    - 50 mA max at 24 VDC
- **Pre-operation Time** - 2 s max
- **Weight** - 0.6 kg max
- **Programming** - By means of UProg.exe
- **External Reader** - One iButton reader can be connected to
- Content of precious materials: not subject to inventory accounting in case of storage, disposal and recycling.

1.3 Standard Delivery

1) S2000-BI (S2000-BI Rev.02) Indicator Module – 1 pc.
2) Instruction Manual – 1 copy
3) Woodscrew 1-3×25.016 GOST 1144-80 with Wall Plug 6x30 – 3 pcs.
4) Package – 1 pc.

S2000-BI



S2000-BI Rev.02

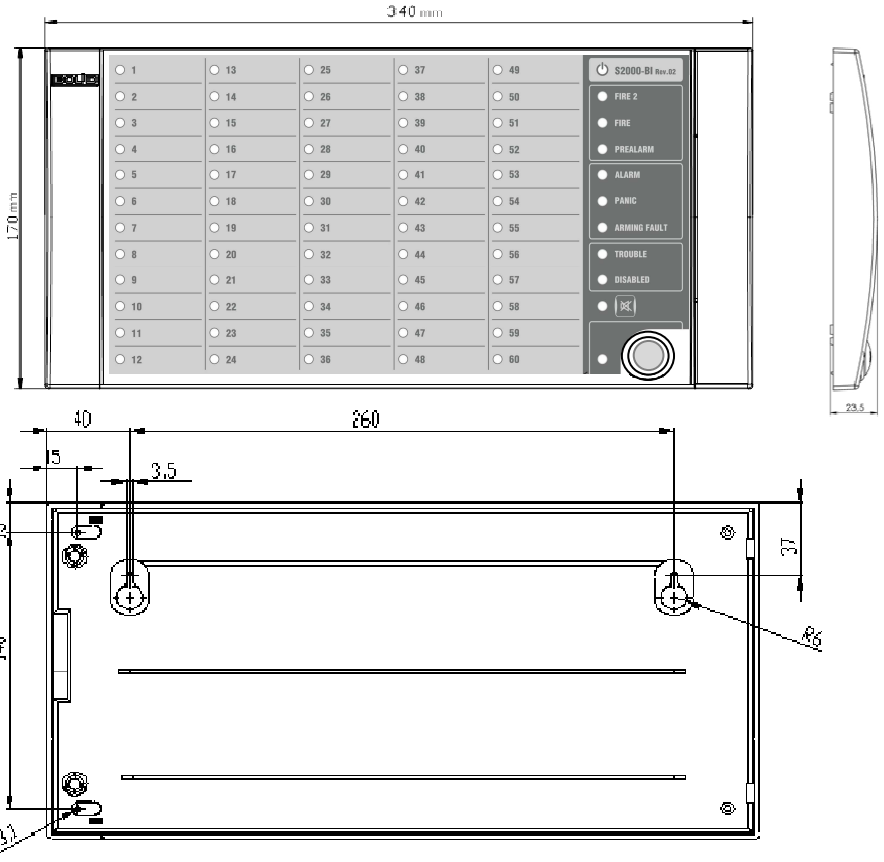


Figure 1. View and Overall and Mounting Dimensions of the Module

2 MOUNTING AND WIRING THE MODULE

2.1 Mounting the Module

2.1.1 Mount the module in line with the Russian regulatory document РД.78.145-92 "Rules for Manufacturing and Commissioning. Fire and Intrusion Alarm Installations". Mount the module at a height above the floor which is suitable to operate and maintain the device.

2.1.2 The module is to be mounted on walls or other constructions of premises at places protected against atmospheric fallouts and mechanical damage.

2.1.3 Prior to attaching the module, please ensure that the wall the module is to be mounted to is solid, flat, and dry.

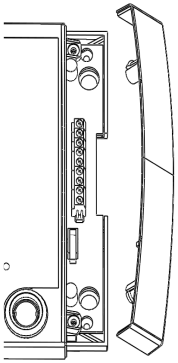
2.1.4 Mark points on the wall for four mounting holes in accordance with Figure 1.

