ИСО 9001

Sirius
Fire Alarm Control Panel

Data Sheet

General

1.1. The Sirius Fire Alarm Control Panel (hereinafter referred to as the Sirius panel) is designed to work in automated fire protection systems and perform the following functions:

- Fire alarm panel in fire alarm systems;
- Control panel in the audible/visual alarm and evacuation control systems;
- Monitoring and control panel as part of modular control panel to control gas, powder, aerosol fire extinguishing systems, water mist extinguishing, water and foam fire extinguishing, forced start-up or controlled sprinklers, voice alarm systems, smoke removal, engineering, auxiliary equipment and other systems and equipment related to fire safety.

1.2. The Sirius panel is expandable in terms of capacity by connecting additional functional modules and units such as:

- S2000-KDL-S module: to control addressable and conventional (connected to address expanders) fire detectors; to control and monitor actuating devices (connected to input and output modules);
- S2000-KDL and S2000-KDL-2I controllers: to control addressable and conventional (connected to address expanders) fire detectors, control and monitor actuating devices (connected to input/output modules);
- Signal-10 Control Unit: to control addressable threshold and conventional fire detectors, to control actuating devices (connected to outputs with control of load connection circuits for open and short circuit as well as 'dry contact' outputs);
- Signal-20P, Signal-20M and S2000-4 controllers: to monitor conventional fire detectors and control actuating devices (connected to open/short-circuit monitored outputs and ‘dry contact' outputs);
- S2000-BI, S2000-BI ver.02 units: to indicate zone states of fire detection, voice alarm and smoke removal systems;
- S2000-BKI unit (with keypad) for additional indication of zone states of fire detection, voice alarm and smoke removal systems;
- S2000-KPB blocks: to control actuators connected to the outputs with monitoring of the load connection circuits for open circuit and short circuit;
- S2000-SP1: to control actuators connected to the 'dry contact' outputs;
- S2000-PT unit: for indication and control of additional fire extinguishing zones.

1.3. The Sirius device performs data exchange, monitoring, control and indication functions in modular fire control units in combination with other functional units and modules such as:

- S2000-ASPT, S2000-PT, S2000-AR1, S2000-AR2, S2000-AR8, S2000-KPB, S2000-SP2, Signal-10, Signal-20P,S2000-4, UDP-513-3AM to control based on gas, powder, and aerosol fire or water-mist fire extinguishing installations;
- Potok-3N, Potok-BKI, S2000-AR1, S2000-AR2, S2000-AR8, S2000-KPB, S2000-SP2, Signal-10, Signal-20P, S2000-4, and UDP-513-3AM units, ‘ShKP' units, SHUZ valve control units to control water and foam fire extinguishing installations and internal fire-fighting water supply systems;
- Rupor units to control voice alarm and evacuation systems in case of fire;
- S2000-BKI, S2000-AR1, S2000-AR2, S2000-AR8, S2000-SP2, S2000-SP4, Signal-10, S2000-4, ShKP monitoring and control cabinets for smoke removal systems;
- S2000-BKI, S2000-AR1, S2000-AR2, S2000-AR8, S2000-SP1, S2000-KPB, Signal-10, Signal-20P, S2000-4 to control engineering and auxiliary equipment and other devices related to fire safety.

1.4. The Sirius generates Start, Fire and Fault signals to external circuits using discrete outputs as well as via Ethernet, GSM or telephone lines using S2000-PGE, S2000 PGE ver 01.

1.5. The Sirius receives a fault signal from external technical means using the built-in discrete Fault input.

1.6. The Sirius can be networked via a backup (secondary) galvanically isolated RS-485 interface with the following capabilities:

- Cross linking (automatic control of elements of one Sirius panel depending on the states of zones or groups of zones of other devices of the Sirius network);
- Manual control of zones and groups of zones of one Sirius device from other devices of the Sirius network, as well as from any blocks with a control function in block-modular devices, which include Sirius devices;
- Viewing zone and zone group states from any devices of the Sirius network, as well as displaying the states using all supplementary indication units.

1.7. The Sirius panel receives information on loss of output voltage, input power supply voltage on any input, battery discharge (if any) and other malfunctions from power supplies of the RIP-12-RS and RIP-24-RS series via a wired RS-485 communication line.

