Are you sure that you're secure?

TITANUS *RACK·SENS*®

Earliest possible fire detection and extinguishing system for server racks and control cabinets – ultra compact, for maximum protection!

482,6 mm construction (19")

WAGNER®

Little cause – big impact!

Data loss, business interruption and -termination!

§§ KonTraG

The permanent availability of digital data is an absolute MUST for any company! In May 1998 the »Control and Transparency in Business Act« (KonTraG) was introduced in Germany and internationally the standard »Basel II« was created to require a monitoring system for the early detection of potentially existence-threatening events. This results in the absolute necessity to adequately protect electronic data processing (EDP) hardware and software in relation to the risk scenario.

Corrosion damages hardware components.

It is generally known that the development of fire in electronic cabinets and racks is typically caused by smouldering or slow burning fires. The reasons for this are usually faulty contacts and defective components. If such fires are not detected at a very early stage, e.g. on a printed circuit board, they will lead to sooting and corrosion of the surrounding hardware. Aggressive fumes can damage entire control cabinets and server racks, accompanied by the loss of non-retrievable data.

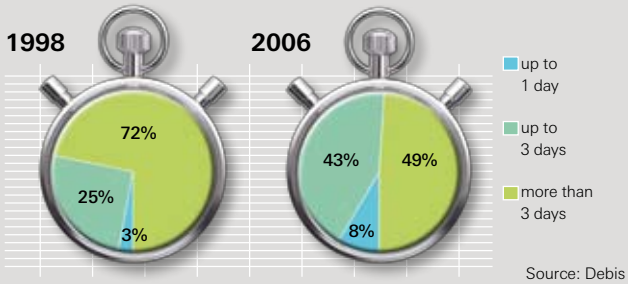
New problems require new solutions.

Self-contained air-conditioned server rack/control cabinet systems cannot be sufficiently protected using conventional fire protection equipment. Fire detection outside cabinets or racks will respond far too late; the damage to the sensitive EDP equipment can already have reached an incalculable extent when the alarm is signalled!

End of business operations faster than anticipated.

The dependence of companies on their EDP represents a potentially existence-threatening risk that cannot be calculated. According to a study carried out by Gerling Insurance, trading companies »survive« after a total failure for 2.5 days, banks for 2 days and just-in-time suppliers for 24 hours at the most.

Survival duration of companies after a total failure of the IT-System



Source: Debis

Three decisive days!

The risk potential in the first three days and total failure of the EDP have drastically increased over the last years. According to Debis, the number of companies forced to close after 3 days has almost doubled from 1998 (28 %) until 2006 (51 %).

TITANUS *RACK·SENS*®

Advantage in time – to maximise your safety level!

3-Stage Safety Concept!

A/B DIN EN 54-20

1 Earliest, highly sensitive smoke detection

Maximum time advantage is required for minimisation of fire damage.

2 Automatic system shut down

Safest alternative against the spread of fire. The necessary energy to support the fire is withdrawn.

3 Optimum gas extinguishing

Extinguishing exactly where the fire started.

Safety according to standard.

Classes »A« and »B« of the new european standard EN 54 -20 for the first time offer the possibility of clearly categorising the suitability of a warning device for earliest fire detection.

