

### General Information

The 200L micro fire control panel evaluates the information received from the linear heat detection cable (LHD) or thermostats connected to the fire detection line. And It is a rail mounted miniature fire control panel suitable for use in small areas, which can automatically activate the fire extinguisher units (aerosol gas extinguishers or pressurized tube extinguishers with the help of a special pyrotechnic valve) connected to the extinguishing line when a fire situation occurs. 200L operates by connecting to all mains networks in the 100 - 240V AC voltage range and has a built-in rechargeable lithium-ion battery that automatically switches on in case of a power failure. Thus, it works without the need of any external DC power supply or battery. The 200L fire control panel continuously checks the detection and extinguishing connection lines and can detect any connection problems that may occur in these lines. In case of alarm or malfunction, it warns the user visually and visually. Thanks to the small and easy-to-install rail-mounted housing, it can be installed quickly to protect small areas against fire. With the multi-function button on the panel, all operations such as audible warning silence, extinguisher activation cancellation, resetting the panel after an alarm or switching the panel on and off can be performed by the user with a single button.

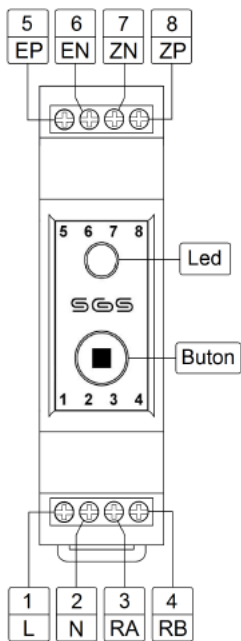
### Features

- Microcontroller based surface mount design.
- Miniature body that can be easily mounted on the rail.
- Ability to work with linear heat sensing cable (LHD) or thermostats.
- Can be supplied from 100 - 240V AC city networks.
- Built-in rechargeable lithium-ion battery that automatically switches on in case of power failure.
- Visual and audible warning in case of alarm and malfunction
- Automatic line fault monitoring.
- Multi-function one-button operation.
- Alarm relay output.
- Extinguishing line short circuit protection.
- Very low power consumption.

### Usage areas

- Electrical Distribution and Control Panels
- GSM Base Stations (radio station)
- Bank ATM Devices
- Industrial Kitchen Hoods
- IT Server Cabinets
- Industrial Machinery
- Elevator Control Systems

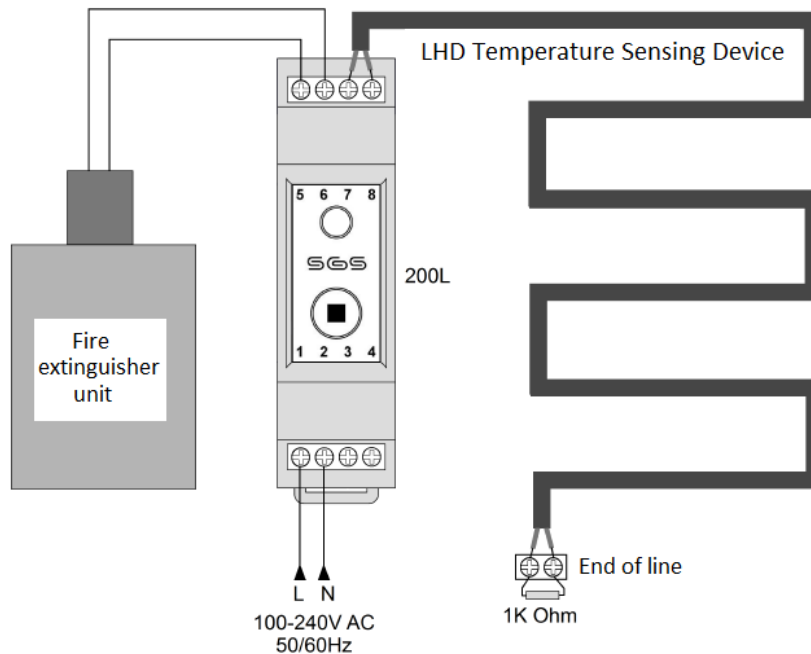
### Panel Connections



Connection No	Connection title	Connection definition
1	L	AC supply source input phase end. (Operating voltage range of the panel is 100 - 240V AC 50 / 60Hz)
2	N	AC supply source input neutral end.
3	RA	Alarm relay output normally open (NA) contact terminal. In the event of an alarm, the contact between the RA-RB closes.
4	RB	Alarm relay output normally open (NA) contact terminal. In the event of an alarm, the contact between the RA-RB closes.
5	EP	Extinguisher connection line + end.
6	EN	Fire extinguisher connection line - end.
7	ZN	Fire detection line - end. (LHD or thermostat connector)
8	ZP	Fire detection line + end. (LHD or thermostat connector)

