

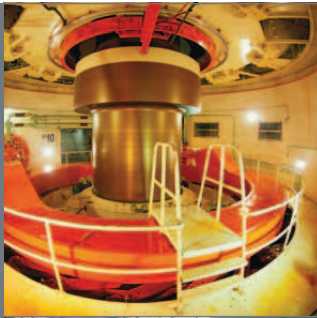


Highest level of safety under the most difficult conditions

Fire protection for potentially explosive areas

The Ex Products

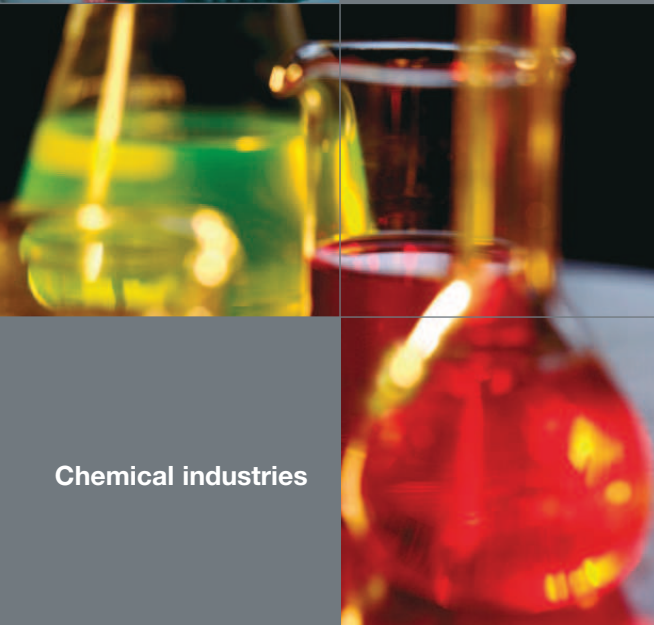
Nuclear power



Pharmaceuticals



Chemical industries



Logical: The avoidance of flammable materials still represents the easiest form of explosion protection. But in the chemical and pharmaceutical industry as well as other branches of industry, flammable materials are an everyday occurrence. There is no way around it.

Flammable gases, mist, and vapors from flammable liquids as well as clouds of flammable dusts can form a dangerous explosive atmosphere in connection with air. In such potentially explosive areas, resources such as electrical and mechanical devices can represent a risk not to be underestimated.

Avoiding such materials is usually difficult since flammable gases, mist, vapors, and also possibly dust are mandatory for the production sequence. The explosion protection in potentially explosive areas focuses on the elimination of possible sources of ignition in potentially explosive atmospheres, including hot surfaces, mechanical and electrical sparks, static electricity, and equalizing currents.

3 types of explosion protection can be fundamentally distinguished: the primary, secondary, and tertiary explosion protection. In primary explosion protection, the formation of a potentially explosive atmosphere is avoided right from the beginning. If this is not possible, which is often the case, the secondary explosion protection method can be used. Suitable resources are used with the aim of making potential ignition sources ineffective in the endangered areas. The third method is called tertiary explosion protection and does not prevent an explosion, but instead restricts its effects, for example through defined decompression via specific opening mechanisms.

The fire protection products represented in the following fall back on the secondary explosion protection methods and prevent a concurrence of ignition source and potentially explosive atmosphere – in a qualified and certified way.

