

Datasheet for FRS Rack®3

KEY FEATURES

- Automatic fire detection system
- Control, communication, evaluation and extinguishing units
- Fire extinguisher FK 5-1-12
- Built-in optical temperature and smoke detectors
- Back-up battery

KEY BENEFITS

- Only 1U height (4,45cm)
- Uses small amount of extinguishing agent safe to people and technologies
- Out of a box product
- Connection to the network structure
- Can provide additional functions using external components

FRS Rack®3 Product



Product Highlights

FRS-RACK®3 is an autonomous, fully automatic detection and extinguishing system. It is designed for a fire protection of control, telecommunication and server cabinets or any other enclosures equipped with 19" racking system.

FRS-RACK®3 is **only 1U size (4,45cm)** and is installed inside the cabinet, so it is available at any time. You can also freely move the cabinets together with our product, without the need for its reinstallation.

FRS-RACK®3 **uses a small amount of extinguishing agent** when discharged. This can positively contribute to the company's environmental strategy.

The **extinguishing agent used** (FK 5-1-12) in the FRS-RACK®3 device does not affect protected technologies or data stored on protected media. The extinguishant is non-corrosive, non-conductive and allows extinguishing of electrical circuits.

Choosing FIRESI FRS-RACK®3 **helps reduce the overall installation, commissioning and maintenance costs** as the use of FRS-RACK®3 does not require extensive design calculations, large floor areas or expensive electrical installations.

FRS-RACK®3 is **out of a box product** and ready for an immediate installation and use, without a further configuration or modification required

FRS-RACK®3 **can be connected to the network structure**

FRS-RACK®3 solution **can be expanded by adding additional external components and safety features**, it has 4 outputs that are programmable

ADDITIONAL INFORMATION

More information can be found at:

<https://www.firesi.cz/products/frs-rack-3>

Product information

The lifespan of the device, excluding the back-up battery, extinguishing agent and pressurized nitrogen, is 10 years from the year of manufacture. The life span of the back-up battery is 4 years.

Product warranty is 2 years from the moment of purchase, considering the right operating conditions are ensured and regular maintenance is carried out.

This equipment may only be used in accordance with the operating conditions specified in the technical documentation and operating instructions. If the device is used in a way that is outside of defined operating conditions, the manufacturer shall not be liable for any damages caused by such use. All risks imposed by incorrect use are strictly under the user's responsibility.

The user shall also carry out regular visual and functional inspections according to the operating conditions and maintenance schedule. These inspections shall be documented.

The operator of the device must warn about any changes within the protected enclosure that could affect the functionality or effectiveness of FRS-RACK®3 system (e.g., blocking of the nozzle by newly installed devices, changes in ventilation etc.). Visual inspections are fully the user's responsibility. Technical revisions shall be carried out strictly by a person authorized and trained by the manufacturer.

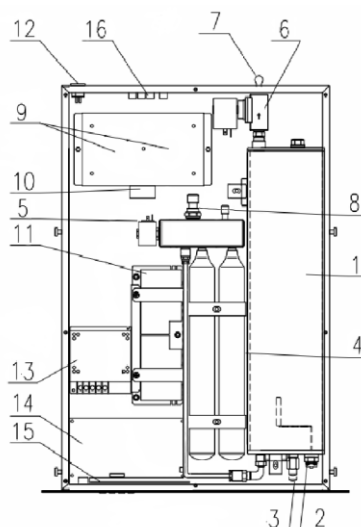
The casing of the device is made of steel sheet metal. The extinguishant container and the piping are made of stainless steel and other non-corrosive materials. All materials have been tested and correspond with the described operating conditions and the extinguishant used and are to last throughout the lifespan of the device.

Functional test of the entire system, including detection, pressure, and drive parts of the equipment should be performed once every 12 months. The quality of the extinguishant, battery capacity and the pressure inside the tanks and their integrity shall be inspected at least once every 24 months. Each inspection is performed by a person trained by the manufacturer or authorized distributor.

All metal components of the casing are finished with black polyester powder coating (RAL 9005). Minimal thickness of the coating is 60 µm. The resistance to separation corresponds to class 1 according to ISO 2409. The surface should not contain any defects, like scratches, excess paint, dirt etc

Device key features

- Extinguishant container (1) a stainless steel reservoir filled with the agent FK-5-1-12.
- Pressurized nitrogen in pressure tanks (4)
- Combined optical smoke and temperature sensors (9)
- Back-up Un battery (11) is a supplementary energy source for the work of the device in case of the main energy source failure. The capacity of the back-up battery fully covers energy requirements of the system to complete the release of extinguishant.
- Control board (14) collects and evaluates the data from all inputs and sensors, receives external signals and send commands to peripheral devices.
- Manual control and local alarm board (15) allows the manual control of the device from the front panel, it notifies about the device's current condition with built-in LED diodes.