<p><b>Maximum Operating Values</b></p> <p>Supply Source Voltage .....: 240V AC @ 50Hz Supply Source</p> <p>Alarm Relay Output Voltage: 250V</p> <p>Alarm Relay Output Current .....: 2A</p> <p>Extinguishing Activation Current .....: 2A</p> <p>Operating Temperature Range .....: - 40 ° C to + 85 ° C (All values are valid for + 25 ° C ambient temperature)</p>	<p><b>Normal Operating Values</b></p> <p>Voltage .....: 220V AC 50 Hz</p> <p>Extinguishing Activation Voltage .....: 4.2V DC</p> <p>Built-in Lithium-ion Battery Voltage .....: 4.2V (full charge)</p> <p>Built-in Lithium-ion Battery Capacity .....: 900mAh</p> <p>Standby Time:&gt; 7 days</p>
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**General Application Scheme**



<p><b>Panel Operation</b></p> <p>The 200L micro fire control panel is designed to operate with a linear heat sensing cable (LHD) or thermostats connected to the sensing line (tracks 7 and 8). The panel starts operating when the supply source input terminals (tracks 1 and 2) of the panel are connected to the mains 100 - 240V AC 50 / 60Hz (global mains values used worldwide). The sensing (leads 7 and 8) and the extinguisher (leads 5 and 6) continuously control the connection lines. It detects failure and alarm conditions and automatically activates the fire extinguishing units connected to the extinguishing line.</p>	<p>It also alerts the user audibly and visually in case of alarm and malfunction.</p> <p>There is a double color LED and audible warning system on the 200L fire control panel where visual warnings can be followed. This includes a multi-function button for silencing, canceling extinguishing activation, opening and closing the panel and resetting after alarm. The status of the 200L fire control panel is shown in the table below according to the status of the led on the panel.</p>
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Led Status	Panel Operating Status
Steady Green Color	<b>The panel is in normal operating condition.</b> No alarm or malfunction.
Flashing Green Color	<b>If flashing once per second, a fault condition has occurred.</b> An open circuit problem exists in the detection and / or extinguishing connection line. (Panel also beeps) <b>If it flashes once every 3 seconds, there is a power failure.</b> Battery on. (No audible alerts)
Flashing Red Color	<b>If flashing once per second, an alarm has occurred.</b> The 10-second delay period continues for fire extinguisher activation. (Panel also beeps) <b>If it blinks once every 3 seconds, the electricity has been cut for a long time and the panel battery has dropped to a critical level.</b> (No audible warning)
Steady Red Color	<b>An alarm condition has occurred.</b> Extinguishing occurred or canceled by user.

When the panel is in failure or alarm condition, the button on the panel can be pressed and released briefly to disable the audible warning and only visual warnings can be monitored. It is designed to activate the fire extinguisher output after a delay of 10 seconds when the panel goes into alarm state (The delay time value can be changed according to customer demand while the panel is in production stage). If the button is pressed for more than 2 seconds during this extinguishing delay of 10 seconds, the extinguishing activation is canceled by the user. The extinguishing units do not activate, but the visual alarm warning continues. This feature can be used during the commissioning of the 200L fire control panel to allow the detection system to be tested without activating the extinguishing units. If the button is not pressed for a delay of 10 seconds after the alarm condition has started, the panel activates the extinguisher output. The extinguishing units connected to the extinguishing output of the panel are activated and extinguishing starts. When an alarm condition occurs and a fire extinguishing operation occurs, when the 200L fire control panel is requested to be reset, the button on the panel must be held pressed for more than 2 seconds. This restarts all functions of the panel. The panel starts to check the fire detection and extinguishing connection lines again and resumes normal operation if there is no fault or alarm condition. If there is a fault or alarm condition, it gives audible and visual warning again.

200L fire control panel is designed to detect connection breaks that may occur in detection and extinguishing lines. In the event of a break or contact on the sensing or extinguishing line, the panel gives the user a visual and audible fault warning. When the connection problem that causes the fault notification is corrected, the visual and audible fault warning will automatically disappear and the panel will return to normal operation.

200L operates directly from the mains. Therefore, a separate DC power supply or battery is not required to supply the panel. Thanks to the built-in rechargeable lithium-ion battery, the panel is not affected by the power cuts that may occur in the city network where it is supplied.

