



Obligatory Information for Ex (i) devices

EN Technical Information

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Intended purpose

This products may only be used for the applications outlined in the catalogue and in the technical description, and only in conjunction with the recommended and approved external devices and components.

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The information contained in this documentation is provided without warranty.

Safety-related user information

This manual includes all information required for the proper use of the products described.

In order to ensure correct and safe operation of the product, all guidelines concerning its transport, storage, installation, and mounting must be observed. This includes the necessary care in operating the product.

The term 'qualified personnel' in the context of the safety information included in this manual or on the product itself designates:

- project engineers who are familiar with the safety guidelines concerning fire alarm and extinguishing systems.
- trained service engineers who are familiar with the components of fire alarm and extinguishing systems and the information on their operation as included in this manual.
- trained installation or service personnel with the necessary qualification for carrying out repairs on fire alarm and extinguishing systems or who are authorised to operate, ground and label electrical circuits and/or safety equipment/systems.

Symbols

The following information is given in the interest of personal safety and to prevent damage to the product described in this manual and all equipment connected to it.

Safety information and warnings for the prevention of dangers putting at risk the life and health of user and maintenance personnel as well as causing damage to the equipment itself are marked by the following pictograms. Within the context of this manual, these pictograms have the following meanings:



Warning - Designates risks for man and/or machine. Non-compliance will create risks to man and/or machine. The level of risk is indicated by the word of warning.



Note - Important information on a topic or a procedure and other important information!



Standards and guidelines - Observe configuration and commissioning information in accordance to the national and local requirements.

Dismantling



In accordance with Directive 2002/96/EG (WEEE), after being dismantled, electrical and electronic equipment is taken back by the manufacturer for proper disposal.

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1 General / Application

This technical information describes the installation and operation of automatic fire detectors of the series IQ8Quad Ex (i), manual call points IQ8MCP Ex (i) and conventional MCP Ex (i) as well as Ex barriers (Part No. 764744 and Part No. 804744) in explosion-hazardous areas.

The information and technical specifications detailed in this documentation should enable an experienced fire alarm specialist to assemble and install the devices quickly and safely. Relevant knowledge, skills and qualifications are required.



These instructions must be read through carefully and understood before any work is commenced. Proper assembly and installation, as well as safe working conditions, require compliance with all specified safety and operating information in these instructions, as well as a correctly planned FAS that conforms to the applicable standards and guidelines.



- All other applicable documentation for the devices used must be taken into consideration when designing, commissioning and servicing the fire alarm system.
- The installation and service personnel must have the necessary qualifications for carrying out repairs on such systems and/or be authorised to operate, earth and label electrical circuits and devices or systems in compliance with the relevant safety standards – especially in explosion-hazardous areas.
- Observe the special instructions for the operator. These are listed in the individual sections.

Additional and updated Information

The described features, specifications and product related information in this manual correspond to the date of issue (refer to date on the front page) and may differ due to modifications and/or amended standards and regulations of the system design, installation and commissioning.

Updated information and declaration of conformity are available for comparison on the www.esser-systems.de homepage.

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2 Normen und Richtlinien

When fire alarm systems are being installed and operated, the applicable standards and guidelines as well as the generally accepted technological standards must be complied with. Any deviation from those rules is only admissible if the same degree of safety can be ensured with different means. Installations within the European Community are primarily subject to all EU regulations defining the current standards for security systems.

In Germany, systems are considered to be in compliance with the general technical rules or the standards of the VDE (Verband Deutscher Elektrotechniker, Association of German Electrical Engineers). They may also be considered to be in compliance with the standards of the EU for security systems if they meet the technical guidelines of another comparable institution within the European Community which have been accepted in accordance with directive on low-voltage systems. The same must be applied for all applications of additional, product relating guidelines, e.g. EMI-Guideline and the Construction Products Regulation.

Examples of the standards – excerpt (not necessarily exhaustive):

- Standards of the DIN EN 54 "Fire alarm systems".
- Standards of the DIN VDE 0100 issue, particularly DIN EN 0100-410 „Installation of high-voltage systems with rated voltage up to 1000 V“, DIN VDE 100-718, Install low voltage systems – Requirements for sites, rooms and special systems and DIN VDE 0105-100 „Operation of electrical system: General commitments“.
- Standards of the DIN EN 62305 or DIN VDE 0185-305 issue, particularly DIN VDE 0185-305-1 „Lightning protection: General standards. DIN VDE 0185-305-2 „Risk-Management“, DIN VDE 0185-305-3 „Protection of buildings and persons“ and DIN VDE 0185-305-4 „Electrical and electronic systems in buildings“.
- DIN VDE 0701-1 „Maintenance, Modification and Test of electrical devices: General commitments“.
- Standards of the DIN VDE 0800 issue, particularly DIN VDE 0800-2 „General commitments, Requirements and Tests for system security“, DIN VDE 0800-1 „Communication systems, Earthing and potential compensation“, DIN VDE 0800-174-2 „Information systems – design and installation of communication cabling in buildings“.
- DIN VDE 0815 „Cables for communication and information systems“.
- Standards of the DIN VDE 0833 issue Hazard alarm systems for Fire, Intruder and Hold-up, particularly DIN VDE 0833-1 „General commitments“, DIN VDE 0833-2 „Commitments for fire alarm systems (FAS)“, DIN VDE 0833-3 „Commitments for Intruder and Hold-up systems“ and DIN VDE 0833-4 „Commitments for Voice alarm systems within fire protection“.
- Standards of the DIN VDE 0845 issue, particularly DIN VDE 0845-1 „Protection of Communication systems against Lightning, electrostatic charge and overvoltage from high-voltage systems; Actions to avoid over-voltage“.
- DIN 14675 Fire alarm systems - mounting and operation.



- Within the EU, these technological standards must be complied with.
- Depending on the place of use, national/regional requirements of certain organisations (e.g. local fire brigades and competent authorities) must also be observed.
- In other countries both inside and outside of Europe (for example, in the USA: NFPA and UL requirements), country-specific standards, guidelines and laws must be complied with.

In addition, even more stringent requirements apply in Germany, for example, such as the guidelines of VdS Schadenverhütung GmbH (VdS):

- VdS 2046 Safety rules for electrical power systems with voltages up to 1000 V.
- VdS 2015 Electrical appliances and systems – rules for damage prevention.
- VdS 2095 Design and installation of fire alarm systems.
- VdS 2833 Overvoltage protection measures for Hazard Alarm Systems.
- Observe national and local building law requirements and regulations (building regulations).

The latest ATEX Directive applies for all workplaces within Europe.

Specific ATEX-relevant standards – excerpt (not necessarily exhaustive)

DIN VDE 0166 - Installation of electrical apparatus in areas endangered by explosive substances.

- DIN EN 1127 - 1 - Explosive atmospheres - Explosion prevention and protection.
- EN 60079 - 0 - Electrical apparatus for explosive gas atmospheres - General requirements.
- EN 60079 - 10 - Electrical apparatus for explosive gas atmospheres - Classification for hazardous areas.
- EN 60079 - 11 - Explosive atmospheres - Equipment protection by intrinsic safety „i”.
- EN 60079 - 14 - Electrical apparatus for explosive gas atmospheres - Electrical installations in hazardous areas.
- EN 60079 - 17 - Electrical apparatus for explosive gas atmospheres - Inspection and maintenance of electrical installations in hazardous areas.
- EN 60079 - 25 - Electrical apparatus for explosive gas atmospheres - Intrinsically safe systems.
- Ordinance on Industrial Safety and Health (Betriebssicherheitsverordnung - BetrSichV).
- BGR 104 (Explosion protection rules) - Collection of technical rules for the avoidance of hazards from explosive atmospheres with sample collection to classify hazardous areas into zones.
- BGR 132 - Guidelines for avoidance of ignition risks due to electrostatic charges. To replace: TRBS 2153 (Technical guidelines for operational safety) – Avoidance of ignition risks due to electrostatic charges
- ExVo (Explosion Protection Ordinance).



The standards and guidelines listed in this documentation apply in their respective latest versions.

3 Automatic fire detector series IQ8Quad Ex (i)

Purpose

Automatic fire detector without isolator for use in explosive environments.

These fire detectors with "intrinsic safety" ignition protection are operated either over esserbus® transponders and the Ex barrier (Part No. 764744) or alternatively as a spur directly with Ex barrier (Part No. 804744) on the loop of the ESSER fire alarm control panels in the areas of zones 1 and 2 up to and including explosion group IIC T4, in accordance with device category IIG.



Notes on the IP rating, installation and installation location and cleaning

- Achieving the targeted IP rating depends to a great extent on the proper installation of the automatic fire detector and the detector base. Both the detectors and the detector bases may only be installed in indoor locations.
- Never install these units in outdoor locations – this is not permitted under any circumstances!
- Proper installation is relevant to safety. It is thus very important to ensure that the IP rating necessary for the installation location (environmental conditions) is achieved ²⁾.
- The information on IP ratings in the specifications always applies to the entire assembly consisting of the detector base and the installed detector.
- Always switch off the relevant zone's power when performing any installation or maintenance work on the fire detectors. Also ensure that the environmental conditions are suitable during maintenance work (dry, clean, properly supervised).
- Do not perform any work in Ex areas that could impair any protective functions relevant to safety!
- The detector housing is made of non-conductive plastic. The production of sparks due to electrostatic discharges must be prevented during operation through appropriate precautions. Only a damp cloth may be used to clean the detector housing.

Possible causes of false alarms

Smoke detectors	Visible airborne particles or vapour, e.g. cigarette smoke and steam, or dust deposits.
Heat detectors	Rapid and substantial temperature increases, e.g. caused by fan heaters or hot vapours in kitchens or generated by machines etc., or substantial temperature fluctuations within short periods.

²⁾ DIN EN 60079-11:2012

The devices must be equipped with a housing that satisfies the requirements of protection class IP 20 or higher according to IEC 60529 in accordance with the intended use and the ambient conditions.