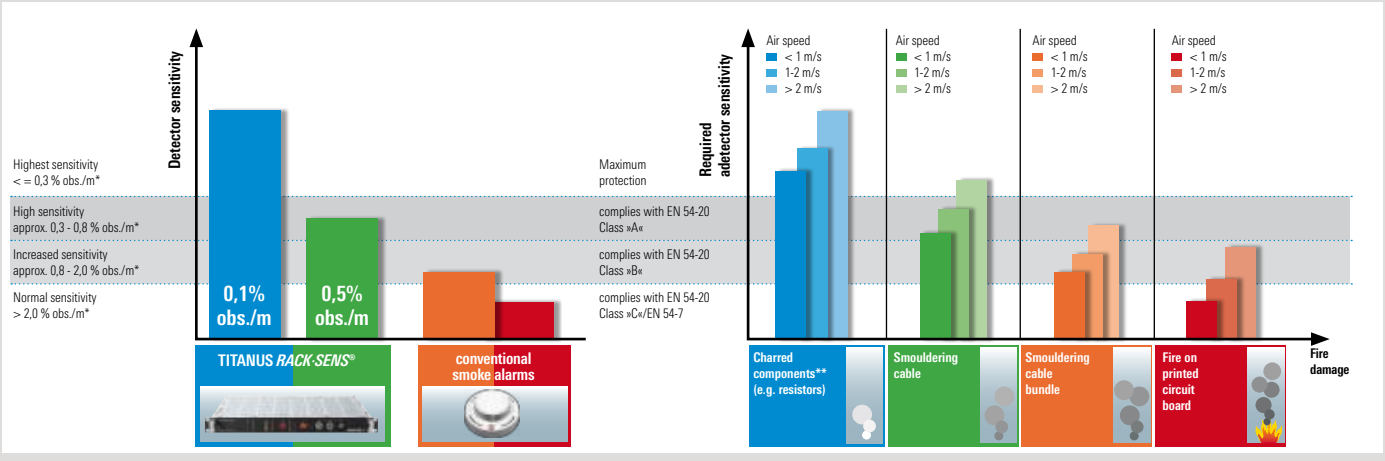
Thus: The extreme smoke dilution at high air speed requires a yet increased sensitivity for earliest possible fire detection (see chart).

Time gain – time advantage.

The time gained by earliest fire detection depends on the fire scenario. The slow fire development in electrical control cabinets offers potential for a time advantage of many minutes or even hours. In order to minimise the fire damage, this valuable time must then be used by the immediate initiation of countermeasures.

More transparency in order to qualify earliest fire detection
by utilising the new classification classes »A« and »B« in accordance with DIN EN 54-20.

Detector sensitivity for cabinet protection depending on the fire scenario and air dilution (air conditioning).



* obs. = light obscuration

** design concept to be in accordance with the technical manual TITANUS *RACK·SENS*®

TITANUS *RACK·SENS*®

Top innovations to enhance your safety!

Leading edge technology

VdS
G 206004

- ultra-flat high-tech fire protection starting with 44,45 mm construction height (1U) and 482,6 mm construction (19“) format
- full compliance with sensitivity classes A, B and C in accordance with european standard EN 54 Part 20, tested by VdS**
- integrated fire detection and extinguishing in one compact unit (88,9 mm construction height (2 U))
- earliest possible detection by air sampling smoke detection
- high immunity to false alarms due to intelligent signal processing via LOGIC·*SENS*
- networkable via Ethernet for **Visu*LAN***®, SNMP, Webinterface, OPC-Server
- interactive diagnostic tools allow interruption-free maintenance
- future-proof and extendable due to high degree of modularity
- easy to install – quick maintenance turnaround times
- on-cabinet version available for retrofitting of existing systems

** VdS = Organization of Property Insurers

Fire protection in its most compact form for network cabinets, switch gear and server racks.

Compact and space-saving, innovative technology with very little demands for space.

Especially designed for EDP cabinets, server racks and control cabinets, **TITANUS *RACK·SENS*®** presents an extremely cost-effective fire protection solution for 482,6 mm construction (19“) cabinets and racks. The integration into existing and new systems is easily achieved due to modular technology. Its use in high density data centres for local high sensitive fire detection and for the initiation of counteractive measures is imperative.

Well proven technology, even in most difficult situations.

Only a highly sensitive air sampling smoke detection system can comply with the highest requirements in fire detection, especially under the most adverse conditions, e.g. at high air speeds and with the associated intensive smoke dilution.

Designed for:

- network cabinets and server racks
- telecommunication cabinets
- control switch cabinets
- low-voltage cabinets

Compact solution with minimum space requirement
TITANUS RACK·SENS®
44,45 mm construction height (1 U)
– fire detection with optional external extinguishing unit (no fig.)