2.1.5 Drill the mounting holes. Then insert wall plugs into the holes and screw two woodscrews provided in the two upper holes so that the distance between a woodscrew head and the wall is about 7 mm.

2.1.6 Remove the right-side cover panel.

2.1.7 Hang the module on two woodscrews. Screw the remaining woodscrew into the lower side mounting hole and fix the module on the wall.

Figure 2. Opening Cover Panel



2.2 Wiring the Module

2.2.1 Connect wires to the terminals as shown in Figure 3.

2.2.2 Please observe polarity while connecting the module to the power supply.

2.2.3 The cross section of wires should not exceed 1.5 sq. mm.

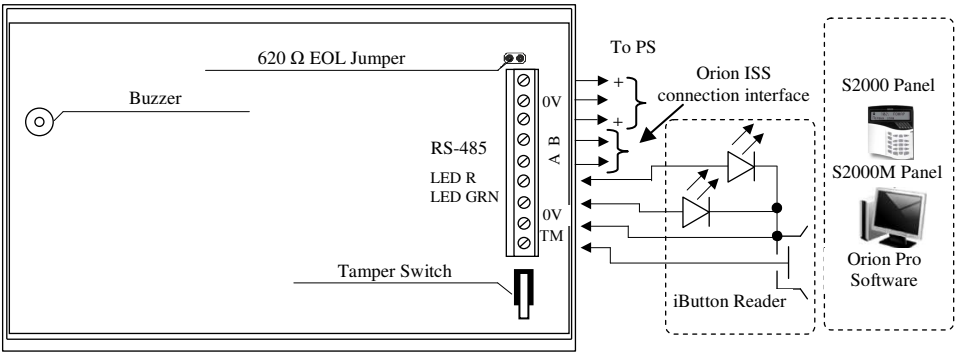
2.2.4 If the module, the control panel, or other Orion system devices connected to the RS-485 interface bus are supplied with power by different power supplies then couple their relevant "0V" circuits.

2.2.5 Unless the module is the last or the first device in the RS-485 interface bus, remove the EOL jumper from the module's PCB (see Figure 3).

2.2.6 If necessary connect the external reader to the module as shown in Figure 3.

The module does not provide monitoring communication lines with the reader for good conditions, so fire-fighting installations should not be operated by means of the reader connected to the module.

2.2.7 Close the cover panel of the module (see Figure 2).



PS: Primary and (optionally) backup 10.2…28.4 V dc power supplies

Figure 3. External Connection Diagram

3 TESTING THE MODULE

3.1 The module should be tested by operating engineering personnel with second or higher safety qualification level.

3.2 Inspect the module at normal climatic conditions:

- Relative Humidity 45% through 80%;
- Ambient temperature 15°C through 35°C;
- Atmospheric pressure 630 mm Hg through 800 mm Hg (84 through 106.7 kPa).

3.3 While inspecting the module, always shut off the module's power before connecting and disconnecting its external circuits.

3.4 Testing procedures include inspecting operability and testing indication in the self-diagnostic mode.

Figure 4

3.5 Inspecting Operability

3.5.1 To inspect the module, use an S2000M panel.

3.5.2 Connect the module's RS-485 circuits and power circuits to the relevant terminals of the panel.

3.5.3 Connect a milliammeter in series with the power circuit of the module.

3.5.4 Apply power to the module and the panel.

3.5.5 The power LED of the module ⏻ (the upper LED near the device name) shall show green solid light within 2 s.

3.5.6 Measure the current consumed by the module. Its value shall not exceed 200 mA.

3.5.7 Within a minute since powering on the panel shall display a message about detecting a device with the network address currently assigned to the S2000-BI (factory value of the module address is 127). Figure 4 shows the display of the S2000M panel with the relevant message.

3.5.8 If several messages accumulated by the module have been received by the panel, you can browse them by the arrow buttons «◄» and «►» on the S2000M.