3.1 Specifications

General detector data (according to ATEX)

Max. Input voltage (Ui)	: 21 V DC
Max. Input current (Ii)	: 252 mA
Max. Output current (Io)	: 10 mA
Max. internal Capacity (Ci)	: 1 nF
Ambient temperature (Ta)	: - 20 °C ... + 70 °C 3)
Examination Certificate No.	: TÜV 09 ATEX 554910
Category	: II 2G (with Ex barrier Part No. 764744 and 804744)
Ex-protection:	: Ex ib II T4 Gb
Specification	: EN 60079-0:2012 + A11:2013/ -11:2012 / -25:2010

Detector identification according to ATEX

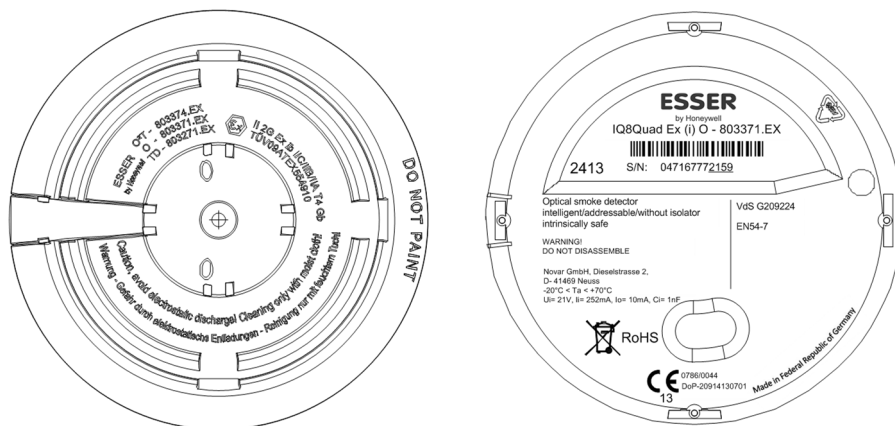


Fig. 1: Identification example → IQ8Quad Ex (i) 803371.EX

General Specifications (not ATEX)

Operating voltage	: 8 V DC to 42 V DC	
Type of sensor	Heat *1	Smoke*2
Monitored area	: max. 30 m²	max. 110 m²
Mounting height	: max. 7,5 m	max. 12 m
Alarm indicator	: red LED, flashing	
Air velocity range	: 0 to 25,4 m/s	
Temperature, storage	: -25 °C ... +75 °C	
Ambient humidity	: ≤ 95% relative, (non-condensing)	
IP rating	: IP 43 (with base + option)	
Housing	: ABS	
Colour	: white (similar to RAL 9010)	
Weight	: approx. 110 g	
Dimensions (with base)	: Ø 117 mm, H = 62 mm	

3) Ambient temperature according to ATEX

Detector Specifications not ATEX

Rate-of-rise heat detector 803271.EX *¹ / 803271.EX.F0 *¹ / 803271.EX.NU *¹

Quiescent current @ 19 V DC	: 40 µA
Ambient temperature	: -20 °C ... +50 °C ⁴⁾
Specification	: EN 54-5 A1R : 2000 / A1 : 2002
VdS approval	: G 209223
Declaration of performance	: DoP-20913130701

Optical smoke detector 803371.EX *² / 803371.EX.F0 *² / 803371.EX.NU *² / 803371.EX.IN *²

Quiescent current @ 19 V DC	: 50 µA
Ambient temperature	: -20 °C ... +70 °C ⁴⁾
Specification	: EN 54-7 : 2006
VdS approval	: G 209224
Declaration of performance	: DoP-20914130701

O²T-multisensor detector 803374.EX *² / 803374.EX.F0 *² / 803374.EX.NU *² / 803374.EX.IN *²

Quiescent current @ 19 V DC	: 60 µA
Ambient temperature	: -20 °C ... +65 °C ⁴⁾
Specification	: EN 54-7 : 2006 / -5 B : 2000 / A1 : 2002 ⁵⁾ , CEA 4021
VdS approval	: G 209225
Declaration of performance	: DoP-20915130701



- All values based on a temperature range of 25 °C.
- The FACP emergency power capacity is determined using the programming software tools 8000 or via the calculation function available at www.esser-systems.com.

CE marking in accordance with the Construction Products Regulation (CPR)



⁴⁾ Ambient temperature of fire detector types for detailed system design

⁵⁾ Except "80337x.EX.F0" and "80337x.EX.NU"

3.2 Detector bases for automatic fire detectors series IQ8Quad Ex (i)

Purpose

Detector base for use in Ex environments for installation of automatic fire detectors series IQ8Quad Ex (i).

Installation

The fire detectors are installed directly in the detector base (Part No. 805590, 805590.NU, 895590.IN).

Part No.	Accessoires
805570	IP 42 protection for IQ8Quad detector base, shallow box
805571	Flush mounting housing for detector base IQ8Quad
805572.50	IP 43 Damp location surface-mounting base adapter for IQ8Quad detector base
805573	IP 43 protection for IQ8Quad detector base, deep box
805574	Trim ring and snap-in mounting clip
805576	Description field for IQ8Quad detector base e.g. for displaying the zone / detector number

Specifications

Ambient temperature	: -20 °C ... +72 °C
Storage temperature	: -25 °C ... +75 °C
Rel. humidity	: ≤ 95 % rel. humidity, (no condensation)
Protection rating	: IP 42 (with detector and option 805570) IP 43 (with detector and option 805572.50 or 805573)
Material	: ABS
Colour	: white (similar to RAL 9010)
Weight	: approx. 60 g
Dimensions (with detector)	: Ø 117 mm, H = 62 mm

3.3 Maintenance of the automatic fire detector series IQ8Quad Ex (i)

In accordance to the DIN VDE 0833-1 /-2, DIN 14675, VdS-Guideline 2095 and DIN EN 60079-17 (Testing and maintenance of Gas-Ex-Systems) as well as national and local requirements, a maintenance of the fire alarm system and corresponding components must be carried out at least once per year.

Check smoke detectors only with tester (Part No. 805582 / 805550 / 805551) and test gas (Part No. 805552)!
Use only test head for heat detector (Part No. 060429 / 805550 / 805551) to test heat detector operation!

The start and end time of the maintenance must be recorded in the appropriate log book.



- Test equipment is normally not approved for use in explosive atmosphere! Before using the test equipment a permit (fire permission certificate) must be signed by the operator of the fire alarm system.
- Isolation between mains and shielding must pass an isolation test at 500 V DC.
When connecting the cable shield to the detector base, ensure that the required air clearances and creep age distances between bare cable components are complied with.
- Cable litz wire has to be secured by use of ferrule!
- Special instructions for safe operation:
Danger from electrostatic discharges – only clean fire detectors with a damp cloth. If necessary, the operator of the system must post a corresponding notice concerning cleaning in the immediate vicinity of the fire detector.
- Always operate the fire detectors via the specifically approved Ex barriers – even during maintenance work outside of the Ex area.
This prevents damage to safety-relevant components in the fire detectors due to faults in the connected devices.

4 Manual call point conventional MCP Ex (i) and IQ8MCP Ex (i)

Purpose

Conventional MCP Ex (i) and addressable IQ8MCP Ex (i) manual call points for use in Ex areas. These manual call points with "intrinsic safety" ignition protection are operated over esserbus® transponders and Ex barrier (Part No. 764744) or alternatively as a spur - exclusively IQ8MCP Ex (i) - directly with Ex barrier (Part No 804744) on the loop of the ESSER fire alarm control panels in the areas of zones 1 and 2 up to and including explosion group IIC T4, in accordance with device category II 2G.

	Conventional MCP Ex (i)	IQ8MCP Ex (i)
Type B	804920.EX	804924.EX
Type A	804960.EX	804961.EX



Notes on the IP rating, installation and installation location and cleaning

- Achieving the targeted IP rating depends to a great extent on the proper installation of the automatic fire detector and the detector base. Both the detectors and the detector bases may only be installed in indoor locations.
- Never install these units in outdoor locations – this is not permitted under any circumstances!
- Proper installation is relevant to safety. It is thus very important to ensure that the IP rating necessary for the installation location (environmental conditions) is achieved ²⁾.
- During installation and removal of detectors, always switch off power to the corresponding zone.
- Also ensure that the environmental conditions are suitable during maintenance work (dry, clean, properly supervised).
- Do not perform any work in Ex areas that could impair any protective functions relevant to safety!
- Special instructions for safe operation:
Danger from electrostatic discharges – only clean fire detectors with a damp cloth. If necessary, the operator of the system must post a corresponding notice concerning cleaning in the immediate vicinity of the fire detector.

²⁾ DIN EN 60079-11:2012

The devices must be equipped with a housing that satisfies the requirements of protection class IP 20 or higher according to IEC 60529 in accordance with the intended use and the ambient conditions.

4.1 Specifications

General detector data according to ATEX

	804920.EX 804960.EX	804924.EX 804961.EX
Max. Input voltage (Ui)	:	21 V DC
Max. Input current (Ii)	:	252 mA
Max. Output current (Io)	:	10 mA
Max. internal Capacity (Ci)	:	1 nF
Ambient temperature (Ta)	:	- 20 °C to + 70 °C
Examination Certificate No.	:	TÜV 14 ATEX 150860 ⁶⁾ TÜV 14 ATEX 150789 ⁶⁾
Category	:	II 2G (with Ex barrier Part No. 764744 / 804744)
Ex-protection	:	Ex ib IIC T4 Gb
Specification	:	EN 60079-0:2012 + A11:2013/ -11:2012 EN 60079-0:2012 + A11:2013/ -11:2012/ -25:2010

⁶⁾ For special instructions for safe operation, see section 4.3.

Detector identification according to ATEX

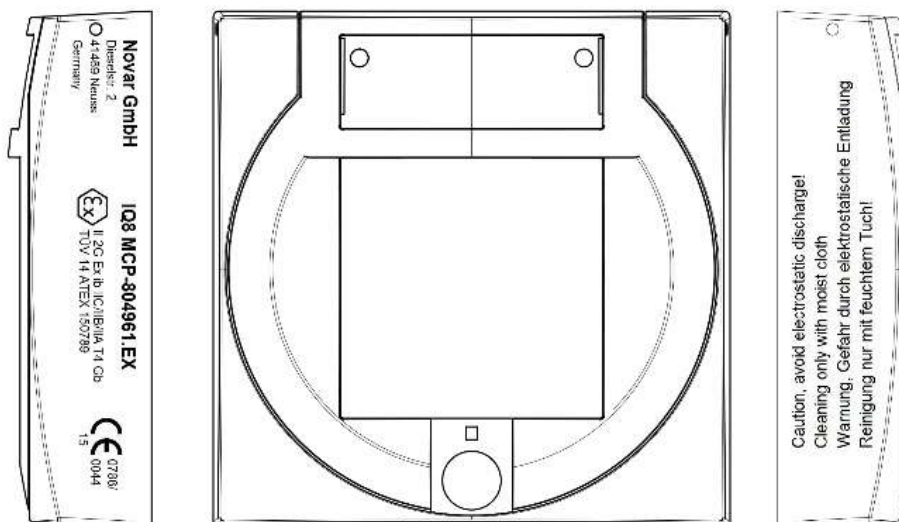


Fig. 2: Identification example → IQ8MCP Ex (i)

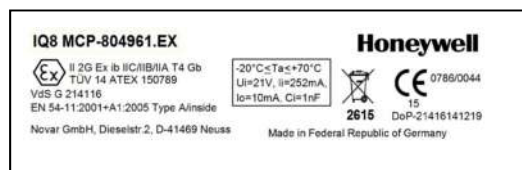


Fig. 3: Example identification plate IQ8MCP Ex (i)