The areas of application of the Ex Products

Paint and varnish processing, gas and liquid-filling machines, plastic production

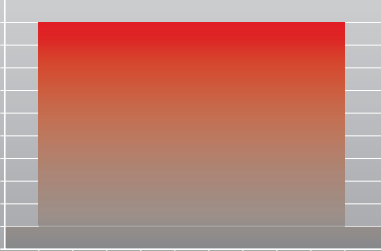
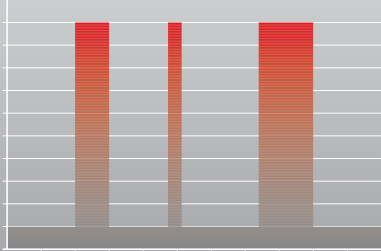
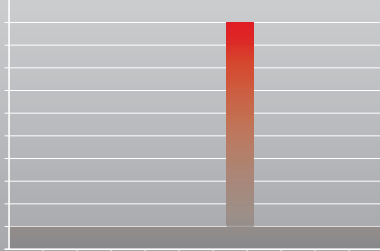
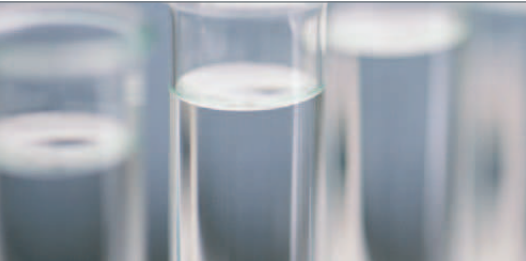
European Ex Products



In July 2003, the European ATEX guidelines introduced a new classification of danger zones. It distinguishes different potentially explosive atmospheres according to their risk factor. Installed fire detection devices must correspond to these specific requirements.

This categorization shows the extent of the necessary measures to be taken. Our Ex Products correspond to this ATEX guidelines.

In the workplace, potentially explosive areas generally show characteristics of zone 1 and 2 as well as zone 21 and 22 at most. Zone 0 and 20 are the exceptions.

Zone 0/20	Zone 1/21	Zone 2/22
Areas in which a potentially explosive atmosphere is continuously, over long periods, or frequently present are: • as a mixture of air and flammable gases, vapors, fogs (zone 0) • in the form of a cloud of flammable dust contained in the air (zone 20)	Areas in which a potentially explosive atmosphere can sometimes form during normal operation: • as a mixture of air and flammable gases, vapors, fogs (zone 1) • in the form of a cloud of flammable dust contained in the air (zone 21)	Areas in which a potentially explosive atmosphere does not usually occur or occurs only short-term during normal operation: • as a mixture of air and flammable gases, vapors, fogs (zone 2) • in the form of a cloud of flammable dust contained in the air (zone 22)
Danger of explosion  Frequency and duration	Danger of explosion  Frequency and duration	Danger of explosion  Frequency and duration
e.g. inside reaction vessels 	e.g. during the mixing of chemicals 	e.g. during storage 

Products for operation in potentially explosive areas

Automatic Detectors for potentially explosive areas



Automatic point-type fire detector series IQ8Quad Ex (i) without isolator especially for use in explosive environments.
Operation on the esserbus® or on the esserbus®-PLus with individual addressing in connection with Ex-barrier 804744.
Operation as standard detector in connection with Ex-barrier 764744.

Examination Certificate

No.:

TÜV 09 ATEX 554910

EX-protection:

Ex ib IIC T4 Gb

Ta: -20 °C ... +70 °C

Category:

II 2G

Operation in ex zone 1 and 2 only via Ex-barrier

Part No.: 804744

or 764744

Rate-of-rise heat

Detector IQ8Quad Ex (i)

Part No.: 803271.EX

VdS: G 209223

Automatic heat detector with quick semiconductor sensor for the reliable recognition of fires with fast rate of temperature rise as well as integrated fixed temperature heat function for the recognition of fires with slow temperature rise.

Optical Smoke

Detector IQ8Quad Ex (i)

Part No.: 803371.EX

VdS: G 209224

Scattered-light smoke detector for reliable early recognition of fires.

O2T multi sensor

detector IQ8Quad Ex (i)

Part No.: 803374.EX

VdS: G 209225

Intelligent detector with two integrated optical smoke sensors with different scattered-light angles as well as additional heat detector sensor evaluation for the recognition of smouldering fires up to open fires with uniform characteristics.