3.6 Testing Indication in Self-Diagnostic Mode (Indication Test)

3.6.1 Initiate the self-diagnostic mode by starting the indication test from the network controller.

3.6.2 The module's indication operates correctly if its LEDs turn on in the following order:

a) The columns of LEDs "1" – "60" one-by-one turn on with amber, the indicator ⏻ turns on with amber, the reader LED turns on with amber, then the indicators ⏻, FIRE, PREALARM, ALARM, PANIC, ARMING FAULT turn on with red and DISABLED, TROUBLE, ⊠, the reader LED turn on simultaneously;

b) The rows of LEDs "1" – "60" one-by-one turn on with amber: FIRE 2, FIRE, ALARM, PANIC, the reader LEDs turn on with red, then ⏻, FIRE 2 (with changing color), FIRE, PREALARM, ALARM, PANIC, ARMING FAULT, TROUBLE, DISABLED, ⊠, and the reader LED (with changing color) turn on one-by-one;

c) LEDs "1" – "60" turn on with amber and at the same time the indicators ⏻, FIRE, PREALARM, ALARM, PANIC, ARMING FAULT, TROUBLE, DISABLED, and the reader LED turn on;

d) LEDs "1" – "60" turn on with red and at the same time the indicators ⏻, FIRE, PREALARM, ALARM, PANIC, and the reader LED turn on with green;

e) LEDs "1" – "60" turn on with green;

f) The test is completed.

3.6.3 The self-diagnostic mode is switched off by a single press on the button ⊠ or automatically after indication test having finished.

4 PROGRAMMING THE MODULE

4.1 To be adjusted to a specific use case, the module supports changing configuration parameters stored in its non-volatile memory by means of the UProg software utility. A personal computer and one of the interface converters PI-GR, S2000-PI, S2000-USB, USB-RS485, or S2000M are to be in use. The last version of UProg Configuration Tool along with additional information relating to operating the module can be found online at http://bolid.ru. Table 1 contains the configuration parameters of the module.

Table 1. Configuration Parameters of the Module

Parameter	Description	Range	Factory Value
1. Partition	The number of the Orion system partition associated with the LED	0 – 9999	1 – 60
2. Indication Type	Defines performance of the indicator depending on the type of alarm loops combined to the partition	Security Alarm Fire Alarm Auxiliary Security 2 Alarm Auxiliary 2 Engineering Auxiliary 3 Operated Appliance Security 3 Alarm Trouble Leakage Monitoring Door Monitoring Access Control	Security Alarm
3. Sound Alarms for Fire 2, Fire, Prealarm	Sound alarms can be disabled if the S2000M network controller is located near the module.	Disabled or On for indefinite time	On
4. Sound Alarm Duration for Trouble Condition	The time on elapsing which a sound alarm will be silenced automatically. Sound alarms can be disabled if the S2000M network controller is located near the module and provides sound indication.	(0 – 255) s 255 means indefinite time	255
5. Sound Alarm Duration for Start or Start Delay Condition			255
6. Sound Alarm Duration for Panic Alarm Conditions (Panic Alarm, Duress)	The time on elapsing which a sound alarm will be silenced automatically.		255
7. Sound Alarm Duration for Intrusion Alarm Conditions			255
8. Show Duress Conditions		On/Off	Off
9. Both Power Inputs Monitoring		On/Off	Off
10. Response Pause	The admissible delay for the module to answer requests of the network controller	(3 – 500) ms	3 ms
11. Network Address	The network number of the module in the line of the RS-485 interface bus	1 – 127	127
12. Silencing by iButton	Silencing the module by means of touching with iButton	Yes/No	No
13. Reader LED Function		Access Control, Security	Access Control

5 MODULE OPERATION

5.1 Indication Modes

5.1.1 Table 2 shows the indication modes for the power LED ⏻ (the upper indicator at the right of the device name) depending on the module's conditions.

Table 2. Power LED Indication Modes

Module Conditions	⏻ Performance
1. Norm	Lit steady with green
2. Power Failed	Pulses in green once per second
3. Programming (Upgrading firmware)	Pulses in green four times per second

5.1.2 Tables 3 – 11 show performance of LEDs "1" – "60" depending on the status of partitions and selected indication types. If a partition features several states then a status of more priority is indicated. Tables 3 – 15 show partition states in the descending order of priority. If none of partition conditions complies with states listed in the table then the relevant indicator is turned off.

The indication type "Security Alarm" is meant for indicating conditions of security and safety partitions.