Maximum protection with integrated extinguishing
TITANUS RACK·SENS®
88,9 mm construction height (2 U)
– fire detection and extinguishing in one unit

Advanced technology – flexible and economic!

TITANUS *RACK·SENS*®

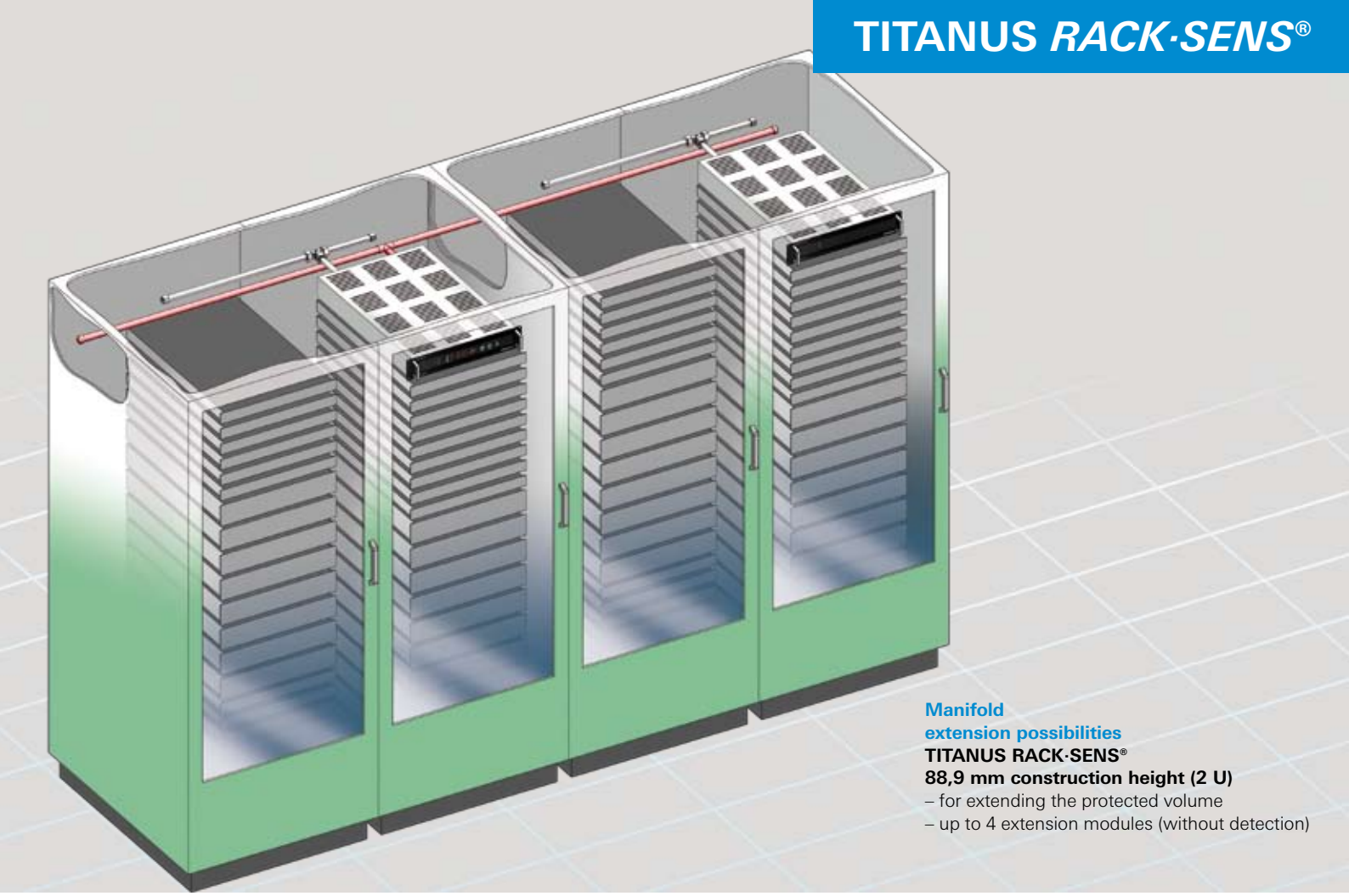
Earliest fire detection and extinguishing in 482,9 mm construction height (19") format
Network cabinets, server racks and control cabinets are often decentrally positioned and mainly perform their essential services for the company and the working process without supervision. In the case of fire, however, this can have fatal, business threatening consequences. Right here is where the fire protection concept of **TITANUS *RACK·SENS*®** comes into focus: The air sampling smoke detection system already detects very small amounts of smoke fumes, which are usually present during the earliest phases of a developing fire. This creates a valuable time again, which is absolutely essential for the initiation of countergenactive measures such as »soft« power-down, data relocation, selective shut downs and/or extinguishing.