Fig. 4: CE marking in accordance with the Construction Products Regulation (CPR)

Detector Specifications (not ATEX)

	804920.EX	804924.EX
Operating voltage	: 8 V DC to 30 V DC	8 V DC to 42 V DC
Contact rating S2	: max. 30 V DC / 1 A	---
Quiescent current	: ---	approx. 45 µA @ 19 V DC
Alarm current	: approx. 9 mA @ 19 V DC	approx. 9 mA @ 19 V DC, pulsed
Operating indicator	: ---	LED, green
Alarm indicator	: LED, red	LED, red
Terminals	: max. 2,5 mm ² (AWG 26-14)	
Ambient temperature	: -20 °C to +70 °C	
Storage temperature	: -30 °C to +75 °C	
Protection rating	: IP 44	
	IP 55 (with protective hose)	
Housing	: PC ASA plastic	
Weight	: approx. 236 g (in housing)	
Dimensions MCP		
(w x h x d)	: 133 x 133 x 36 (mm)	
Specification	: EN 54-11 : 2001 + A1:2005, type B	
VdS approval	: G 214113	G 214114
Declaration of performance	: DoP-21417141219	DoP-21418141219

	804960.EX	804961.EX
Operating voltage	: 8 V DC to 30 V DC	8 V DC to 42 V DC
Quiescent current	: ---	approx. 45 µA @ 19 V DC
Alarm current	: approx. 9 mA @ 9 V DC	approx. 9 mA @ 19 V DC, pulsed
	---	approx. 18 mA @ emergency mode
Operating indicator	: ---	green LED
Alarm indicator	: red LED and yellow flag	
Terminals	: max. 1,5 mm ² (AWG 30-14)	
Ambient temperature	: -20 °C to +70 °C	
Storage temperature	: -30 °C to +75 °C	
Protection rating	: IP 44	
Housing	: PC/ASA plastic	
Colour	: red (similar to RAL 3020)	
Weight	: approx. 255 g	
Dimensions MCP (w x h x d)	: 88 x 88 x 27 (mm)	
Dimensions incl. mounting housing	: 88 x 88 x 63 (mm)	
Specification	: EN 54-11:2001 + A1:2005, Typ A	
VdS approval	: G 214115	G 214116
Declaration of performance	: DoP-21415141219	DoP-21416141219

4.3 Maintenance of the manual call point MCP Ex (i)

In accordance to the DIN VDE 0833-1 /-2, DIN 14675, VdS-Guideline 2095 and EN 60079 - 17 (Testing and maintenance of Gas-Ex-Systems) as well as national and local requirements, a maintenance of the fire alarm system and corresponding components must be carried out at least once per year.

During the maintenance period must be ensured that no explosive atmosphere is present.

The start and end time of the maintenance must be recorded.



- Isolation between mains and shielding must pass an isolation test at 500 V DC. When connecting the cable shield to the detector base, ensure that the required air clearances and creep age distances between bare cable components are complied with.
- Cable litz wire has to be secured by use of ferrule!
- Special instructions for safe operation:
Danger from electrostatic discharges – only clean fire detectors with a damp cloth.
If necessary, the operator of the system must post a corresponding notice concerning cleaning in the immediate vicinity of the fire detector.
- Always operate the fire detectors via the specifically approved Ex barriers – even during maintenance work outside of the Ex area.
This prevents damage to safety-relevant components in the fire detectors due to faults in the connected devices.

5 Ex barriers

Purpose

The Ex barrier (Part No. 764744 $\triangle$ Zener barriers, not dry contact) and (Part No. 804744 $\triangle$ dry contact) is used for installation of Ex (i) zones in combination with fire detectors series IQ8Quad Ex (i), IQ8MCP Ex (i) and conventional MCP Ex (i). The barrier separates inherently safe from non-inherently safe circuits outside the explosive hazard area (Ex zone).

Part No.	Accessories
764752	Housing (IP 66) for max. 10 barriers (Part No. 764744) or 8 barriers (Part No. 804744) incl. equipotential bonding system connection clips
764754	Cable gland (blue) for housing (Part No. 764752)
764745	Isolation- and mounting terminal Required, if the potential equalisation must <u>not</u> be done via the C-profile rack



- Please refer to the safety calculations of the devices.
- Depending on the installation instruction used and the boundary conditions in the Ex area of Zone 1, groups with fire detectors in the IQ8Quad Ex (i) series, IQ8MCP Ex (i) and conventional MCP Ex (i) may be connected to these barriers in each case.
- Observe the system limitations of the devices.

5.1 Mounting information

- Observe category, area and temperature classifications.
- Observe the system limits for the maximum permitted number of detectors and the cable specifications.
- Study and follow the installation and operating instructions for the automatic fire detector and the fire detector base.
- Observe ambient temperature or temperature range of used detector types.
- Use clearly identified cable I-Y (St) Y n x 2 x 0,8 mm or comparable and employ only shielded twisted pair cables with special designation for fire detection, and consider furthermore the requirements of the local standard! The shielding must be connected for EMI protection of the cable.
- The automatic fire detectors and fire detector bases may not be installed in areas with atmospheres containing benzene, acetic acid or esters as the ABS plastic of the housing is not resistant to these chemicals.
- Secure and intrinsically safe areas are electrically isolated from each other by the Ex barrier (Part No. 804744); Therefore a connection to the equipotential bonding is not required.
- The cable shieldings of the intrinsically safe areas must be connected to the equipotential bonding of the corresponding Ex area.

The Ex barrier must be connected to the equipotential bonding system (EBS) of the Ex zone. The connection cable used for this must conform to the requirements of the installation zone and the minimum requirements of DIN VDE 0165 – 1 or EN 60079 - 14:

Min. wire cross-section 2 x 1,5 mm² Cu

or alternatively

Min. wire cross-section 1 x 4 mm² Cu

In inherently safe circuits the earthing terminals of the Ex barriers without electrical isolation (e.g. zener-barrier) must be connected in accordance to DIN EN 60070-14:

1. connected by the shortest way to the potential compensation rail or
 2. in systems where the grounding point must be connected with a high reliability that the electric impedance from the connector to the grounding point of the high power current system must not exceed 1 Ω. This could be realised by using a grounding rail or special grounding rod. The used conductor must be insulated to avoid an interference of the grounding caused by a residual current in the metal parts where the conductor may get electrical contact (e.g. control or patch panels). In places with a high risk of mechanical damage the conductor must be protected with a suitable measure.
- All earth potentials must be identical. An additional equipotential bonding conductor may be necessary.
 - Take suitable steps to protect the system against electrostatic discharge.

5.2 Specifications

	764744 ⁷⁾	804744
Type test certificate	BAS 01 ATEX 7005	BAS 00 ATEX 7087
Ex protection rating	II (1) G [Ex ia] IIC	II (1) G [Ex ia Ga] IIC
Type designation of the manufacturer	Z 969	KFD0-CS-Ex1.56
Operating voltage	UN = 19,24 V	UN = 42 V
Max. internal capacity (accessible from outside)	--	C _i = 5,64 nF
Complete internal resistance	R _i = 86,13 Ω	--
Max. Voltage Ex (i) circuit	U ₀ = 19,24 V	U ₀ = 21 V
Max. short circuit current Ex (i) circuit	I ₀ = 224 mA	I ₀ = 252 mA
Max. load Ex (i) circuit	P ₀ = 1,08 W	P ₀ = 1,323 W
Max. capacity Ex (i) circuit	IIC / C ₀ = 248 nF	IIC / C ₀ = 182 nF
Max. inductivity Ex (i) circuit	IIC / L ₀ = 700 μH	IIC / L ₀ = 560 μH
Max. capacity Ex (i) circuit	IIB / C ₀ = 1,52 μF	IIB / C ₀ = 1,264 μF
Max. inductivity Ex (i) circuit	IIB / L ₀ = 2,83 mH	IIB / L ₀ = 2,24 mH
Max. capacity Ex (i) circuit	IIA / C ₀ = 6,03 μF	IIA / C ₀ = 4,774 μF
Max. inductivity Ex (i) circuit	IIA / L ₀ = 5,66 mH	IIA / L ₀ = 4,48 mH
Max. voltage non- Ex (i) circuit	U _m = 250 V	U _m = 253 V
Fuse	80 mA	--
Load factor	--	3
Ambient temperature	- 20°C to + 60°C	
Min. protection rating for housing	IP 20	
Weight	ca. 150 g	ca. 100 g
Dimensions (w x h x d)	12,5 x 110 x 115 mm	20 x 107 x 115 mm
VdS approval	--	G 210047
Declaration of Performance	--	DOC-0134

⁷⁾ The specifications listed above corresponds to the serial operation of the Ex barrier (Part No. 764744) without connection of the detector to the earth potential.

6 Wirings with Ex barriers

6.1 Wiring Ex barriers (Part No. 764744)

The IQ8Quad detector base (Part No. 805590, 805590.NU, 805590.IN) enables fire detectors in the IQ8Quad Ex (i) series with an Ex barrier (Part No. 764744) as conventional detector to be connected to the ESSER FACP via the esserbus® transponder (Part No. 808613.xx). The conventional MCP Ex (i) units are connected to the ESSER FACP as described in chapter 6.1.2.



System requirements

- Loop length per zone → max. 300 m
(Total length measured from the terminals of the detector zone).
- The barrier must be installed as close as possible to the Ex zone to be monitored (Zone 1), for example in a housing (Part No. 764752) or in another suitable location. The barrier earth must be connected to the equipotential bonding system (EBS) of the Ex zone.
- Number of detectors → max. 8 fire detectors series IQ8Quad Ex (i) or IQ8MCP Ex (i) per zone.
→ max. 10 conventional MCP Ex (i) per zone.
- The 'dual-detector dependency type A' operating mode with fire detectors from the IQ8Quad Ex (i) series is not possible with these components and/or this connection when using the Ex barrier (Part No. 764744).

