Ex Products

ESSER
by Honeywell

Highest level of safety under the most difficult conditions

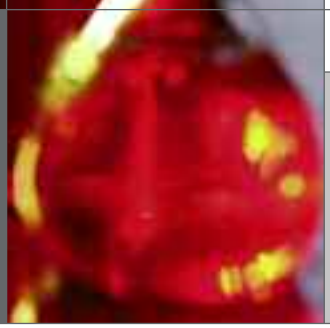
Fire protection for potentially explosive areas

▶ Fire detection technology

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

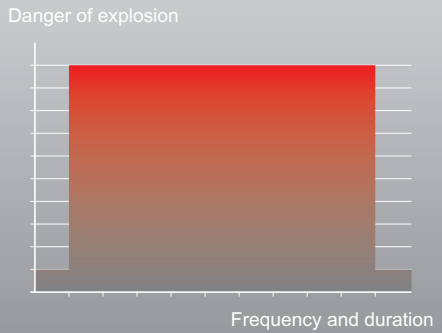
In July 2003, the European ATEX guidelines introduced a new classification of danger zones. It distinguishes different potentially explosive atmospheres according to their risk factor. Installed fire detection devices must correspond to these specific requirements. This categorization shows the extent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

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)**

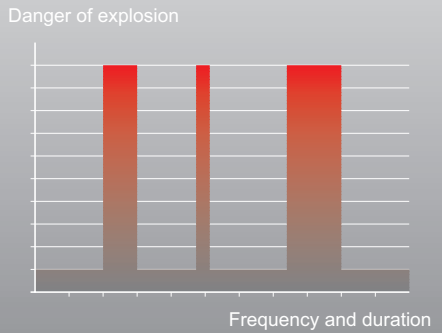


e.g. inside reaction vessels

Zone 1/21

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)**

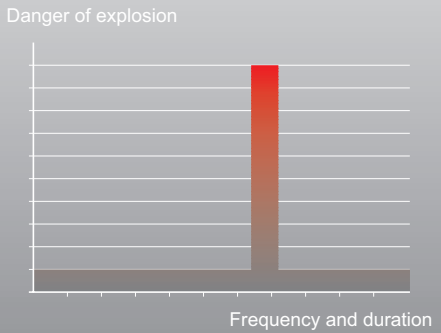


e.g. during the mixing of chemicals

Zone 2/22

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)**



e.g. during storage

Products for operation in potentially explosive areas

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 adressing 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
Ta: –20 °C to +70 °C
Category: II 2 G
Operation in ex zone 1 and 2 only via Ex-barrier Part No.: 804744 or 764744

Rate-of-rise Detector IQ8Quad Ex (i)
Part No.:
803271.EX

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

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

O²T Intelligent Detector IQ8Quad Ex (i)
Part No.:
803374.EX

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.

Manual call points

Manual fire alarm
Part No.: 761697
EX-protection:
Ex e d mb IIC T6, T5
Ta: –55 °C to +65 °C (T6)
Ta: –55 °C to +85 °C (T5)
Category: II 2 G
VdS: G297060

Manual fire alarm for the manual activation of a fire alarm and/or danger alarm at explosion-hazardous operating sites.

Type examination certificate: PTB 97 ATEX 3197

Special detectors

IR flame detector X 9800
Part No.: 761347
VdS: G203084

UV flame detector X 2200
Part No.: 761348
VdS: G203083

UV/IR flame detector X 5200
Part No.: 761349
VdS: G203085

Type examination certificate:
DEMKO 02 ATEX 132195
EX-protection:
EEx d II C T5–T6
Ta: –55 °C to +75 °C (T5)
Ta: –55 °C to +60 °C (T6)
Category: II 2 GD

The flame detectors are suitable for the detection of smokeless liquid and gas fires as well as for smoke-intensive open fires in explosion-protected areas of zones 1 and 2 as well as zones 21 and 22 which develop for example with the burning of oil products, gases, wood or plastics.

Typical applications can be found in petrochemistry, in turbine halls, and in the automotive industry, among others.