Table 3. Performance of LEDs "1" – "60" for Indication Type **"Security Alarm"**

Partition Status	Indicator "1" – "60" Performance
Panic Alarm (Panic Alarm, Duress), Flooding Alarm, Intrusion Alarm	Pulses with red: 0.5 s On / 0.5 s Off
Trouble (All troubles including alarm loop troubles, troubles of outputs, power failures, communication loss, etc.: Fault, Input Open Failure, Input Short Failure, Configuration Error, Tamper Alarm, Output Open Failure, Output Short Failure, Mains Failed, Overload, Battery Test Error, Power Failed, Charger Failed, Battery Failed, Low Battery, Low Backup Battery, Level Above Limit, Level Below Limit, Noise, Actuator Failure, Actuator Error, Service Required, Temperature Sensor Fault, Input/Output/Unit Communication Fault, Error Authenticating Device, PL Short Circuit Fault, PL Overvoltage, PL Communication Error, PL Communication Unstable, PL1 Communication Lost, PL2 Communication Loss, Communication Link Failure, Activation Failed)	Pulses with amber: 0.25 s On / 1.75 s Off
Arming Failed	Pulses with amber: 0.5 s On / 0.5 s Off
Entrance Alarm	Pulses with red: 0.25 s On / 0.75 s Off
Disarmed	Lit steady in green
Arming in progress…	Pulses in green four times per second
Armed	Lit steady in red
Disabled	Lit steady in amber (with S2000M of version 3.00+)

The indication type "Security 2 Alarm" differs from the "Security Alarm" type only by LED's being turned off for the Disarmed status.

Table 4. Performance of LEDs "1" – "60" for Indication Type **"Security 2 Alarm"**

Partition Status	Indicator "1" – "60" Performance
Panic Alarm, Flooding Alarm, Intrusion Alarm	Pulses with red: 0.5 s On / 0.5 s Off
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off

Partition Status	Indicator "1" – "60" Performance
Arming Failed	Pulses with amber: 0.5 s On / 0.5 s Off
Entrance Alarm	Pulses with red: 0.25 s On / 0,75 s Off
Disarmed	Off
Arming in progress…	Pulses in green four times per second
Armed	Lit steady in red
Disabled	Lit steady in amber (with S2000M of version 3.00+)

The indication type "Security 3 Alarm" also is meant for indicating conditions of security and safety partitions. But as compared to the Security Alarm type, troubles are indicated only when other states are not detected.

Table 5. Performance of LEDs "1" – "60" for Indication Type **"Security 3 Alarm"**

Partition Status	Indicator "1" – "60" Performance
Panic Alarm, Flooding Alarm, Intrusion Alarm	Pulses with red: 0.5 s On / 0.5 s Off
Arming Failed	Pulses with amber: 0.5 s On / 0.5 s Off
Entrance Alarm	Pulses with red: 0.25 s On / 0.75 s Off
Disarmed	Lit steady in green
Arming in progress…	Pulses in green four times per second
Armed	Lit steady in red
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Disabled	Lit steady in amber (with S2000M of version 3.00+)

Note: The indication type "Security 3 Alarm" operates correctly only if the control panel S2000M of version 2.03 or higher is in use.

The indication type "Fire Alarm" is meant to indicate conditions of individual fire partitions (zones). The integrated indicators "Fire", "Trouble", and "Disabled" of the modular fire alarm control and indicating equipment are located of the S2000M control panel.

Table 6. Performance of LEDs "1" – "60" for Indication Type "**Fire Alarm**"

Partition Status	Indicator "1" – "60" Performance
Fire 2 Alarm	Lit steady in red
Fire Alarm	Pulses with red: 0.25 s On / 0.25 s Off
Prealarm	Pulses with red: 0.25 s On / 1.75 s Off
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Arming Failed	Pulses with amber: 0.5 s On / 0.5 s Off
Arming in progress…	Pulses in green four times per second
Armed, Restored, Noise Removed, Mains Restored, Battery Restored, Output Normal, Tamper Restored, PL Normal, Charger Normal, Link Restored, Unit / Input / Output Communication Normal, PL1 Com Restored, PL2 Com Restored, DC ON, Load Normal, Power Restored, Battery 2 Normal	Lit steady in green
Disabled	Lit steady in amber (with S2000M of version 3.00+)

Note: An S2000M control panel of version 3.00+ shall be used.