Suitable for any situation
The high degree of modularity ensures the individual adaptation to the respective safety requirements and the existing infrastructure, while providing excellent economic properties.

Plug & Play
The time requirement for installation and commissioning is reduced to a minimum due to a preengineered configuration.

Efficient
Smoke- and temperature monitoring, object shut down and integrated or external extinguishing solutions are available for up to 5 adjacent server racks or control cabinets.

Visu*LAN*® T
Intelligent software allows to display all networked units within a layout of the protected building and for the visualisation of device-specific status messages.



Manifold
extension possibilities
TITANUS RACK·SENS®
88,9 mm construction height (2 U)
– for extending the protected volume
– up to 4 extension modules (without detection)

Advanced functionality – efficient and future-proof!

High sensitivity
Extremely high immunity to false alarms due to intelligent signal processing with **LOGIC·*SENS*** by being at the same time up to 400-times more sensitive than conventional smoke detectors.

»Tailor-made«
Individually configurable to customer requirements or a feature set required for the application. You only pay for what you really need.

Easy to service, retrofittable
Easily extendable and configurable. In order to retrofit existing cabinet systems, **TITANUS *RACK·SENS*®** - units are available as on-cabinet versions.

Dual detector dependency
In order to comply with the highest safety class requirements for shut down and extinguishing, a second detector is optionally available.

System shut down
Step by step »soft« shut down for data relocation, run-down and de-energising: The necessary support energy for maintaining and spreading the fire is withdrawn.

Gas extinguishing
Innovative gas extinguishing, optionally either integrated or as an external solution, even for larger volumes. Not only conventional, but also modern extinguishing agents are available, which are especially approved for application in the IT area and are preferentially used worldwide.

Communicative
Integration in existing alarm- and building management systems is provided via OPC-server. Visualisation of all parameters via remote diagnostics and remote maintenance. Status and event messages can be displayed via the innovative visualisation software **Visu*LAN*® T**.

PIPE·GUARD
Permanent monitoring of the air sampling pipe network and continuous supervision of the integrated air flow sensor. An additional plus in safety!

Options
Network ability, manual release, AC-power supply version (mains 100 – 240 Volt) with battery backup for 4 hours, bargraph (smoke level indicator) and temperature monitoring for up to 5 individually selectable temperature sensors.

Product portfolio

Configurations for all requirements

The basic version of the pre-configured units already complies with the high demands on earliest fire detection. The fully featured version of the **TITANUS *RACK·SENS*®** satisfies even most demanding customer requirements regarding air sampling smoke detection- and display technology. Additionally an improved safety concept is included.

44,45 mm construction height (1 U)

TITANUS *RACK·SENS*®
44,45 mm construction height (1 U) detection unit

- 24 V supply
- integrated air sampling smoke detection system with 1 detector
- pre-alarm
- 5 programmable relays

44,45 mm construction height (1 U)

TITANUS *RACK·SENS*®
44,45 mm construction height (1 U) full featured detection unit
based on detection unit, but equipped with individual configurable options:

- AC mains (100 – 230 V), 4 h battery backup
- bargraph (smoke level indicator)
- 2nd Detector (incl. 2nd pre-alarm)
- temperature monitoring for up to 5 sensors
- network module