1.8. The Sirius panel is electrically compatible with ShPS-12 ver. 10, ShPS-12 ver. 11, ShPS-12 ver. 12, ShPS-24 ver. 10, ShPS-24 ver. 11, ShPS-24 ver. 12, with fire equipment mount boxes with a backup battery power supply as well as other mount boxes and cabinets with built-in BK-12-RS-01 and BK-24-RS-01 units to implement the redundancy function of the RS-485 wired communication line using additional functional modules located in these boxes.

1.9. The Sirius panel is fully compatible with the S2000-PI repeater of the RS-485 interface for galvanic isolation and extension of communication line with additional functional modules and units as well as for extension of the communication line with other Sirius panels when they are networked.

1.10. The Sirius panel is fully compatible with the S2000-RPI and S2000-RPI ver.01 RS485-interface wireless repeater for transmitting data to additional modules and units and other Sirius panels (if networked) over the radio interface.

1.11. The Sirius panel is fully compatible with the S2000-Ethernet interface converter and Ethernet-SW8 switch for transmitting data over Ethernet to additional modules and units and other Sirius panels if they are networked.

1.12. The Sirius panel is fully compatible with the RS-FX-MM, RS-FX-SM40 series fiber optic converters for transmitting data over optical linkage and extending a communication line up to 40 km with additional modules and other Sirius panels if they are networked.

1.13. The Sirius panel is fully compatible with Ethernet-FX-MM, Ethernet-FX-SM40, Ethernet-FX-SM40SA, Ethernet-FX-SM40SB fiber optic converters to convert Ethernet interface to 100Base-FX or 100Base-FX WDM optical fiber compatible signal to transmit data up to 40 km.

1.14. The Sirius panel is fully compatible with the following devices (and their revisions) connected to the Polling Loop:

- DIP-34A fire smoke detector;
- S2000-IP fire heat detector;
- S2000-IPG fire gas detector;
- S2000-IPDL reflective beam smoke detector;
- IPR 513-3AM manual call point;
- UDP 513-3AM manual release station (remote control unit);
- S2000-AR1, S2000-AP2 and S2000-AP8 addressable input modules;
- S2000-EM-Ex expansion module;
- S2000-Spektron-101-Exd fire heat explosion-proof detector;
- S2000-Spektron-207 flame detector;
- S2000-Spektron-512-Exd-IPR manual call point;

- S2000-Spektron-512-Exd-UDP manual release station (remote control unit);
- S2000-Spektron -607, S2000-Spektron-607-Exd, S2000-Spektron-607-Exi, S2000-Spektron-608 and S2000-Spektron-608-Exi fire multi-range flame detectors;
- S2000-SMK magnetic contact detector;
- S2000-OST sign board;
- S2000-OPZ alarm sounder;
- S2000-SP2 и S2000-SP4 relay modules;
- S2000R-ARR32 and S2000R-ARR125 radio link input / output modules

1.15. The Sirius device provides protection against its tampering using a key-lockable built-in mechanical lock and tamper switch to monitor the enclosure status.

1.16. The Sirius panel provides visual indication (using LED indicators and LCD), as well as sound indication (using a built-in buzzer) of the current operating mode in accordance with the requirements of GOST 53325-2012.

1.17. The Sirius panel provides the ability to test the performance of its LEDs, LCD and built-in buzzer.

1.18. The Sirius panel provides manual control using control buttons located on the enclosure. These controls are protected against unauthorized access using PIN codes and Touch Memory tokens (iButtons).

Specifications

2.1. Main specifications of the Sirius panel: see Table *1*.

Table 1 Specifications

Maximum Capacity:	
Units/Modules: built-in connectable	 4 122
Input points (monitored elements)	4,096
Outputs (controlled elements)	1,024
Zone (for grouping elements)	1,024
Zone Groups (for grouping zones)	128
Users	2,048
Access Groups	256
Alarm Zones	127
Number of Flooding Zones:	
Sirius panel only	4
If combined with S2000-PT units	up to 127
Event Log:	
Maximum event records	65,000
Logging type	Circular
Event viewing	LCD, web-interface
Log file	CSV format
Saving a log as a file	via web interface