The indication type “Trouble” is meant for indication of troubles only. It can be used both for security and for fire partitions (zones).

Table 7. Performance of LEDs “1” – “60” for Indication Type “**Trouble**”

Partition Status	Indicator “1” – “60” Performance
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Disarmed	Lit steady in amber
Disabled	Lit steady in amber

The indication type “Operated Appliance” is designed to indicate conditions of dampers, pumps, and other appliances. The integrated indicators “Start”, “Abort (Stop)”, “Trouble”, and “Disabled” of the modular fire alarm control and indicating device are located on the relevant S2000M.

Table 8. Performance of LEDs “1” – “60” for Indication Type “**Operated Appliance**”

Partition Status	Indicator “1” – “60” Performance
Output Activated	Lit steady in red
Start Delay when there are less than 5 s left	Pulses with red four times per second
Start Delay when there are less than 15 s left	Pulses with red twice per second
Start Delay when there are more than 15 s left	Pulses with red once per second
Start Delay Hold	Pulses with amber by the same way as for start delay
Output Activation Failed, Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Disarmed	Lit steady in amber
Operating Position, Pump On	Lit steady in red
Output Abort/Stop	Lit steady in amber
Initial Position, Pump Off	Lit steady in green
Disabled	Lit steady in amber

Note: The Operated Appliance indication mode is supported only by S2000M control panels of versions 2.07+.

The indication types “Auxiliary”, “Auxiliary 2”, and “Auxiliary 3” are expected for signaling about conditions of various engineering equipment, doors, etc. which are monitored by means of auxiliary alarm loops. The types Auxiliary and Auxiliary 2 imply that the relevant partition contains only auxiliary alarm loop, and various troubles of this loop are indicated with the highest priority. These two tactics differ by the way to indicate activation of the auxiliary alarm loop (for Auxiliary the LED illuminates steady with red while for Auxiliary 2 the LED pulses with amber). For the type Auxiliary 3 indication of troubles in a partition is of less priority relative to auxiliary alarm loop activation and restoring. This provides indicating only conditions of the auxiliary alarm loop even if the partition integrates also alarm loops of other types. If only the auxiliary alarm loop is included into a partition then indication types Auxiliary and Auxiliary 3 operate near to identically.

Table 9. Performance of LEDs “1” – “60” for Indication Type “**Auxiliary**”

Partition Status	Indicator “1” – “60” Performance
Trouble, Tamper Alarm	Pulses with amber: 0.25 s On / 1.75 s Off
Disarmed	Lit steady in amber
Auxiliary Input Activated	Lit steady in red
Auxiliary Input Restored	Lit steady in green
Disabled	Lit steady in amber

Table 10. Performance of LEDs “1” – “60” for Indication Type “**Auxiliary 2**”

Partition Status	Indicator “1” – “60” Performance
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Disarmed	Lit steady in amber
Auxiliary Input Activated	Pulses with amber: 0.5 s On / 0.5 s Off

Partition Status	Indicator “1” – “60” Performance
Auxiliary Input Restored	Lit steady in green
Disabled	Lit steady in amber

Table 11. Performance of LEDs “1” – “60” for Indication Type “**Auxiliary 3**”

Partition Status	Indicator “1” – “60” Performance
Auxiliary Input Activated	Lit steady in red
Auxiliary Input Restored	Lit steady in green
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Disarmed	Lit steady in amber
Disabled	Lit steady in amber S2000M control panel of versions 3.00+

The indication type “Engineering” is intended for displaying the level of temperature and humidity.

Table 12. Performance of LEDs “1” – “60” for Indication Type “**Engineering**”

Partition Status	Indicator “1” – “60” Performance
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
High Temperature, High Level	Pulses with red: 0.25 s On / 0.25 s Off
Low Temperature, Low Level	Pulses with red: 0.5 s On / 0.5 s Off
Normal Temperature, Normal Level	Lit steady in green
Disabled	Lit steady in amber

The indication type **“**Leakage Monitoring**”** is used to warn about flooding.