Detector bases



Detector base

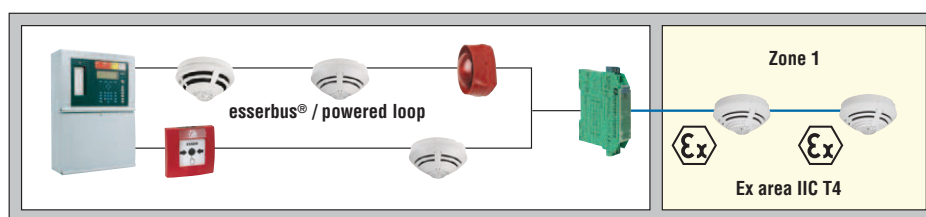
Part No.: 805590

Detector base for the use in connection with the series IQ8Quad Ex (i) explosion-proof fire detectors.

Applications for early fire detection in potentially explosive areas

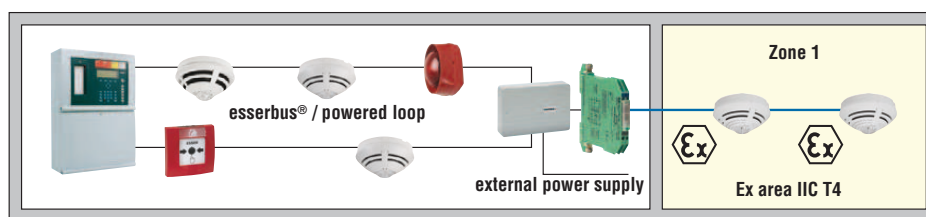
Ex-barrier 804744

Operation with individual addressing



Ex-barrier 764744

Operation with conventional zones



Ex barrier for intrinsically safe detectors Series IQ8Quad Ex (i) and 9100



Part-No. 764744

Approval: ATEX

Ex-barrier type Z969 (071945) for conventional operation of intrinsically safe detectors from the IQ8Quad Ex (i) series in default groups in connection with the detector base 805590.

Ambient temperature (Ta)	-20 °C ... 60 °C
Mounting	Top-hat rail
Air humidity	< 95 % (non condensing)
Dimensions	W: 12.5 mm H: 115 mm D: 110 mm



A safety barrier does not replace an overvoltage protection according to IEC 801, DIN VDE 0185 and 0855. VdS approval is not required.
You can find more detailed information on the installation and the operation in the documentation Part No. 798920 for IQ8Quad Ex (i) series detectors and Part No. 798913 for 9100 Ex (i) series detectors.

Features

- 1-channel
- DC version, positive polarity
- DIN rail mounting
- Increased nominal resistance 1 kΩ (Z***.1K)
- High power version (Z***.H)

Hazardous area connection

Connection	terminals 1, 2
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Safe area connection

Connection	terminals 7, 8
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Ambient conditions

Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
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Mechanical specifications

Protection degree	IP20
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Connection	self-opening connection terminals, max. core cross-section 2 x 2.5 mm ²
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Mass	approx. 150 g
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Dimensions	12.5 x 115 x 110 mm (0.5 x 4.5 x 4.3 in)
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Mounting	mounting on 35 mm DIN rail acc. to DIN EN 60715
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Data for application in conjunction with hazardous areas	see page 443 for entity parameters
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EC-Type Examination Certificate	BAS 01 ATEX 7005
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Group, category, type of protection	(Ex) II (1)GD, I (M1) [Ex ia] IIC, [Ex iaD], [Ex ia] I (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2]
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Statement of conformity	TÜV 99 ATEX 1484 X
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Group, category, type of protection, temperature classification	(Ex) II 3G Ex nA II T4 [device in zone 2]
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FM approval	
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Control drawing	116-0118
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UL approval	
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Control drawing	116-0139
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CSA approval	
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Control drawing	116-0119
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IECEx approval	IECEx BAS 09.0142
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Approved for	[zone 0] [Ex ia] IIC, [Ex iaD], [Ex ia] I
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