Built-in Communication Lines to Connect Addressable Devices:	
Interface	POLLING LOOP
Number of lines	1 (2 with additional S2000-KDL-S module)
Maximum ADs	127 (254 with additional S2000-KDL-S module)
Maximum output current	100 mA
Rated output current	64 mA
Maximum length (at rated output current): Wire cross section 0.2 mm^2 Wire cross section 0.5 mm^2 Wire cross section 0.75 mm^2 Wire cross section 1.5 mm^2	 160 m 400 m 600 m 1200 m
Maximum active wire resistance	100 ohm
Minimum insulation resistance between wires	50 kΩ
Backup Communication Line for Connection Orion ISS Modules:	
Interface	RS-485
Type	Two individual lines
Maximum length	3,000 m
Maximum active wire resistance	400 Ω
Minimum insulation resistance between wires	50 kΩ
Maximum units to be connected	122
Backup Communication Line for Networking Sirius panels:	
Interface	RS-485
Type	Two individual lines
Galvanic isolation	Up to 500 V within 1 minute
Maximum length	3,000 m
Maximum active wire resistance	400 Ω
Minimum insulation resistance between wires	50 kΩ
Maximum Sirius panels in the network	32
Built-in Controlled Discrete Outputs:	
Switch (transistor) outputs:	4
Open and short fault monitoring	Yes
Rated output voltage	24V
Maximum output current*	2A
Short circuit and overload protection	Yes
Protecting against false activation in case of single fault	Only for user-defined outputs #3 and #4
Dry contact outputs:	3: Fire, Start/Activation, Fault
Maximum switching current	100 mA
Maximum switching voltage	200 V
Output to supply power to external devices:	1
Output Voltage	24 V
Maximum Output Current *	300 mA
Overload and short-circuit protection	Yes

Built-in Discrete Inputs:	
Fault Input:	1
Open- and short-circuit faults monitoring	Yes
Rated output voltage	24V
Maximum active wire resistance (without terminal resistor)	100 Ω
Minimum insulation resistance between wires	50 Ω
Others:	
Main power	Mains ~220V, 50/60 Hz
Maximum current consumed from primary power supply: Quiescent mode Alarm mode: Panel Actuating devices Battery charging	 ≤ 0.03 A ≤ 0.03 A ≤ 0.33 A ≤ 0.13 A
Backup power	Two series-connected 12V/17 Ah batteries
Maximum current consumed from the backup power supply: Quiescent mode Alarm mode: Panel Actuating Devices	 ≤ 0.3 A ≤ 0.3 A No more than 3.0 A
Electric shock protection class in accordance with GOST 12.2.007.0-75	I
Dielectric insulation strength of current-carrying parts of the panel (between circuits connected to the 220V mains and enclosure as well as between circuits connected to the 220 V mains and any circuits not connected to it)	Up to 2 kV (50 Hz)
Electrical insulation resistance (between circuits connected to the 220 V/AC network and the enclosure as well as between the circuits connected to the 220 V AC network and any circuits not connected to it)	At least 20 mΩ (in normal conditions in accordance with 5.14.6 GOST 52931-2008)
Ingress protection	IP 41 (if installed on wall surface)
Mechanical tolerance according to OST 25 1099-83	Placement Category 4
Climatic category according to OST 25 83	O4
Operation temperatures	0...+40 ºC
Air humidity	≤ 93% at 40 ºC
Startup time	30 s
Operation mode	24/7
MTBF in quiescent mode	80,000 at least
Survival probability	0.98758
Average lifetime	10 years
Weight	≤ 6.5 kg (without batteries). ≤ 16 kg (with batteries).
Dimensions (H×W×D)	≤ 500×425×110 mm

* – the maximum total output current of all switch (transistor) outputs and the output for powering external devices is 2.5 A.

2.2. The product is not designed to be used in aggressive, dust, explosive and fire-hazardous environments.

2.3. The product's design meets the requirements of fire and electrical safety, including when it is in faulty condition in accordance with GOST 12.2.007.0-75 and GOST 12.1.004-91.

2.4. The product meets the standards of industrial interferences for class B equipment in accordance with GOST R 30805.22. In terms of resistance to electromagnetic interference, the panel meets the requirements of the third degree of severity of the relevant standards listed in Appendix B GOST R 53325-2012.