Table 13. Performance of LEDs “1” – “60” for Indication Type “**Leakage Monitoring**”

Partition Status	Indicator “1” – “60” Performance
Flooding Alarm	Pulses with red: 0.5 s On / 0.5 s Off
Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Flood Detector Restored	Lit steady in green
Disarmed	Off
Disabled	Lit steady in amber

Note: A control panel S2000M of version 3.00+ should be used.

Table 14. Performance of LEDs “1” – “60” for Indication Type “**Door Monitoring**”

Partition Status	Indicator “1” – “60” Performance
Duress	Pulses with red: 0.5 s On / 0.5 s Off
Communication Loss	Pulses with amber: 0.25 s On / 1.75 s Off
Door Forced Open	Pulses with red: 0.5 s On / 0.5 s Off
Door Held Open	Pulses with red: 0.25 s On / 1.75 s Off
Door Open	Pulses with green: 0.5 s On / 0.5 s Off
Door Closed	Lit steady in green
Disabled	Lit steady in amber

Note: A control panel S2000M of version 3.00+ should be used.

Table 15. Performance of LEDs "1" – "60" for Indication Type "**Access Control**"

Partition Status	Indicator "1" – "60" Performance
Communication Loss	Pulses with amber: 0.25 s On / 1.75 s Off
Access Locked	Lit steady in red
Free Access	Pulses with green: 0.5 s On / 0.5 s Off
Controlled Access	Lit steady in green
Disabled	Lit steady in amber

Note: A control panel S2000M of version 3.00+ should be used.

A partition proceeds to the Trouble state in cases of open or short circuit failures in alarm loops, disabled or failed addressable detectors, opening of a device housing, mains failures, and power failures.

A partition proceeds to Communication Loss state if communication with the devices is lost, or the polling loop are not in proper conditions (overvoltage, short circuit).

When operating with an S2000M of version 2.07 or below monitoring and indication of conditions of operated appliances and resetting alarms are not supported.

5.1.3 The indicators FIRE, PREALARM, ALARM, PANIC, ARMING FAULT, DISABLED, and TROUBLE indicate alarms and troubles of specific types occurred in the part of Orion ISS currently assigned with the S2000-BI module. These LEDs pulse synchronously with indicators of those partitions which are in the relevant states. Thus, if several partitions are in various conditions then these indicators provide fast estimation of current situation and defining action priority. Table 16 describes performance of the indicators after alarms have been received.

Table 16. Performance of Single-Color LEDs

Partition Status	LED	Performance
Fire 2 Alarm	FIRE 2	Red
Fire Alarm	FIRE	Red: 0.25 s On / 0.25 s Off
Prealarm	PREALARM	Red: 0.25 s On / 1.75 s Off
Intrusion Alarm, Flood Alarm	ALARM	Red: 0.5 s On / 0.5 s Off
Panic Alarm (Panic Alarm, Duress)	PANIC	Red: 0.5 s On / 0.5 s Off
Arming Failed	ARMING FAULT	Amber: 0.5 s On / 0.5 s Off
Disabled	DISABLED	Amber
Trouble	TROUBLE*	Amber: 0.25 s On / 1.75 s Off
Silenced	SILENCED	Amber

Note: * The TROUBLE LED also indicates loss of communication with the network controller.

The single-color LEDs are meant to indicate integrated partition states in scope of the module. Indication of integrated states of the system is provided by the S2000M.

5.1.4 The reader LED, depending of its selected function, after touching the reader with an iButton either indicates the status of the operated partition within 30 s or indicates that the user is accessed to operation.

Table 17. Reader LED Indication
Function "Security"

Partition Status	LED Performance
Waiting for Response… (After touching with an iButton)	Flashes with red and green alternately
Alarm (all kinds of alarms)	Pulses with red: 0.5 s On / 0.5 s Off
Input Trouble	Pulses with amber: 0.25 s On / 1.75 s Off
Arming in progress…	Pulses with green: 0.125 s On / 0.125 s Off

Partition Status	LED Performance
Arming Failed	Pulses with amber: 0.5 s On / 0.5 s Off
Disarmed	Lit steady with green
Armed	Lit steady in red
Prohibited	Pulses with red within a second: 0.125 s On / 0.125 s Off

Function "Access Control"

