

Rack extinguisher system DET-AC Plus, 1 U

With integral early fire detection

This compact rack extinguisher system DET-AC Plus (Detection Active Plus) is designed for use in the Rittal IT rack, fitted in the 482.6 mm (19") level. The system is equipped with a 2-stage smoke extractor system. A bayed rack may optionally be included in the monitoring and extinguisher system. The eco-friendly, non-toxic NovecTM 1230 is used as the extinguisher medium, which means that this extinguisher system is suitable for universal use. Sensitive hardware such as servers, storage and switches are not impaired by the extinguisher medium.

Thanks to the early sensitive detection of smoke, even in racks with a high level of climate control (airflow speed), this ensures that there is plenty of time to forward an alarm message either acoustically, optically via the LC display on the enclosure front, or by connecting the integral floating contacts to the building management system or fire alarm centre and to the Rittal monitoring system CMC. When opening an enclosure door, activation of the extinguisher system is blocked by the two access sensors (door monitoring). In order to ensure that proper functioning of the system is maintained even in the event of a power failure, an emergency back-up power supply with a stored energy time of 4 hours is integrated into the system.

The system can also be supplied purely as an early fire detection system (EFD Plus) without the extinguisher medium tank.

¹⁾ NovecTM is a registered trademark of 3M.

Technical specifications:

Fire alarm and extinguisher system DET-AC Plus DK 7338.120

- Mounting dimensions (W x H x D): 482.6 mm (19") x 1 U x 640 mm
- Weight: approx. 15.5 kg (including extinguisher and propellant gas cartridge)
- Operating temperature: +10°C to +35°C
- Protection category: IP 20 to IEC 60 529
- Admissible protection volume: Max. 3 m³ (with sealed enclosures)
- Max. no. of DET-AC slave units DK 7338.320 that may be connected: 4
- Max. no. of monitored enclosures: 5 (volume-dependent)
- Extinguisher: 3.2 kg NovecTM 1230
- Sensors: 2 scattered-light sensors with different sensitivities
- Manual trigger input: yes
- Extinguisher blocking input: yes, via door contact
- Outputs for CMC III (via CAN bus unit DK 7030.100): Pre-alarm, fire, collective fault
- Emergency power supply (rechargeable battery): Approx. 4 h
- Operating voltage: 100/240 V AC, 50/60 Hz

Technical specifications:

Early fire detection system EFD-Plus DK 7338.220

- Mounting dimensions (W x H x D): 482.6 mm (19") x 1 U x 480 mm
- Weight: 8 kg
- Operating temperature: +10°C to +35°C
- Protection category: IP 20 to IEC 60 529
- Max. no. of DET-AC slave units DK 7338.300 that may be connected: 5
- Max. no. of monitored enclosures: 5 (volume-dependent)
- Sensors: 2 scattered-light sensors with different sensitivities
- Outputs for CMC III (each via CAN bus unit DK 7030.100): Pre-alarm, main alarm, collective fault
- Emergency power supply (rechargeable battery): Approx. 4 h
- Operating voltage: 100/240 V AC, 50/60 Hz

Technical specifications:

Add-on unit DET-AC Plus slave unit DK 7338.320

- Mounting dimensions (W x H x D): 482.6 mm (19") x 1 U x 640 mm
- Weight: 12 kg (incl. extinguisher and propellant gas cartridge)
- Operating temperature: +10°C to +35°C
- Protection category: IP 20 to IEC 60 529
- Admissible protection volume: Max. 3 m³ (with sealed enclosures)
- Extinguisher: 3.2 kg NovecTM 1230
- Operating voltage: 24 V DC

Early smoke detection:

Thanks to the two highly sensitive optical sensors, minute particles of smoke may be detected even in the early stages of a fire via the active smoke extraction. If the first alarm detects smoke aerosols, a pre-alarm is triggered, and if the 2nd alarm likewise detects smoke, the extinguisher system is activated. This prevents major fires from developing.

Rack requirements:

As a general principle, the racks must meet protection category IP 55, i.e. with sealed doors and screw-fastened side panels. Use of an air/water heat exchanger (LCP) is supported. All cable entry areas must be sealed.