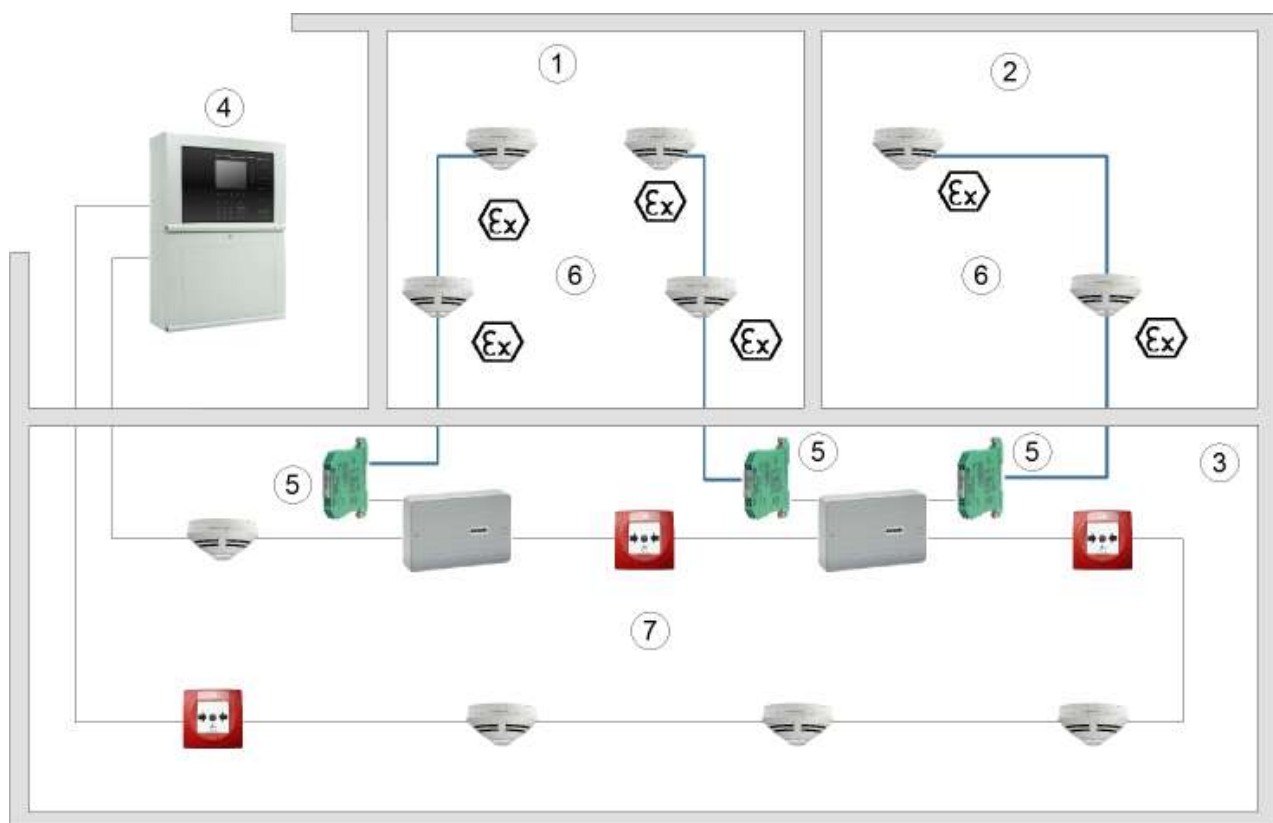


Fig. 1: Principal wiring with Ex barrier (Part No. 764744)

①	Room 1 – Hazardous area: IIC T4
②	Room 2 - Hazardous area: IIC T2
③	Room 3 – secure area (not an Ex area)
④	Fire alarm control panel (FACP)
⑤	Ex barrier (Part No. 764744) incl. housing (Part No. 764752)
⑥	Automatic fire detector series IQ8Quad Ex (i) as conventional detector
⑦	esserbus® / esserbus®-Plus loop devices

6.1.1 Fire detector series IQ8Quad Ex (i)

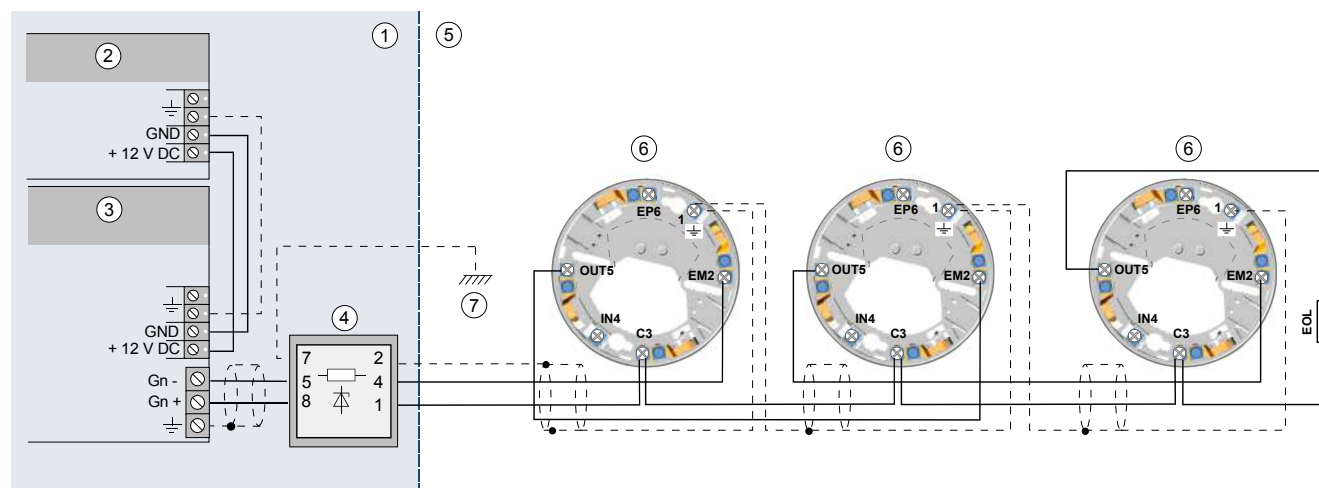


Fig. 2: Wiring example with Ex barrier (Part No. 764744)

①	Safety area (no Ex area)
②	Ext. power supply
③	esserbus® transponder (Part No. 808613.20)
④	Ex barrier (Part No. 764744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	Fire detector base (Part No. 805590) incl. EOL in last base
⑦	Equipotential bounding bar (EBB) in Ex area
	Connection cable: min. 2 x 1,5 mm ² Cu or 1 x 4 mm ² Cu

Accessories: Depending on transponder type ELO (Part No. 808625) or resistant 10 kΩ ± 5 %
(P₇₀ min. 250 mW, R_{Th} max. 300 K/W, carbon- or metal film resistor)



The transponder must be operated with DC-isolation (relating to the FACP) via an external power supply unit or via the voltage converter (Part No. 781336) with 12 V DC.
A power supply of 24 V DC – is not permitted!

6.1.2 Conventional MCP Ex (i)

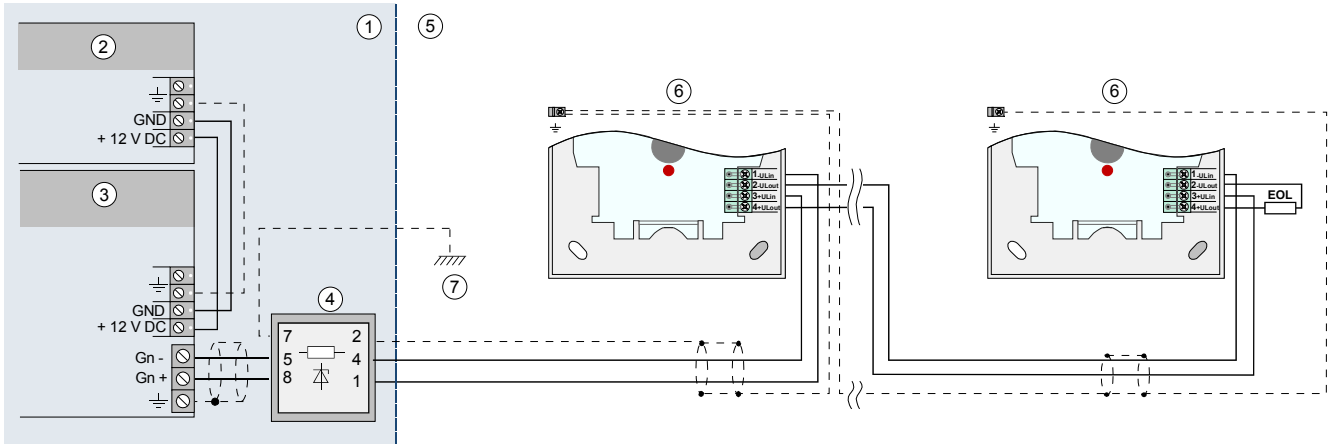


Fig. 3: Anschaltbeispiel mit Ex-Barriere (Art.-Nr. 764744) und conventional MCP Ex (i) (Art.-Nr. 804920.EX)

①	Safety area (not Ex area)
②	Ext. power supply
③	esserbus® transponder (Part No. 808613.20)
④	Ex barrier (Part No. 764744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	Conventional MCP (Part No. 804920.EX) incl. EOL in last MCP
⑦	Equipotential bounding bar (EBB) in Ex area Connection cable: min. 2 x 1,5 mm ² Cu or 1 x 4 mm ² Cu

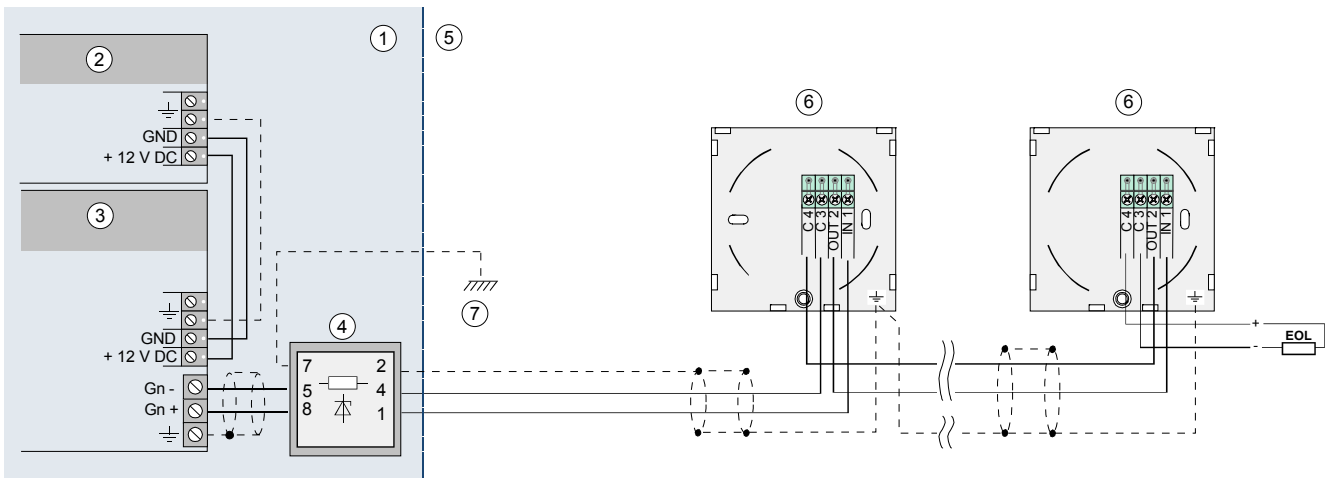


Fig. 4: Wiring example with Ex barrier (Part No. 764744) and conventional MCP Ex (i) (Part No. 804960.EX)

①	Safety area (not Ex area)
②	Ext. power supply
③	esserbus® transponder (Part No. 808613.20)
④	Ex barrier (Part No. 764744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	Conventional MCP (Part No. 804920.EX) incl. EOL in last MCP
⑦	Equipotential bounding bar (EBB) in Ex area Connection cable: min. 2 x 1,5 mm ² Cu or 1 x 4 mm ² Cu

Accessories: Depending on transponder type ELO (Part No. 808625) or resistant 10 kΩ ± 5 %
(P₇₀ min. 250 mW, R_{Th} max. 300 K/W, carbon- or metal film resistor)



The transponder must be operated with DC-isolation (relating to the FACP) via an external power supply unit or via the voltage converter (Part No. 781336) with 12 V DC.
A power supply of 24 V DC – is not permitted!

