OneU
Made in Germany

minimax

OneU
Fire protection systems for 19" racks

Cool down.
Fire Protection by

MINIMAX

SMALL – BUT
only 44 millimetres high

The OneU Fire protection system

It is vital for most companies that IT systems operate reliably. Nearly no business process nowadays can do without IT support. The trend is moving towards increasingly higher performance systems in high-tech IT racks with integrated cooling and power supply in a compact, modular design that controls greater thermal loads while offering extremely high availability. Addressing itself to this modern technology the OneU fire protection system ensures optimum protection and is an innovation with respect to space requirements and equipment in a minimal area.

The OneU fire protection system, specifically designed for installation in closed 19" IT racks, is remarkable for sensitive fire detection and residue-free extinguishing. With its minimal space requirements within elaborate and expensive IT racks, modular expandability, high availability through redundant component groups and integrated emergency power supply OneU is setting new benchmarks for 19" IT rack fire protection systems.

The OneU fire protection system's compactness is unique and yet provides unrestricted functionality, quality and reliability. The low installation height of the one-height unit (1U) enables problem-free and space saving installation. In comparison to traditional fire protection systems at least one additional height unit is thereby available for the installation of IT systems.

At a minimal cost the OneU fire protection system guarantees maximum availability of technical equipment even in the event of short circuits, overloading, overheating or component error causing an incipient fire. It should therefore be an "automatic-choice" element of an availability concept, for example for:

► **IT, server and network technology,** which ensures round-the-clock availability of essential company data

► **Production controls,** which control and monitor production processes

► **Telecommunications installations,** which ensure fault-free communication for the company

► **Power supply and control systems,** which ensure adequate power at the right time and in the right place in the company.

The OneU fire protection system consists of

► **OneU Short active extinguishing system**

► **OneU DD aspirating smoke detector**

► **OneU ED NG extinguishing system.**

Early fire detection combined with an automatic extinguishing system minimizes downtimes and damage resulting from a technical defect.

the OneU product family
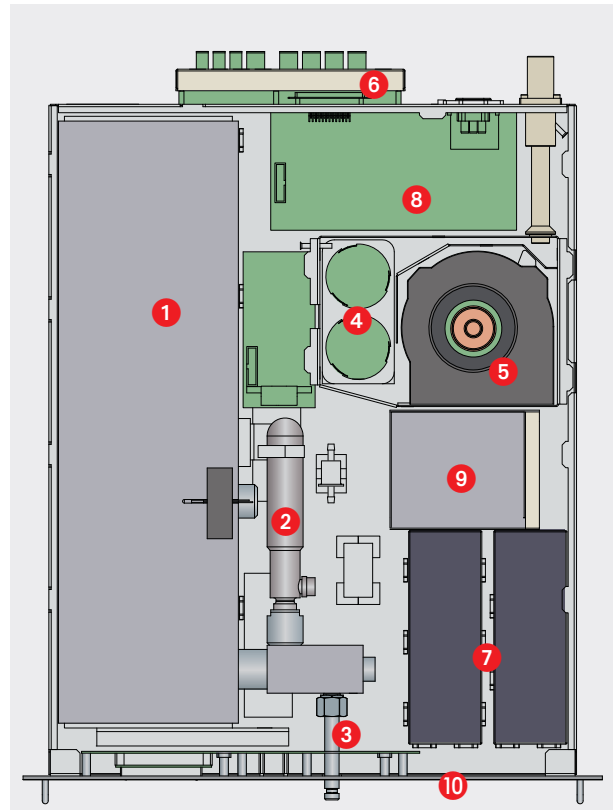
OneU Short active extinguishing system

The OneU Short active extinguishing system is a stand-alone, independent unit to detect and extinguish fires in closed IT racks or other closed cabinet systems. It already detects fires in the formation phase and thus prevents greater damages.

The early fire detection system is equipped with two highly sensitive smoke sensors. Air samples can be taken from up to five IT racks via the attached piping system and analyzed for smoke contents.

Included within only one-height unit are:

► a sensitive aspirating smoke detector,

► an extinguishing agent container with leakage monitoring and extinguishing nozzle,

► an emergency power supply,

► the detection and control electronics,

► the connections for external alarms and circuit shutdowns,

► a clearly laid-out and user-friendly display and control panel.

The most important components

❶ Extinguishing agent container with leakage monitoring and electrically controlled release

❷ Propellant gas cartridge

❸ Extinguishing nozzle

❹ 2 sensors

❺ Suction fan

❻ Adaptor for power supply and peripheral electrical connections

❼ Emergency power supply

❽ Mainboard

❾ Power supply

❿ Front panel with display and control panel

Novec™ 1230 extinguishing module

The integrated extinguishing module essentially consists of a pressure resistant metal container with the extinguishing agent Novec™ 1230, a release mechanism with valve and propellant gas cartridge, an extinguishing agent leakage monitor and the OneU extinguishing nozzle. During the extinguishing process the propellant gas cartridge is opened and the liquid extinguishing agent is released. The special geometry of the nozzle ensures that the agent is vaporized when exiting the nozzle and its full extinguishing effect is unfurled. It is released as a gas and thus penetrates all devices installed in the IT rack or intermediate cabling areas. The fire is quickly extinguished without residues.