When there is a power failure in the city network, the panel will automatically detect and notify the user visually. It is designed to use the energy of the rechargeable lithium-ion battery inside the device so that it can continue to operate even during long interruptions (for at least 7 days). The voltage, current and charge management of the lithium-ion battery inside the panel is fully automatic. If the power failure period is prolonged and the battery level of the panel falls below the critical level, the panel warns the user visually and continues to operate until the battery is completely exhausted. The panel will close when the battery is completely exhausted. When the interrupted mains power is restored, the panel automatically starts feeding from the grid again (automatically switched back on if turned off) and checks the lithium-ion battery values and, if necessary, recharges the battery until it reaches its nominal value.

The 200L fire control panel is always in operation as long as it is connected to the mains power supply or the power level of the internal battery is sufficient. If the panel is desired to be closed by the user for any reason, the mains terminals (terminals 1 and 2) of the panel are de-energized and the button on the panel is pressed until the panel is closed. It does not allow the panel to be closed in the alarm state. The panel can only be closed when there is a fault or normal operation. When the panel is closed, it gives the user an audible warning and stops all functions and enters sleep mode. In order to make the panel operational again, the mains terminals (terminals 1 and 2) must be energized or the button on the panel must be pressed and held until the panel beeps again.

#### **Detection Line Connection**

The terminals 7 (ZN) and 8 (ZP) of the 200L fire control panel are the connecting line for the linear heat sensing cable (LHD) and the thermostats. An end-of-line element (1K Ohm resistor) must be connected to the end of the line so that the continuity of the detection line can be controlled by the panel. Otherwise, the panel will give a fault warning.

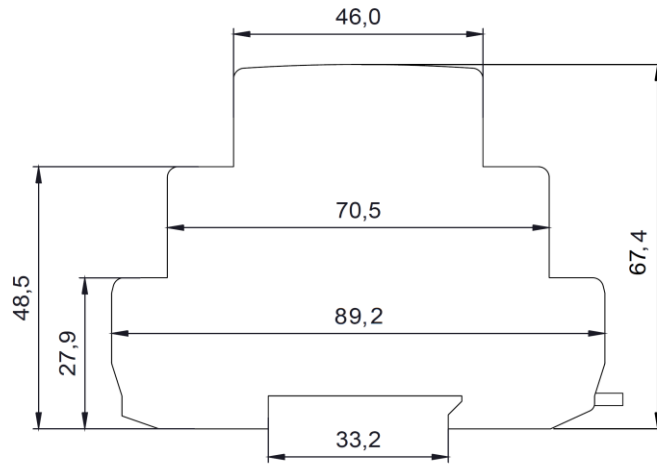
### Extinguishing Line Connection

The terminals 5 (EP) and 6 (EN) of the 200L fire control panel are the connecting line for the fire extinguishing units. These units can be aerosol fire extinguishers or any pressure extinguishers that can be connected to the panel using a special pyrotechnic valve. Up to 2 aerosol extinguishers or pressurized extinguishers with pyrotechnic valves can be connected in parallel to the extinguishing output line of the panel. If the user wants to use the panel without connecting a fire extinguisher to the extinguishing connection line, an end-of-line element (1K Ohm resistor) must be connected between terminals 5 and 6. Otherwise, the panel will give malfunction warning because the extinguishing unit is not connected.

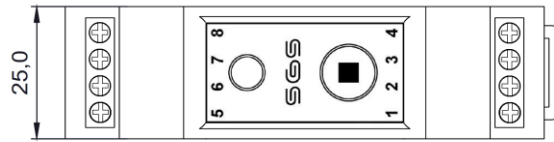
### Alarm Relay Output

Terminals 3 (RA) and 4 (RB) of the 200L fire control panel are internal normally open (NA) dry contact outputs that indicate that the panel has entered an alarm state. The internal dry contact between terminals 3 and 4 is in the open circuit state when no alarm condition is present. When the panel goes into alarm state, this internal contact in the panel closes, terminals 3 and 4 go into closed circuit state and remain closed until the panel is restarted by the user after the alarm condition. These tips can be used to generate a visual or audible warning (siren or flasher connection), send alarm information to an outside system, or trigger another device when an alarm condition occurs when the panel goes into alarm state. It has a maximum switching capacity of 250V 2A.

### Panel Dimensions



\*All dimensions are in mm



**WARNING:** Opening and disassembling the 200L fire control panel box by unqualified persons may cause the device to go outside the scope of the warranty and cause personal injury and injury. Never open the 200L fire control panel. There are no user-replaceable and / or repairable parts inside this device. Black Security Systems reserves the right to make changes to the information contained in this document without notice to the users when deemed necessary.

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