6.2 Wiring Ex barriers (Part No. 804744)

With the detector base (Part No. 805590, 805590.NU), the fire detectors of the IQ8Quad Ex (i) series can be connected via the Ex barrier (Part No. 804744) either as a spur of an esserbus® / esserbus® PPlus loop of the ESSER FACP as well as to the detector zones of the extinguishing control computer 8010 series 3 and 4. The IQ8MCP Ex (i) units are connected to the ESSER FACP as described in chapter 6.2.2.



System requirements

- The barrier must be installed as close as possible to the Ex zone to be monitored (Zone 1), for example in a housing (Part No. 764752) or in another suitable location.
- Number of detectors
 - ➔ max. 10 fire detectors IQ8Quad Ex (i) or IQ8MCP Ex (i) per zone.
 - ➔ max. 10 conventional MCP Ex (i) per zone.
- Max. 4 Ex barriers per loop.
- At least one esserbus® device with a isolator must be installed between two Ex barriers.
- Total loop length ➔ max. 3500 m.
- For each Ex barrier the total loop length must be reduced about 300 m.
- Cable length (spur) within the Ex area max. 400 m per Ex barrier.
- Load factor 3 per Ex barrier. (Use load factor calculation tool).

Example

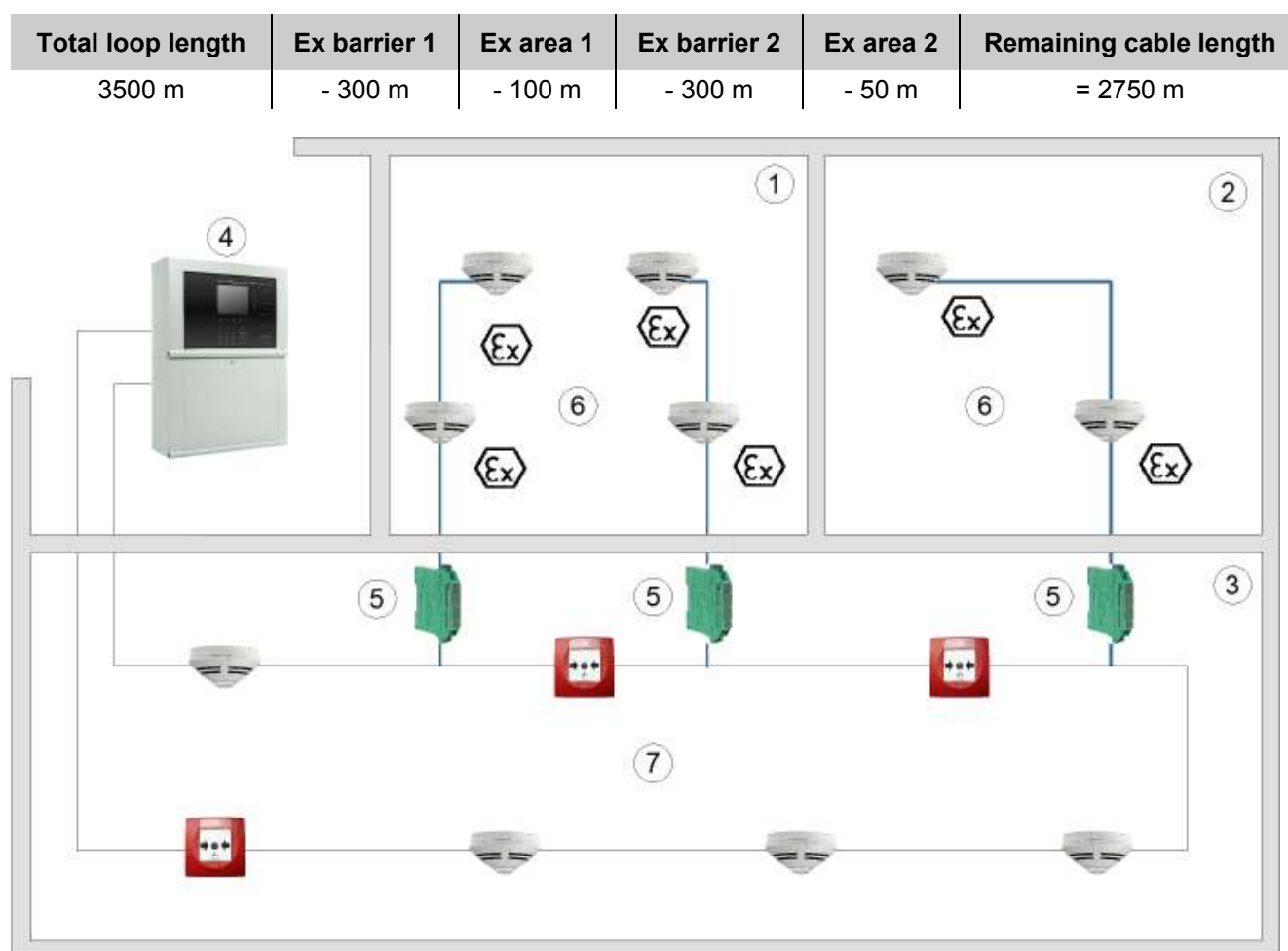


Fig. 5: Principal wiring with Ex barrier (Part No. 804744)

①	Room 1 – Hazardous area: IIC T4
②	Room 2 - Hazardous area: IIC T2
③	Room 3 – secure area (not an Ex area)
④	Fire alarm control panel (FACP)
⑤	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑥	Automatic fire detector series IQ8Quad Ex (i) as conventional detector
⑦	esserbus® / esserbus®-PPlus loop devices

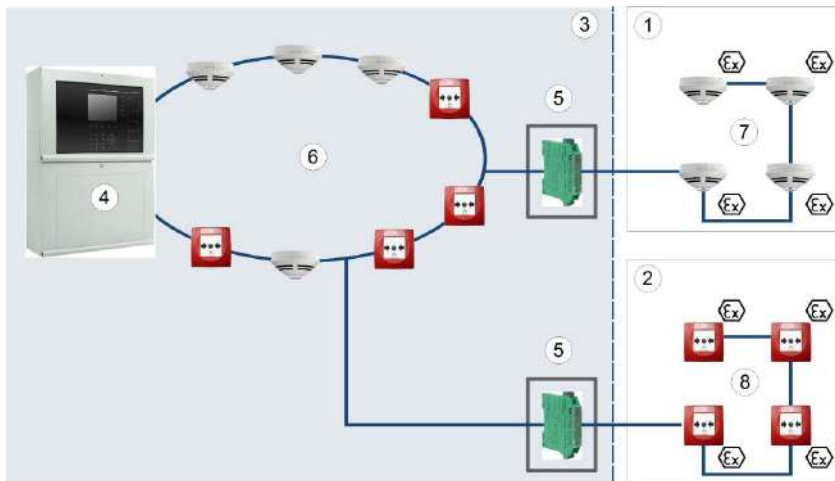


Fig. 6: System overview with Ex barrier (Part No. 804744)

①	Room 1 – Hazardous area: IIC T4
②	Room 2 - Hazardous area: IIC T2
③	Room 3 – secure area (not an Ex area)
④	Fire alarm control panel (FACP)
⑤	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑥	Automatic fire detector series IQ8Quad Ex (i) as conventional detector in spur
⑦	Conventional MCP Ex (i) in spur
⑧	esserbus® / esserbus®-Plus loop devices

6.2.1 Fire detector series IQ8Quad Ex (i)

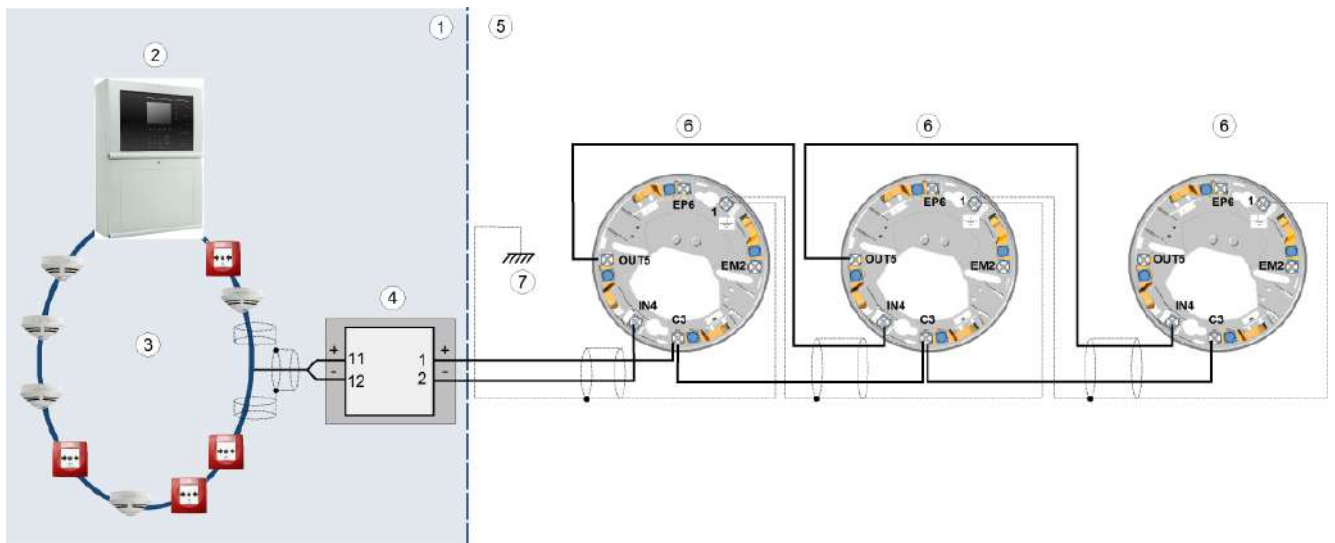


Fig. 7: Connection example with Ex barrier (Part No. 804744)

①	Safety area (not Ex area)
②	Fire alarm control panel (FACP)
③	esserbus® / esserbus®-Plus loop devices
④	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	Fire detector base (Part No. 805590)
⑦	Cable shielding to equipotential bounding bar (EBB) in ex area