An external manual release can also be connected to the OneU Short active extinguishing system.

Emergency power supply, control, display and operation

The integrated emergency power supply guarantees interruption-free operation of up to four hours. System malfunctions are automatically detected by the OneU system's extensive self-monitoring. The two-line LCD display and additional LED lights for operation, alarm and failure, provide the user with information regarding the operating status. Potential-free contacts are available for forwarding alarms and malfunctions, e.g. to a central process control or to a fire detection system installed in the building, as well as for power shutdowns.

OneU DD aspirating smoke detector

The early fire detection system continuously takes air samples from the connected IT racks via a piping network with several suction intakes. The standard system is equipped with one sensitive and one ultra-sensitive smoke sensor, which analyse the smoke contents. Two alarm thresholds enable the graduated

combination of power shutdown as well as alarming and extinguishing:

► During the first smoke sensor's preliminary alarm, circuits can already be deactivated at the same time as the alarm, in order to take energy away from an emerging fire.

► If, nevertheless, the fire continues to develop the second smoke sensor's main alarm actives the extinguishing system.
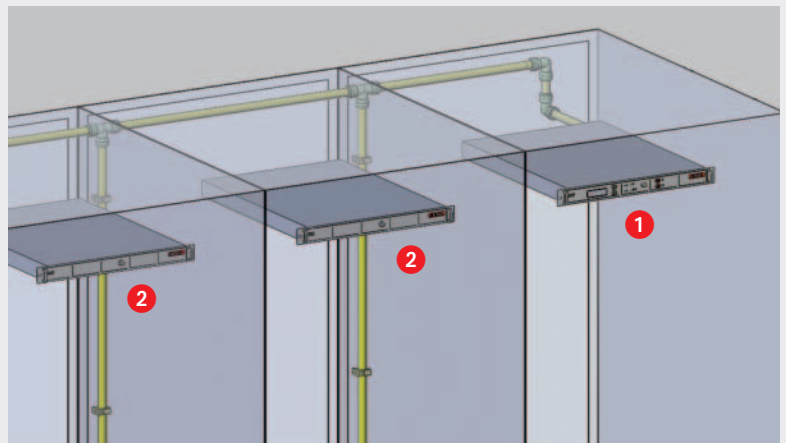
OneU ED NG extinguishing system

The OneU ED NG extinguishing system is an automatic extinguishing system that consists of a Novec™ 1230 extinguishing module with

sufficient extinguishing agent to protect closed IT racks with a maximum volume of 3 m³. It is designed to be connected to the OneU Short active extinguishing system and/or OneU DD aspirating smoke detector. Four devices can be connected to one of the primary devices.

Networking

Up to 5 OneU fire protection systems can be interconnected to jointly monitor interconnected IT racks, meaning that the OneU Short active extinguishing system ❶ or the OneU aspirating smoke detector can monitor and control up to four other OneU ED NG ❷ extinguishing systems in the event of fire.

compact and flexible

Technical Data

	OneU Short active extinguishing system	OneU DD aspirating smoke detector	OneU ED NG extinguishing system
Fitting dimensions (W x H x D) in mm incl. front plate[1]	483 (≈ 19") x 44 (1 U) x 640	483 (≈ 19") x 44 (1 U) x 520	483 (≈ 19") x 44 (1 U) x 640
Weight	15 kg (including extinguishing agent and cartridge with propellant)	8 kg	11 kg (including extinguishing agent and cartridge with propellant)
Operating temperature	+10 °C - +35 °C	+10 °C - +35 °C	+10 °C - +35 °C
Storage temperature	−20 °C - +65 °C (without batteries) −15 °C - +40 °C (with batteries)		−20 °C - +65 °C (storage)
Int. protection rating	IP20 resp. NEMA 1	IP20 resp. NEMA 1	IP20 resp. NEMA 1
Permitted protected volume	max. 3 m³ (for tight cabinets, at least IP54 resp. NEMA 3)	–	max. 3 m³ (for tight cabinets, at least IP54 resp. NEMA 3)
Number of connectable extinguishing modules	4	4	–
Extinguishing agent	approx. 3.0 kg Novec™ 1230	–	approx. 3.0 kg Novec™ 1230
Sensors	2 smoke sensors with different sensitivity for pre-alarm and fire		–
Input manual actuation	limit value analysis	limit value analysis	–
Input extinguishing blocking	via door contacts	via door contacts	–
Potential-free outputs pre-alarm, fire, extinguishing, collective fault – max. contact load	24 V DC/0.5 A	24 V DC/0.5 A	–
Emergency power supply (rechargeable battery)	2 x 12 V DC, 2.2 Ah approx. 4 hours	2 x 12 V DC, 2.2 Ah approx. 4 hours	–
Operating voltage	100/240 V AC, 50/60 Hz	100/240 V AC, 50/60 Hz	24 V DC

[1] without grip and nozzle

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Detailed information can be found in the appropriate technical data sheets.

Technical alterations reserved.