Performance features:

- Totally enclosed, pressure-proof housing approved for operation in the Ex zones 1 and 2
- Status display via a 3-colored LED for operation, alarm, and error
- Forwarding of the statuses to the fire detector control panel via 3 integrated relays
- Maintenance by means of magnet with no separate test lamp
- Reliable protection also in the case of difficult environmental conditions (IP 66 protection)
- Microprocessor-controlled, heated optics for the increased safety from moisture and ice
- Reliable immunity to external sources via combined UV/IR evaluation with the X 5200

Alarm signaling devices

Ex signaling device
Part No.: 045040
EX-protection:
EEx ma II T3
Ta: –22 °C to +55 °C
Category: II 3 GD

The Ex signaling device DS 10 has been specially designed for use in industrial environments (zone 2). Its robust die-cast aluminum housing is resistant to environmental influences and chemicals.

Ex sound generator
Part No.: 766253
EX-protection:
II 2 G EEx de IIC T4
Category: II 2 G

The Ex sound generator is particularly suitable for use in industrial areas with potentially explosive environments (zone 1 and zone 2). The robust die-cast aluminum housing is resistant to environmental influences and chemicals.

Close-and-retain systems

Ex magnetic door retainer
Part No.: 767153
EX-protection:
EEx me II T6
Category: II 2 G

Magnetic door retainer in pressure-proof die-cast housing.

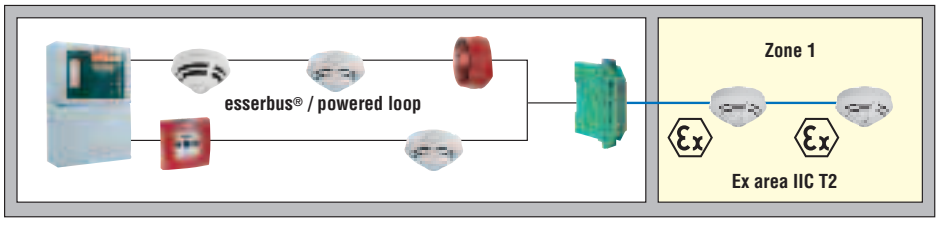
Type examination certificate: ATEX 1778X

Accessories

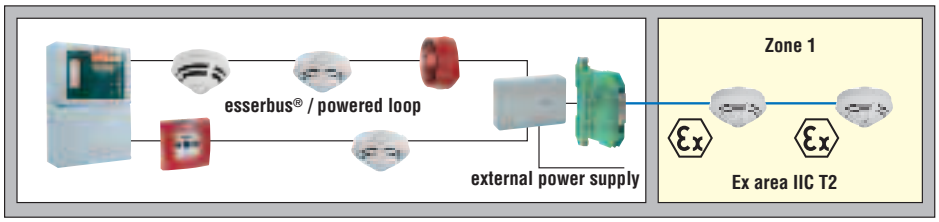
	**Ex-barrier** Part No.: 804744	Ex-barrier for the operation of intrinsically safe IQ8Quad Ex (i) series detectors directly on the esserbus® / esserbus®-PLus* with individual addressing in connection with the detector base 805590 in zones 1 and 2. **Type examination certificate:** BAS 00 ATEX 7087
	**Ex-barrier** Part No.: 764744	Ex-barrier for the operation of intrinsically safe IQ8Quad Ex (i) series detectors as conventional detectors in connection with the detector base 805590 in zones 1 and 2. **Type examination certificate:** BAS 01 ATEX 7005
	**Isolation block and assembly block** Part No.: 764745	For the isolated assembly of the barriers (off-ground) 764744 on standard C rail.
	**Housing** Part No.: 764752	Housing for the installation of maximum 10 Ex-barriers for the secure operation of intrinsically safe detector groups.
	**Cable glands** Part No.: 764754	Cable glands for housing 764752.

Applications for early fire detection in potentially explosive areas

Ex-barrier 804744
Operation with individual addressing



Ex-barrier 764744
Operation with conventional zones



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*(esserbus®-PLus = powered loop)