6.2.2 IQ8MCP Ex (i)

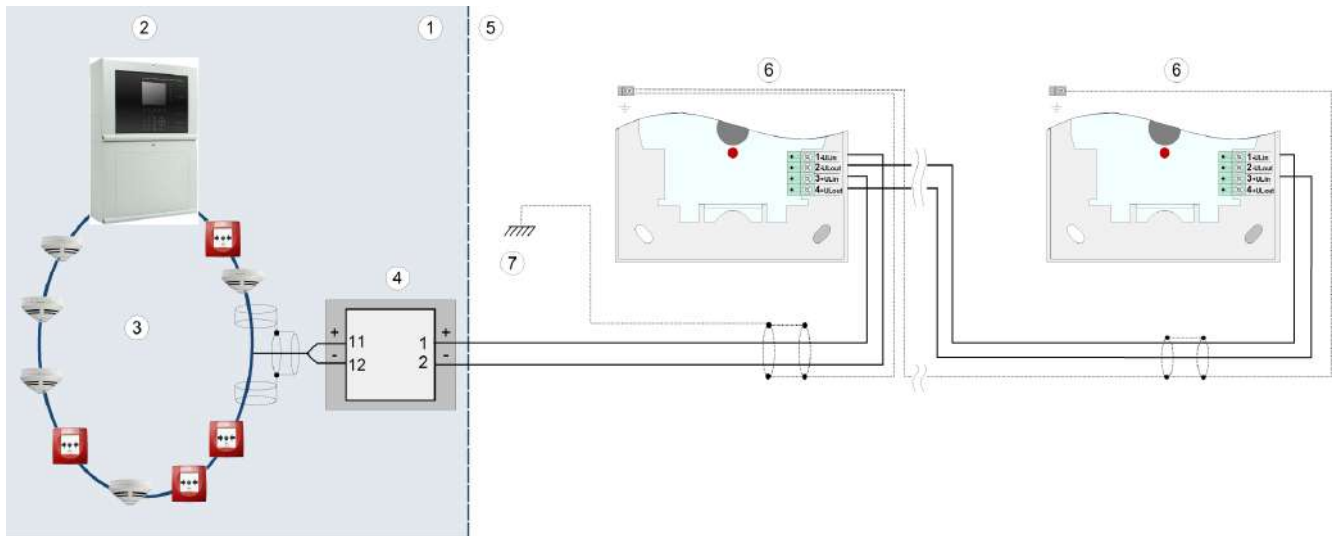


Fig. 8: Wiring example with Ex barrier (Part No.804744) and IQ8MCP Ex (i) (Part No. 804924.EX)

①	Safety area (not Ex area)
②	Fire alarm control panel (FACP)
③	esserbus® / esserbus®-PLus loop devices
④	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	IQ8MCP (Part No. 804924.EX)
⑦	Cable shielding to equipotential bounding bar (EBB) in ex area

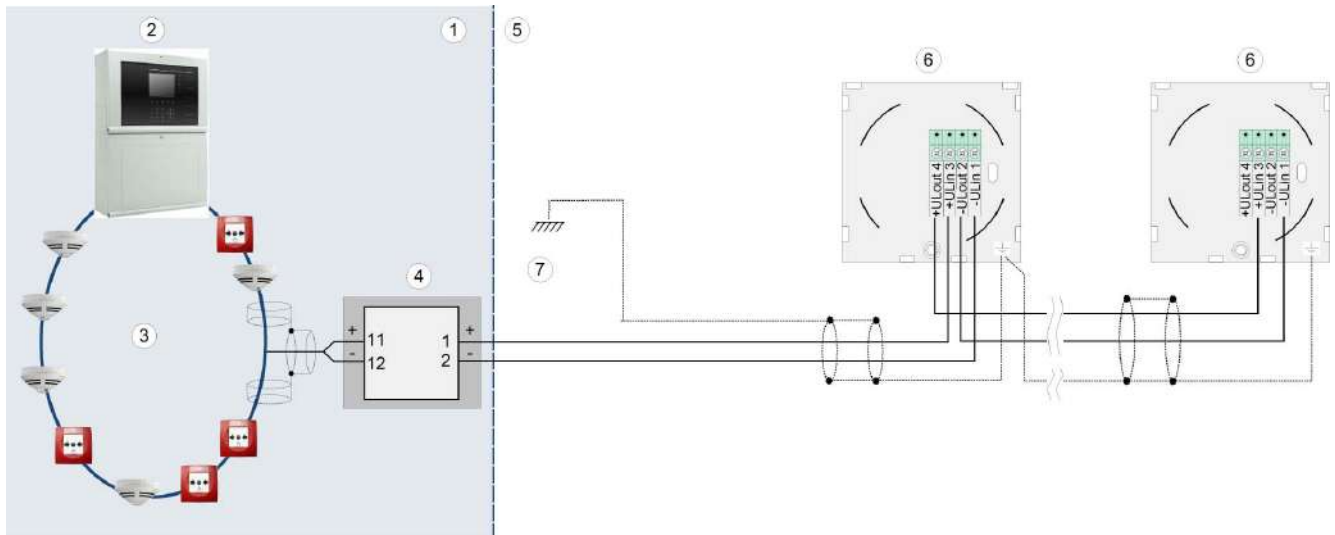


Fig. 9: Wiring example with Ex barrier (Part No. 804744) and IQ8MCP Ex (i) (Part No. 804961.EX)

①	Safety area (not Ex area)
②	Fire alarm control panel (FACP)
③	esserbus® / esserbus®-PLus loop devices
④	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	IQ8MCP (Part No. 804961.EX)
⑦	Cable shielding to equipotential bounding bar (EBB) in ex area

6.2.3 Technical Alarm Module IQ8TAM (Part No. 804869)

For optional evaluation of ground fault monitoring, the IQ8TAM with alarm and monitoring module (Part No. 804970) is connected to the detector base (Part No. 805590) via the Ex barrier (Part No. 804744) and the ground fault detection barrier (Part No. 804745).



If required in certain applications (for example in FM systems), an earth fault can be detected and evaluated in the Ex area using the earth fault detection barrier (Part No. 804745).

This application is not intended as a binding function for the scope of the EU Construction Products Regulation (CPR).

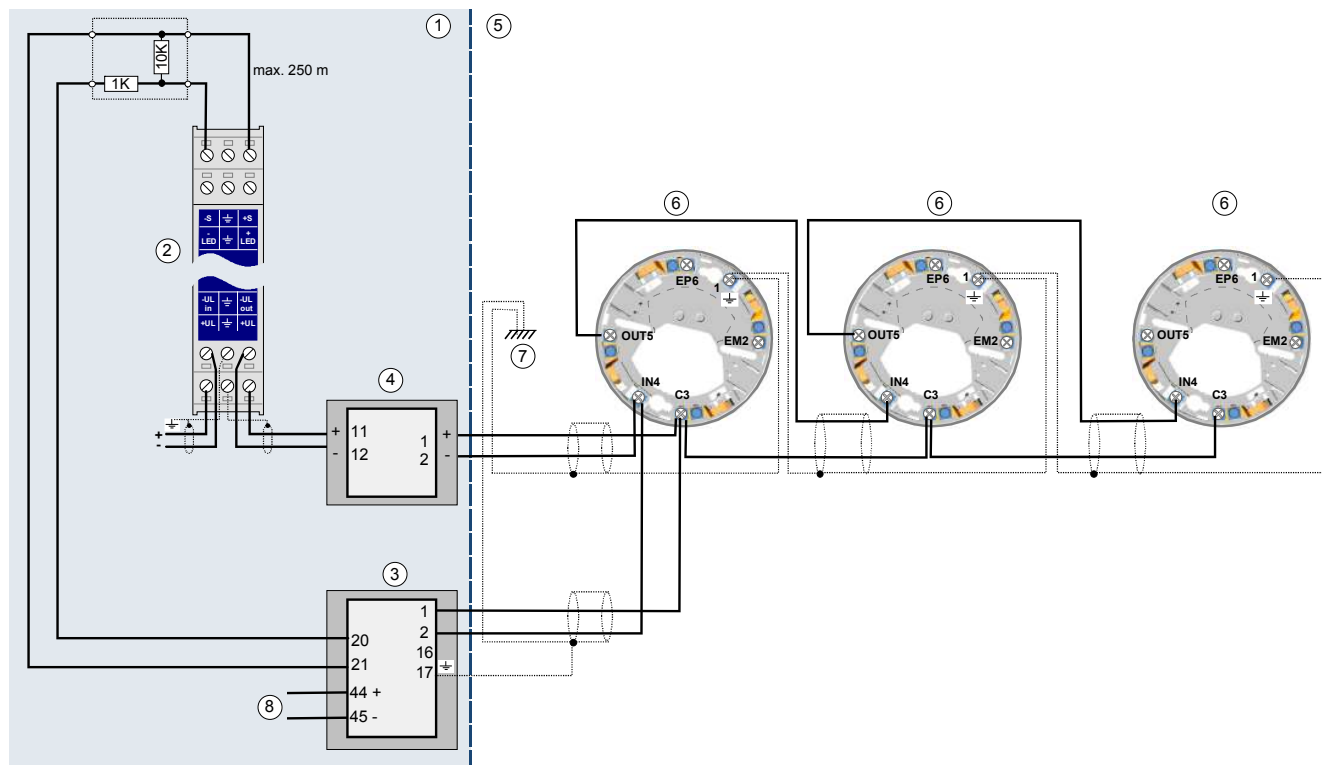


Fig. 10: Connection example IQ8TAM (Part No. 804869)

①	Safety area (not Ex area)
②	IQ8TAM (Part No. 804869) incl. monitoring module (Part No. 804870) as esserbus® / esserbus®-PLus loop devices
③	Ground fault detection barrier (Part No. 804745) incl. housing (Part No. 764752)
④	Ex barrier (Part No. 804744) incl. housing (Part No. 764752)
⑤	Ex area, zone 1
⑥	Fire detector base (Part No. 805590)
⑦	Cable shielding to equipotential bounding bar (EBB) in ex area
⑧	UBext. / FACP



Refer to documentation (Part No. 798922) for further information and connection instructions for the IQ8TAM. Refer to manufacturer's documentation for details on the ground fault detection barrier (Part No. 804745).