Optional smoke analysis, extension for bayed racks:

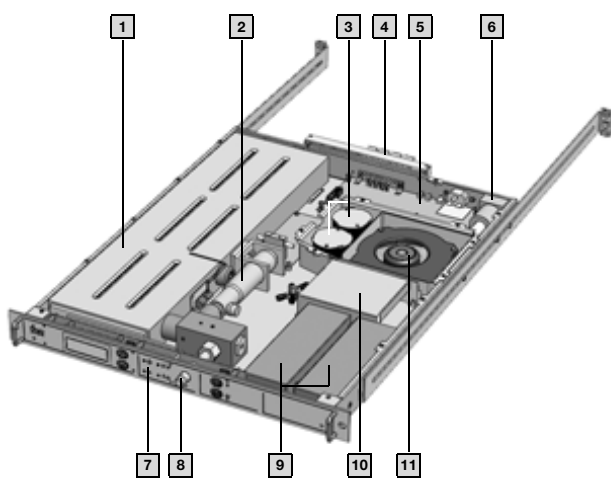
The basic DET-AC Plus short system is designed for a single rack, but neighbouring enclosures may also be incorporated via an additional pipe kit, provided the total interior enclosure volume to be extinguished does not exceed 3 m³. Several extinguisher systems may also be linked together in the bayed enclosure suites, so that all systems may be activated jointly.

Automatic system deactivation (compulsory deactivation):

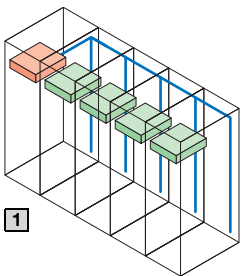
In conjunction with the Rittal enclosure monitoring system CMC plus suitable switchable Rittal socket strips (Power System Module PSM/Power Control Unit PCU with active current measurement, display and switching options), in the event of an alarm, compulsory deactivation of the components installed in the rack may be triggered. In this way, the servers are protected from further destruction. The alarms (pre-alarm, main alarm) may be transmitted via any IP networks and processed by suitable monitoring programs. The extinguisher system is supplied complete with mounting accessories.

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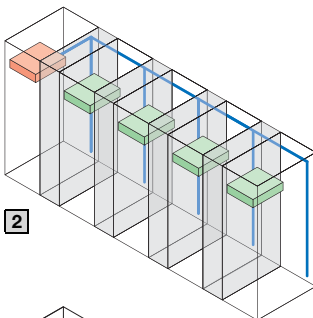
With integral early fire detection



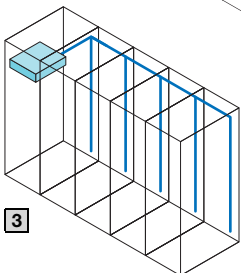
- 1 Extinguisher tank with fill level monitoring, overpressure fuse and electrical tripping device
- 2 Propellant gas cartridge
- 3 Fire sensors
- 4 Connections for CMC and alarm contacts
- 5 Mainboard
- 6 Connections for extractor and waste air pipe
- 7 Front panel with display and operating panel
- 8 Extinguisher nozzle
- 9 Emergency power supply (rechargeable batteries)
- 10 Power pack
- 11 Extractor fan



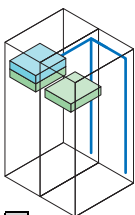
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Examples of baying systems

A maximum of 5 bayed enclosures may be detected with one system; the DET-AC Plus short extinguisher system should be used here, and all other enclosures connected to the integral extractor unit using the DET-AC Plus piping kit. Regarding volume, all other enclosures should each be allocated one DET-AC Plus slave unit. The total volume of the bayed enclosure suite must always be taken into account. The bayed enclosures must be consistently interconnected in order to ensure air exchange. All slave units must be connected to the extinguisher system with detection via a bus. This controls simultaneous activation of the extinguisher gas tank.

1 Extinguishing 5 bayed enclosures:

One extinguisher system, 4 slave units, one connection cable and 10 access sensors are needed

2 Extinguishing 5 bayed enclosures with 4 LCPs:

One extinguisher system, 4 slave units, one connection cable and 18 access sensors are needed

3 5 bayed enclosures, detection only, no extinguishing:


One early fire detection system, 4 piping kits and one connection cable are required


4 Extinguishing 2 enclosures with a depth of 800 mm:

No extinguisher system is used, since the combination of early fire detection and slave units has a smaller depth.

One early fire detection system, 2 slave units, one connection cable and 4 access sensors are needed.

 Extinguisher system

 Slave unit

 Early fire detection

 Extractor pipes

Note:

- The extinguisher system must only be installed and maintained by qualified experts
- Rittal is happy to offer such a service
- When baying several different IT racks together, a combined enclosure interior volume of 3 m³ must not be exceeded

Enclosure interior volume of popular Rittal IT racks

Width mm	Height mm	Depth mm	Enclosure interior volume per rack/m ³
300	2000	1000	0.6
300	2000	1200	0.72
600	2000	1000	1.2
600	2000	1200	1.44
600	2200	1000	1.32
600	2200	1200	1.584
800	2000	1000	1.6
800	2000	1200	1.92
800	2200	1000	1.76
800	2200	1200	2.112