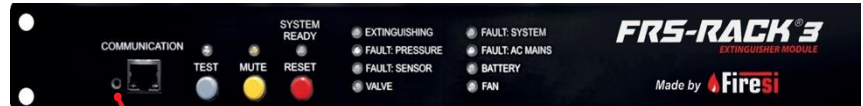


Technical Specifications

Technical Parameters	
AC supply input voltage range	100-240 VAC
Frequency	50-60 Hz
Current at 230V AC	0,5 A
Efficiency	88%
Leakage current at 230V AC	<1mA
Output voltage	Un = 24 VDC
IP	20
Extinguishant container volume	1,8 l
Operating temperature	+5 to +45
Storage temperature without the extinguishant	40 to +80oC
Relative humidity (non-condensing)	85%
Dimensions	483x44,5x603 mm
Weight	14,7kg

Manipulation and Initial set up

FRS-RACK®3 can be controlled manually using the front panel or externally, using the inputs on the back panel. It can be controlled via SNMP and Ethernet protocols and settings of the device are accessible through the HTML interface. All system notifications can be viewed through web interface. LED indicators on the front panel of the device indicate failure or certain states of the device. The placement of control interface elements is shown on picture below. All buttons and indicators of the front panel are labelled according to their function or meaning.



Back-up battery connection switch

Back-up battery disconnection switch, placed on the bottom side of the casing, approx. 1.5 cm from the left edge and 4cm from the front

Inputs and Outputs

The device is equipped with a relay board with 4 relays for external devices control. The connectors for the relays, external sensors and other external devices are described below.



2x RJ11 service sensor inputs.
Line 1 on the left, line 2 on the right

4x potential free relay outputs



2x RS485

External manual activation button

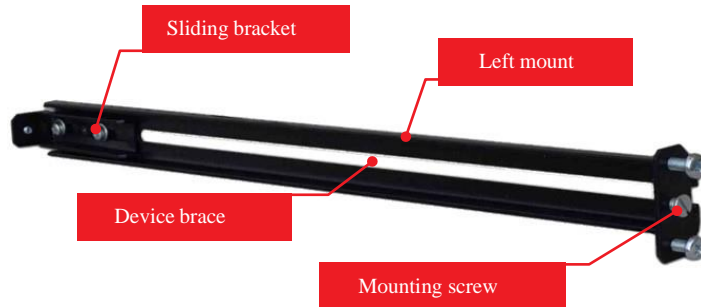
Open door sensor

External hooter

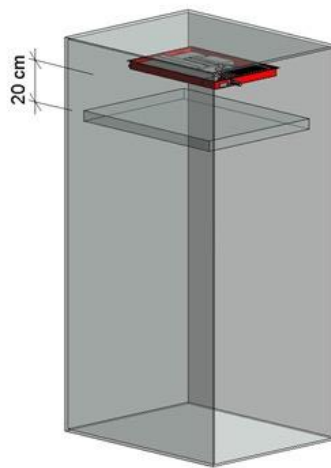
Installation

This device is compatible with 19" rack mountings. It is only to be placed with the front panel facing the door of the cabinet using included mounts. Place the mount between the installation guide rails and screw the M5 flathead screws in.

To install FRS-RACK®3, attach the guiding rails inside the cabinet to the highest available position. Slide the device in and screw it to the mount.



The horizontal orientation of the device must be maintained throughout the installation process and required spaced must be freed in advance. The device is installed in the upper part of the cabinet with a minimum of 20 cm between the lower part of the FRS-RACK®3 device and the nearest device below.



Safety

FRS-RACK®3 is designed closed spaces of volume not exceeding 2 m³. The device cannot be exposed to aggressive substances, direct sunlight, risk of mechanical damage and working conditions outside of described in this manual. Before installing the device please be sure to familiarize yourself with local fire protection and safety norms.

EN 50110-1 applies concerning protection from the electric current. The device can be installed only by a person certified according to EC 842/2006 and trained as stated by local legislation. This person shall not handle the internal elements of the device, interfere with electrical circuits due to the risk of shock.

It is prohibited to:

- Place the device close to heating elements (in the zones of heating over 30°C)
- Connecting the device to the power before installing it in place.
- Service or repair a device, connected to the electricity
- Weld, smoke, and use open fire at distance lower than 25 meters from the device

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