7 Safety related calculation for Ex barrier (ATEX) for installation verification

The interconnected Ex barriers and detectors form an intrinsically safe system as defined by EN 60079-25. Each detector is considered a linear source (only for IQ8) with an input current of 10 mA (limit case). The results of these safety-related considerations are shown in tables 1 to 4 and must absolutely be complied with. Further restrictions may arise from the system limits

Table 1: Ex barrier (Part No. 764744)

Operation up to II 2G	Ex zone	Max. detector number	C _{omax}	L _{omax}
Fire detector series IQ8Quad Ex (i) and IQ8MCP Ex (i)	IIC	7	150 nF	0,5 mH
		27	180 nF	0,15 mH
	IIB	27	500 nF	0,5 mH
	IIA	30	6,03 µF	0,8 mH

Table 2: Ex barrier (Part No. 764744)

	Ex zone	Max. number	C _{omax}	C _{Cmax}	L _{omax}
Conventional MCP Ex (i)	IIC	30	150 nF	150 nF	0,5 mH
		30	200 nF	200 nF	0,15 mH
	IIB	30	500 nF	500 nF	0,5 mH
	IIA	30	6,03 µF	6,03 µF	4 mH

Table 3: Ex barrier (Part No. 804744)

Operation up to II 2G	Ex zone	Max. detector number	C _{omax}	L _{omax}
Fire detector series IQ8Quad Ex (i) and IQ8MCP Ex (i)	IIC	4	150 nF	0,5 mH
		24	150 nF	0,15 mH
	IIB	24	500 nF	0,5 mH
	IIA	30	4,78 µF	0,4 mH

Table 4: Ex barrier (Part No. 804744)

	Ex zone	Max. number	C _{omax}	C _{Cmax}	L _{omax}
Conventional MCP Ex (i)	IIC	30	150 nF	144 nF	0,5 mH
		30	150 nF	144 nF	0,15 mH
	IIB	30	500 nF	494 nF	0,5 mH
	IIA	30	4,78 µF	4,77 µF	4 mH



- No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables.
- Pay attention to the detailed information for system limits of the devices.

Electrical specifications of cables and conductors

The electrical specifications (C_C and L_C) or (C_C and L_C/R_C) must be calculated for all used cables and conductors in accordance to the following methods:

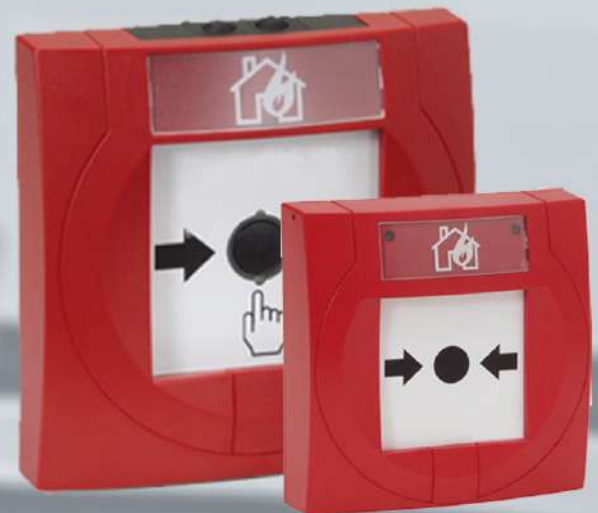
1. Use the unfavourable electrical values given by the manufacturer of the cable and conductor for the calculation or
2. Electrical parameters which are determined by a sample and measurement or
3. Basically 200 pF/m and either 1 $\mu\text{H}/\text{m}$ or 30 $\mu\text{H}/\Omega$, whereas the wiring of two or three combined conductors of a conventional cable is included with or without cable shielding.

Value of external effective L_i is negligible, thus only cable parameter L_C needs to be considered. C_i must be considered with a value of 1 nF for each detector (only for IQ8) and with a one-time 5,64 nF for the Ex barrier (Part No. 804744). Taking the specifications listed in the table 1 and 3 into account, conditions for intrinsic safety are satisfied if:

$$\sum C_i + C_C \leq C_{\text{omax}} \text{ and } L_C \leq L_{\text{omax}}$$



Use clearly identified cable I-Y (St) Y n x 2 x 0,8 mm or comparable and employ only shielded twisted pair cables with special designation for fire detection, and consider furthermore the requirements of the local standard! The shielding must be connected for EMI protection of the cable.



Verbindliche Informationen für Ex (i) Geräte Obligatory Information for Ex (i) devices

DE Baumusterprüfbescheinigungen

EN Type Examination Certificates

798920.EU+

01.2017 / AD

EG-Baumusterprüfbescheinigung TÜV Brandmelder Serie IQ8Quad Ex (i)



(13) ANLAGE

(14) EG-Baumusterprüfbescheinigung Nr. TÜV 09 ATEX 554910

(15) Beschreibung des Gerätes

Die Brandmelder der Serie IQ8Quad Ex(i), Typen TD-803271 EX, O-803371 EX und O-T-803374 EX dienen zur Erkennung von Bränden durch Streulichtsensoren mit 2 optischen Strecken und/oder einem Temperatursensor.
Die Melder werden mit einem Meldersockel Art.-Nr. 805590 betrieben.
Sie werden einzeln oder (parallel) geschaltet in einer Meldelinie betrieben; die Spelsung erfolgt über eine im sicheren Bereich installierte Sicherheitsbarriere.
Der zulässige Umgebungstemperaturbereich ist -20°C... 70°C.

Elektrische Daten:
Melderstromkreis in Zündschutzart Eigensicherheit Ex Ib IIC/IIB/IIA
(Anschlüsse 2 bzw. 4(-ULa), 5(-ULa), 3(-UL) und 1(Schirm))
nur zum Anschluss an einen beschleunigten eigensicheren Stromkreis mit linearer Kennlinie
Hochspannung
 $U_i = 21 \text{ V}$
 $I_i = 252 \text{ mA}$
Wirksame innere Kapazität: 1nF
Die wirksame innere Induktivität ist vernachlässigbar klein

Die zulässige Anzahl der Melder sowie die Zusammenschaltung mit der Sicherheitsbarriere und die zulässigen Reaktanzen der Verbindungsleitungen sind der Betriebsanleitung des Herstellers zu entnehmen.
Bei der Festlegung der zulässigen Meldernzahl wurde ein Strom von 10 mA berücksichtigt.
In die Verbindungsleitung zwischen der Sicherheitsbarriere und den einzelnen Meldern dürfen keine konzentrierten Kapazitäten und keine konzentrierten Induktivitäten eingeschaltet werden.

(16) Die Prüfungsunterlagen sind im Prüfbericht Nr. 09 203 554910 aufgeführt.

(17) Besondere Bedingung

keine

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

keine zusätzlichen



(1) EG-Baumusterprüfbescheinigung

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen, Richtlinie 94/9/EG

(3) Bescheinigungsnummer: TÜV 09 ATEX 554910

(4) für das Gerät: Brandmelderserie IQ8Quad Ex(i)
Typen TD-803271 EX, O-803371 EX und O-T-803374 EX

(5) des Herstellers: Novat GmbH

(6) Anschrift: Dieselstraße 2
41469 Nauss

Auftragsnummer: 8000554910

Ausstellungsdatum: 27.07.2009

(7) Die Bauart dieses Gerätes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser EG-Baumusterprüfbescheinigung festgelegt.
(8) Die TÜV NORD CERT GmbH bescheinigt als benannte Stelle Nr. 0044 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie. Die Ergebnisse der Prüfung sind in dem vorliegenden Prüfbericht Nr. 09 203 554910 festgelegt.
(9) Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit

EN 60079-0:2006 EN 60079-11:2007 EN 60079-25:2004

EN 1127-1:2007

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.
(11) Diese EG-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Gerätes muss die folgenden Angaben enthalten:

Ex II 2 G Ex Ib IIC/IIB/IIA T4

TÜV NORD CERT GmbH, Langemannstraße 20, 45141 Essen, akkreditiert durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Ident. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

Der Leiter der Zertifizierungsstelle

Schweib

Geschäftsstelle Hannover, Am TÜV 1, 30519 Hannover, Fon +49 (0)511 966 1455, Fax +49 (0)511 966 1500

Diese Bescheinigung darf nur unverändert weitervertrieben werden.
Änderung oder Fälschung bedürfen der Genehmigung der TÜV NORD CERT GmbH

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3. E R G Ä N Z U N G

zur Bescheinigungsnummer:

Gerät:

TÜV 09 ATEX 554910
Brandmelder Serie IQ8Quad Ex(i)

Typen

TD-803271 EX, O-803371 EX, OT-803374 EX
TD-803271 EX F0, O-803371 EX F0, OT-803374 EX F0
TD-803271 EX NU, O-803371 EX NU, OT-803374 EX NU
O-803371 EX IN, OT-803374 EX IN

Hersteller:

NOVAR GmbH

Anschrift:

Dieselstraße 2
41469 Neuss

Auftragsnummer:

800040382

Ausstellungsdatum:

20.05.2015

Die Brandmelder der Serie IQ8Quad Ex(i) der unten aufgeführten Typen erfüllen die Anforderungen der unten aufgeführten aktuellen Normenstände.

Liste der geprüften Brandmeldertypen der Serie IQ8Quad Ex(i):

TD-803271 EX, O-803371 EX, OT-803374 EX
TD-803271 EX F0, O-803371 EX F0, OT-803374 EX F0
TD-803271 EX NU, O-803371 EX NU, OT-803374 EX NU
O-803371 EX IN, OT-803374 EX IN

Die elektrischen Daten sowie alle weiteren Angaben gelten unverändert für diese Ergänzung.

Die Geräte entsprechend dieser Ergänzung erfüllen die Anforderungen der folgenden Normen:

EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-25:2010

(16) Die Prüfungsunterlagen sind im Prüfbericht Nr. 15 203 150788 aufgeführt.

(17) Besondere Bedingungen

keine

(18) Grundlegende Sicherheits- und Gesundheitsanforderungen

keine zusätzlichen

TÜV NORD CERT GmbH, Langerhansstraße 20 46141 Essen, benannt durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Merk. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG (Ident. N. 0032)

Der Leiter der benannten Stelle


Meyer

Geschäftsstelle Hannover, Am TÜV 1, 30519 Hannover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1590

P17-2-008 05.12

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EC-Type Examination Certificate TÜV / Fire detector series IQ8Quad Ex (i)



Translation

(1) EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 94/9/EC

(3) Certificate Number TÜV 09 ATEX 554910

(4) for the equipment: Fire detectors series IQ8Quad Ex(i) types TD-803271 EX, O-803371 EX and O-T-803374 EX

(5) of the manufacturer: Novar GmbH

(6) Address: Dieselstraße 2
41469 Neuss
Germany
Order number: 8000554910

Date of issue: 2006-07-27

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 09 203 554910.
(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2006 EN 60079-11:2007 EN 60079-25:2004
EN 1127-1:2007

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
(11) This EC-type examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

II 2 G Ex Ib IIC/IIA T4

TÜV NORD CERT GmbH, Langemarkstraße 20, 45141 Essen, accredited by the central office of the countries for safety engineering (ZUS), ident. N. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG (ident. Nr. 0032)

The head of the certification body

Schwedt

Headquarter office, Am TÜV 1, 30519 Hannover, Fern 449 01511 986 1455, Fax 449 01511 986 1590

This certificate may only be reproduced without any change, schedule included.
Errors or changes shall be allowed by the TÜV NORD CERT GmbH

P11 F-011 06-06

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(13) SCHEDULE

(14) EC-Type Examination Certificate No. TÜV 09 ATEX 554910

(15) Description of equipment

The fire detectors series IQ8Quad Ex(i) types TD-803271 EX, O-803371 EX and O-T-803374 EX are used for detection of fire by stray light sensors with 2 optical lines and/or one temperature sensor. The detectors are operated with a detector socket Art.-No. 805590. They are operated singly or (connected in parallel) in a detector line; the supply is provided via a safety barrier installed in the safe area.