Operating Status	LED Performance
Waiting for Response…	Flashes with red and green alternately
Can be Operated	Lit steady with green
Prohibited	Pulses with red within a second: 0.125 s On / 0.125 s Off

5.2 Sounding Modes

5.2.1 Table 18 presents performance of the sounder depending on conditions of the partitions.

Table 18. Buzzer Performance

Partition Status	Buzzer Performance
Activated	Changes tone once per two seconds
Start Delay, Start Delay Hold Within more than 15 s	Changes tone once per second
Start Delay, Start Delay Hold Within less than 15 s	Changes tone twice per second
Start Delay, Start Delay Hold Within less than 5 s	Changes tone four times per second
Fire 2 Alarm	0.8 s On / 0.2 s Off
Fire Alarm	0.6 s On / 0.4 s Off
Fire Prealarm	0.25 s twice / 1.25 s Off
Intrusion Alarm	0.25 s On / 0.25 s Off
Panic Alarm (Panic Alarm, Duress)	0.25 s On / 0.25 s Off
Trouble	0.25 s On / 1.75 s Off
Access Request (touching with an iButton)	Turns on for 0.25 s
Access Denied	Turns on for 1 s
Access Granted	Turns on for 0.25 s
Others	Off

Table 19. Indication Mode Compatibility

Indication Type	Supported By
Intrusion Alarm Intrusion 2 Alarm Fire Alarm Trouble	S2000 control panel of versions 1.20+ S2000M control panel of versions 2.03+ Orion KD software of versions 7.4+ Orion Pro software of versions 1.10 SP1+
Engineering Auxiliary, Auxiliary 2, Auxiliary 3 Intrusion 3 Alarm	S2000M control panel of versions 2.03+ Orion Pro software of versions 1.11+
Operated Appliance	S2000M control panel of versions 2.07+ Orion Pro software of versions 1.12 SP2+
Leakage Monitoring **Door Monitoring** **Access Control**	S2000M control panel of versions 3.00+

5.2.2 The sounder can be silenced by pushing the button . The UProg utility provides restricting access to silencing alarms and troubles. In such case the button is disabled, and

sounding is turned off after touching the iButton reader by one of iButtons which codes are enrolled in the module's memory. Sounds can be silenced automatically except for Prealarm, Fire, Fire 2 if this defined in the module configuration. Duration of sounds is selected while configuring the module. In this case no message about silencing is sent to the network controller.

5.3 Operating Partitions

5.3.1 Partitions can be operated (armed and/or disarmed) using an iButton. After a first touch the reader LED indicates status of the operated partition (the Security function) or shows that operating partitions is permitted (the Access Control function). After a second touch the currently disarmed partition is armed or, otherwise, the currently armed partition is disarmed (if the iButton is authorized). If authorities are restricted (arming only or disarming only) then only permitted operation can be done.

5.4 Messages Sent to the Network Controller

The module sends the network controller the following messages over the RS-485 interface:

Tamper Alarm	The module housing has been open
Tamper Restored	The module housing has been closed
Silencing	The button has been pressed in response to a sound alarm or the sound alarm has been silenced by touching the module reader with iButton
Device Reboot	The module is reenergized
Power Failed	The power voltage has dropped below a permissible threshold
Power Restored	Power voltage has been in the normal range

5.5 Operating Offline

5.5.1 In case of loss of communications over RS-485 for more than 60 s all events are sent with time stamps determined by internal clock of the module. All LEDs except for the power indicator turn off while the TROUBLE LED turns on. Once per hour the module automatically synchronizes with the S2000M control panel.

5.5.2 The module provides buffering event transmitted over RS-485.

5.6 Network Address

Network Address is meant to identify the module uniquely within an Orion integrated security system. The module sends messages to and receives commands from the network controller only with the address defined by this parameter. Network address should be unique for every module.

Customizing Response Pause provides operating the module within a system with a sophisticated network topology where long layover can exist, for example, while converting RS-485 data into other interfaces intended for transmission over local area networks, fiber optic channels, or radio channels.

Current values of the module parameters Network Address and Response Pause can be unset to factory (default) values by successive pressing on the tamper switch three times for a long time and once quickly (dush-dush-dush-dot). A long press here means holding the tamper switch pressed for at least 1.5 s. A quick press here is implied as holding the tamper switch pressed for 0.1…0.5 s. Pauses between presses should be at least 0.1 s and no more than 0.5 s every.