88,9 mm construction height (2 U)

TITANUS *RACK·SENS*®
88,9 mm construction height (2 U) basic unit
based on detection unit, but additionally equipped with:

- 1 or 2 (optional) extinguishing cylinders
- monitored output for shut down relay
- pre-configured for connection of extinguishing fan to improve extinguishing hold time after release of the extinguishing agent

88,9 mm construction height (2 U)

TITANUS *RACK·SENS*®
88,9 mm construction height (2 U) full featured unit

- detection features as full featured detection unit
- extinguishing features as basic unit

88,9 mm construction height (2 U)

TITANUS *RACK·SENS*®
88,9 mm construction height (2 U) extension unit
for extension of the extinguishing capacity

- without detection, extinguishing features as basic unit
- connection via 2-wire bus and 24 V supply

Technical data

Common performance characteristics

Supply voltage	24 V DC (15 to 30 V) or 100 to 240 V AC*
Battery backup	for max. 4 hours (with 100 – 230 V mains operation)*
Displays (full featured unit)	– fault
	– battery malfunction*
	– mains malfunction*
	– service / blocked
	– extinguishing released
	– bargraph (smoke level indicator)
	– operation
	– pre-alarm, main alarm per detector*
	– alarm indicator
	– temperature display* (for up to 5 cabinets)
Operating elements	Button for:
	– reset
	– buzzer off
	– configuration
	– sensor selection for temperature monitoring
	Key-operated switch for:
	– on, off
	– service (isolate)
Alarm sensitivity	0.1* or 0.5 – 2.0 % obs./m
Alarm stages	2 (main alarm and pre-alarm) per detector
Number of protected cabinets max.	5 (according to VDE 0833)
Optical interface	infrared interface for diagnostic tool
Sensor temperature range	0 – 80 °C (extendable temperature range optional)
Terminal connections	10 x 0.5 mm^2 to 2.5 mm^2
Pipe connection	conical plug-in pipe connection for Ø 25 mm
Total pipe length max.	15 m
Number of air sampling holes max.	10
Pipe monitoring system for	
blockage or breakage	via integrated air flow sensor
Housing material	steel sheet, galvanised
Colour (front)	RAL 7021 black-grey
IP-rating (EN 60 529)	IP 20

* Depending on the individually selected feature set, excerpt from the technical manual TITANUS RACK·SENS ®

Technical data

Performance characteristics
44,45 mm construction height
(1 U) units

Power consumption standby (at 24 V)	135 mA* – 330 mA*
Power consumption alarm (at 24 V)	235 mA* - 515 mA* (plus 250 mA per extinguishing fan)
Monitored inputs/outputs	– door contact
	– reset (reset input)
	– max. 5 temperature sensors*
	– manual release
	– data A / B bus connection and 24 V supply
	for external modules
	– network*
Potential-free relay outputs	– pre-alarm, main alarm per detector*
	– fault
	– max. 5 programmable relays
	– extinguishing released
	– service (isolate)
Max. contact load alarm/fault relay	1 A / 3 0 V DC
Extinguishing	via external extinguishing module*
	and external extinguishing cylinder
Object shut down	via external extinguishing module or shut-down module
Weight (full featured)	approx. 6.4 kg*
Dimensions (H x W x D mm)	43.6 x 483 x 300
Minimum required installation depth	approx. 400 mm

Performance characteristics
88,9 mm construction height
(2 U) units

Power consumption standby (at 24 V)	155 mA* – 350 mA*
Power consumption alarm (at 24 V)	255 mA* – 535 mA* (plus 250 mA per extinguishing fan)
Monitored inputs/outputs	– door contact
	– reset (reset input)
	– max. 5 temperature sensors*
	– extinguishing fan
	– shut down relay
	– manual release
	– data A / B bus connection and 24 V supply
	for external modules
	– network*
Potential-free relay outputs	– pre-alarm, main alarm per detector*
	– fault
	– max. 5 programmable relays
	– extinguishing released
	– service (isolate)
Max. contact load alarm/fault relay	1 A / 3 0 V DC
Extinguishing cylinder	integrated
Extinguishing agent container volume	max. 2 x 2 litres
Extinguishing agent	Novec™ 1230 of 3M™ or
	on request FM-200 (HFC-227ea)
Object shut-down	integrated control for external relay
Weight (full featured)	approx. 32 kg*
Dimensions (H x W x D mm)	88.1 x 483 x 670
Minimum required installation depth	approx. 900 mm