6 OPERATION INSTRUCTIONS

6.1 Main Operating Factors

6.1.1 The module doesn't send false alarms under electromagnetic interference of the second test severity level in accordance with Russian Standard GOST R 50009.

6.1.2 Radio disturbances from the module operation do not exceed the values specified in GOST R 50009.

6.1.3 The module design provides ingress protection rating IP20 as per GOST 14254-96.

6.1.4 The module is designed to provide its fire safety while emergency operating and on violations of operation rules in accordance with Russian Standard GOST 12.1.004-91.

6.1.5 As to resistance to mechanical stress the module corresponds to the placement category 03 in accordance with Russian Standard OST 25 1099-83.

6.1.6 As to resistance to climatic conditions the module meets the requirements of Category "03" as per OST 25 1099-83 but for operating at ambient temperatures minus 30°C through +50°C.

6.2 Safety Precautions

6.2.1 The design of the module meets the requirements of electrical and fire safety in accordance with Russian Standards GOST 12.2.007.0-75 and GOST 12.1.004-91.

6.2.2 The module has no circuits under a hazardous voltage.

7 MAINTENANCE

7.1 The maintenance works must be carried out by electricians certified with the second or higher electrical safety qualification level.

7.2 Preventive maintenance of the module should be carried out at least annually. Maintenance works are to be performed by a service company employee and include:

- Checking the external conditions of the module;
- Inspection of the module operability as per Section 3 of this manual;
- Verifying the module for secure mounting and conditions of wires and terminal connections.

8 MANUFACTURER WARRANTY

8.1 The manufacturer guarantees that the product meets technical requirements if the user follows the instructions for transportation, storage, installation, and usage.

8.2 The average lifetime of the module is at least 10 years.

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

8.4 While submitting the module for repair, please apply a report describing the failure.

8.5 **If you have any problems with programming or operating the module please contact the technical support by PBX-phone +7 (495) 775-71-55 or by email support@bolid.ru.**

Claims shall be submitted to the following address:

ZAO NVP Bolid, 4 Pionerskaya Str., Korolev 141070, Moscow Region, Russia

Phone/Fax: +7 (495) 775-71-55 (multi-channel), **777-40-20**, **516-93-72**.

E-mail: info@bolid.ru, http://bolid.ru. Technical Support: support@bolid.ru.

9 CONFORMITY CERTIFICATES

9.1 S2000-BI and S2000-BI Rev.02 Indicator Modules meet the requirements of Technical Regulation of Fire Safety Requirements (Federal Low No.123-FZ) which is confirmed by Conformity Certificate No. C-RU.ЧС13.B.00874 issued by the certification body POZHTEST of FGU VNIIPO of EMERCOM of Russia, 12 VNIIPO Microraion, Balashikha, Moscow Region, 143903.

9.2 S2000-BI and S2000-BI Rev.02 Indicator Modules meet the requirements of Technical Regulations of Custom Union TR CU 020/2011 which is confirmed by Conformity Certificate ТС № RU Д-RU.ME61.B.00313.

9.3 S2000-BI, S2000-BI Rev.02 Indicator Modules are a part of Orion addressable fire alarm system approved by Conformity Certificates No BY/112 02.01.033 00251, No.BY/112 02.01.033.00573, issued by Institution "The Republican Center of Certification and Licensed Kinds

of Activity Expertise" of the Ministry of Emergency Situations of the Republic of Belarus, 73a Zakharova St., Minsk, 220088, Republic of Belarus.

9.4 Production of S2000-BI and S2000-BI Rev.02 is certified according to GOST ISO 9001-2011 as per Conformity Certificate № РОСС RU.ИК32.К00153.

10 ACCEPTANCE AND PACKAGING CERTIFICATE

Indicator Module

☐ S2000-BI

☐ S2000-BI Rev.02 Serial Number_____,

Is manufactured, accepted in accordance with mandatory requirements of state standards and actual technical documentation, packaged by CJSC NVP Bolid, and approved as proper for operation.

Responsible for acceptance and packaging

QCD _____ _____

Full Name Date, Month, Year