* Depending on the individually selected feature set, excerpt from the technical manual TITANUS *RACK-SENS*®
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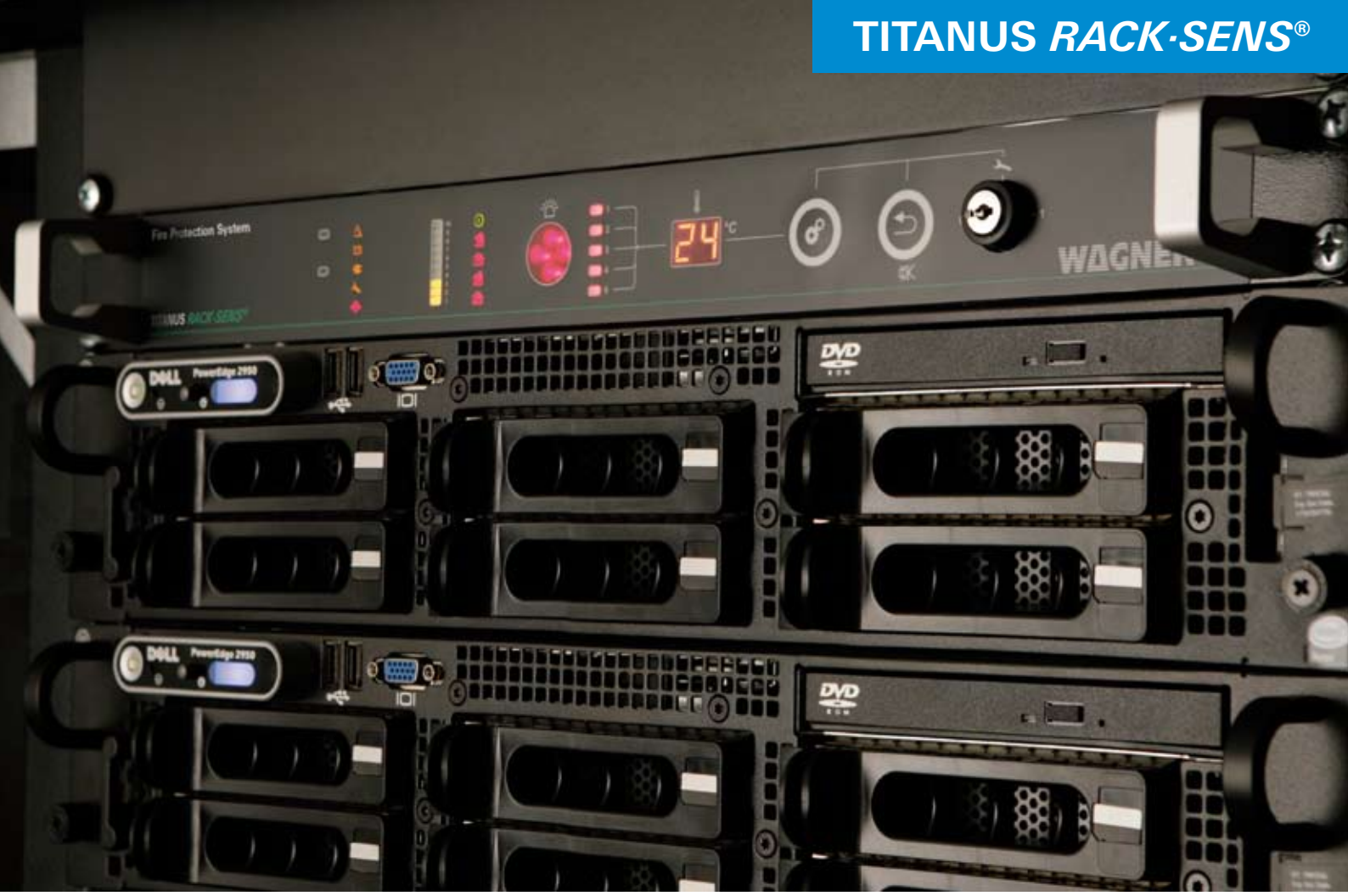
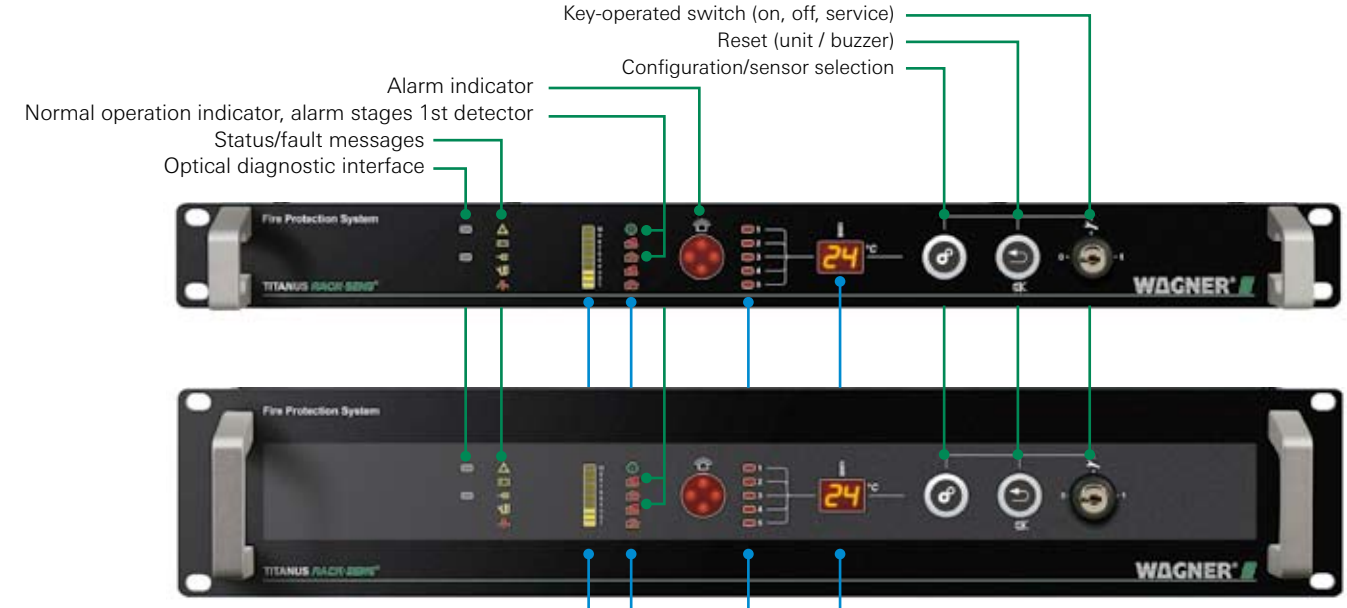


Real innovation lies within the details!



88,9 mm construction height (2 U) units:
Connections for the extinguishing fan, shutdown relay and extinguishing nozzle are integrated at the rear panel of the housing.

(Device illustrations: full featured versions)

PREVENT **OxyReduct®**

Actively prevents fires.
OxyReduct® is the innovative way in fire protection.

DETECTION **TITANUS®**

Very early fire detection with TITANUS® provides critical additional time to assess the risk and take counter measures.

SUPPRESSION **FirExting®**

Fixed fire extinguishing systems with various gaseous extinguishing agents.

COORDINATION **VisuLAN®**

Visualisation and control of important system data combined with multiple diagnostic and messaging functions integrated into a powerful building management system.

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