The permissible ambient temperature range is -20°C ... 70°C.

Electrical data

Detector circuit in type of protection intrinsic safety Ex Ib IIC/IIA/IIA
(Connections 2 resp 4: ULe), 5(ULe), 3(1+UL) and 1(shield)

Maximum values:

U_i = 21 V

I_i = 252 mA

Effective internal capacitance: 1nF

The effective internal inductance is negligibly small.

The permissible number of detectors as well as the interconnection with the safety barrier and the permissible reactances of the connecting cables have to be taken from the manufacturers manual. At the determination of the permissible number of detectors, a current of 10mA was taken into account.

No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables between safety barrier and the specified detectors.

(16) Test documents are listed in the test report No. 09 203 554910.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

page 2/2



Translation 1. SUPPLEMENT

to Certificate No.
Equipment:

TÜV 09 ATEX 554910

Fire detectors series IQ8Quad Ex(i)

Types

TD-803271 EX, TD-803271 EX F0,
O-803371 EX, O-803371 EX F0 and
O-T-803374 EX/O-T-803374 EX F0

Manufacturer:

NOVAR GmbH

Address:

Dieselstraße 2
41469 Neuss
Germany

Order number:

800555919

Date of issue:

2010-10-12

In the future, the fire detectors series IQ8Quad Ex(i) may also be manufactured and operated according to the documents listed in the test report.

The changes refer to:

- The supply of the fire detectors via safety barriers installed in the safe area; in the future, here the article nos. 754744 (non potential free barrier) and 804744 (potential free barrier) are permissible.
- The type designation of the fire detectors; these read as follows:
Types TD-803271 EX/TD-803271 EX F0, O-803371 EX/O-803371 EX F0 and
O-T-803374 EX/O-T-803374 EX F0

The electrical data and all other data apply unchanged for this supplement.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2006 EN 60079-11:2007 EN 60079-25:2004

EN 1127-1:2007

(16) The test documents are listed in the test report No. 10 203 555919.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemannstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0012

The head of the certification body


Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel. +49 (0) 511 986-1455, Fax +49 (0) 511 986-1500

PT-FF-0.005-20

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Translation 2. SUPPLEMENT

to Certificate No.
Equipment:

TÜV 09 ATEX 554910

Fire detectors series IQ6Quad Ex(i)

Types

TD-803271 EX, O-803371 EX, O-T-803374 EX,
TD-803271 EX F0, O-803371 EX F0, O-T-803374 EX F0,
TD-803271 EX, NU, O-803371 EX, NU, O-T-803374 EX, NU
NOVAR GmbH

Manufacturer:

Dieselstraße 2

41469 Neuss

Germany

Order number:

8000408397

Date of issue:

2012-10-08

The fire detectors series IQ6Quad Ex(i) of the types mentioned below fulfil the requirements of the current standards listed below.

In the future, the marking reads as follows:

II 2 G Ex ib IIC/IB/IIA T4 Gb

List of the tested types of the Fire detectors series IQ6Quad Ex(i):

TD-803271 EX, O-803371 EX, O-T-803374 EX

TD-803271 EX F0, O-803371 EX F0, O-T-803374 EX F0

TD-803271 EX, NU, O-803371 EX, NU, O-T-803374 EX, NU

The electrical data and all other data apply unchanged for this supplement.

The equipment according to this supplement meets the requirements of these standards:

EN 60079-0:2009 EN 60079-11:2012 EN 60079-25:2010

(16) The test documents are listed in the test report No. 12 203 103724

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

TÜV NORD CERT GmbH, Langemannstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body


Schwedt

Hanover office, Am TÜV 1, 30519 Hanover, Tel. +49 (0) 511 986-1455, Fax +49 (0) 511 986-1500

PT-FF-0.005-20

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Translation
3. SUPPLEMENT

to Certificate No.
Equipment

TÜV 09 ATEX 554910
Fire detectors series IQ8Quad Ex(i)

Types
TD-803271 EX, O-803371 EX, OT-803374 EX
TD-803271 EX.F0, O-803371 EX.F0, OT-803374 EX.F0
TD-803271 EX.NU, O-803371 EX.NU, OT-803374 EX.NU,
O-803371 EX.IN, OT-803374 EX.IN

Manufacturer:

NOVAR GmbH

Address:

Dieselstraße 2
41439 Neuss
Germany

Order number:

8000440882

Date of issue:

2015-05-20

The fire detectors series IQ8Quad Ex(i) of the types mentioned below fulfil the requirements of the current standards listed below.

List of the tested types of the Fire detectors series IQ8Quad Ex(i):

TD-803271 EX, O-803371 EX, OT-803374 EX
TD-803271 EX.F0, O-803371 EX.F0, OT-803374 EX.F0
TD-803271 EX.NU, O-803371 EX.NU, OT-803374 EX.NU
O-803371 EX.IN, OT-803374 EX.IN

The electrical data and all other data apply unchanged for this supplement.

The equipment, according to this supplement meets the requirements of these standards:

EN 60076-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-25:2010

(15) The test documents are listed in the test report No. 15 203 150798.

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones
TUV NORD CERT GmbH, Langemannstraße 23, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 004, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

Hanover office, Am TÜV 1, 30559 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1500

Hanover office, Am TÜV 1, 30559 Hanover, Tel.: +49 (0) 511 986-1455, Fax: +49 (0) 511 986-1500

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TI 798920.EU.+ / 01.17



EU-Baumusterprüfbescheinigung TÜV MCP Ex (i) - 804920.EX, 804960.EX

TÜV NORD

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(13) **ANLAGE**

(14) **EU-Baumusterprüfbescheinigung Nr. TÜV 14 ATEX 150789 Ausgabe 00**

(15) **Beschreibung des Produktes**

Die Handfeuermelderserie IQ8mcp Ex(i) der unten aufgeführten Typen dienen zur manuellen Auslösung eines Feueralarms an eine Brandmelderzentrale. Sie werden einzeln oder (parallel geschaltet) in einer Melderlinie betrieben; die Speisung erfolgt über eine im sicheren Bereich installierte galvanisch trennende Barrieren oder eine Sicherheitsbarriere (geerdeter Stromkreis).

Der zulässige Umgebungstemperaturbereich beträgt -20°C ... 70°C.

Liste der geprüften Typen der Handfeuermelderserie IQ8mcp Ex(i):

IQ8mcp 804924 EX

IQ8mcp 804961 EX

Elektrische Daten

Melderstromkreis in Zündschutzart Eigensicherheit Ex Ib IIC/IIA/IIA

(Anschlüsse 1 [-Ulin], 2 [-ULout], 3 [+ULin], 4 [+ULout] und Schirm)

nur zum Anschluss an einen bescheinigten eigensicheren Stromkreis mit linearer Kennlinie (siehe oben)

Höchstwerte:

$U_i = 21 \text{ V}$

$I_i = 252 \text{ mA}$

Wirksame innere Kapazität: 1nF

Die wirksame innere Induktivität ist vernachlässigbar klein.

Die zulässige Anzahl der Melder sowie die Zusammenschaltung mit der galvanisch trennenden Barriere oder der Sicherheitsbarriere und die zulässigen Reaktanzen der Verbindungsleitungen sind der Betriebsanleitung des Herstellers zu entnehmen.

Bei der Festlegung der zulässigen Melderanzahl wurde ein Strom von 10 mA berücksichtigt. In die Verbindungsleitung zwischen der Barriere und den einzelnen Meldern dürfen keine konzentrierten Kapazitäten und keine konzentrierten Induktivitäten eingeschaltet werden.

Änderungen:

A) Ein neuer Kondensator mit Serienwiderstand wurde auf der Leiterkarte ergänzt.

B) Die Leiterkarte wurde entsprechend geändert.

(16) Zeichnungen und Dokumente sind im ATEX Prüfungsbericht Nr. 16 203 184346 aufgelistet.

Folgende Dokumente waren ebenfalls Grundlage für die Prüfung:

EG-Baumusterprüfbescheinigung TÜV 14 ATEX 150789 / Prüfbericht 15 203 150789

(17) Besondere Bedingungen für die Verwendung

keine

(18) Wesentliche Gesundheits- und Sicherheitsanforderungen

keine zusätzlichen

- Ende der Bescheinigung -

TÜV NORD

Seite 1/2

(1) **EU-Baumusterprüfbescheinigung**

(2) Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen, Richtlinie 2014/34/EU

(3) **Bescheinigungsnummer:** TÜV 14 ATEX 150789 **Ausgabe:** 00

(4) **für das Produkt:** Handfeuermelderserie IQ8mcp Ex(i)

IQ8mcp 804924 EX

IQ8mcp 804961 EX

(5) **des Herstellers:** NOVAR GmbH

(6) **Anschrift:** Dieselstraße 2, 41469 Neuss

Auftragsnummer: 8000462198

Ausstellungsdatum: 05.10.2016

(7) Die Bauart dieses Produktes sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser EU-Baumusterprüfbescheinigung festgelegt.

(8) Die TÜV NORD CERT GmbH bescheinigt als notifizierte Stelle Nr. 0044 nach Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014 die Erfüllung der wesentlichen Gesundheits- und Sicherheitsanforderungen für die Konzeption und den Bau dieses Produktes zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen ATEX Prüfungsbericht Nr. 16 203 184346 festgelegt.

(9) Die wesentlichen Gesundheits- und Sicherheitsanforderungen werden erfüllt durch Übereinstimmung mit:

EN 60079-0:2012+A11:2013 EN 60079-11:2012 EN 60079-25:2010

ausgenommen die unter Abschnitt 18 der Anlage gelisteten Anforderungen.

(10) Falls das Zeichen "X" hinter der Bescheinigungsnummer steht, wird auf die Besonderen Bedingungen für die Verwendung des Produktes in der Anlage zu dieser Bescheinigung hingewiesen.

(11) Diese EU-Baumusterprüfbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Produktes. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Bereitstellen dieses Produktes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

(12) Die Kennzeichnung des Produktes muss die folgenden Angaben enthalten:

Ex II 2 G Ex Ib IIC/IIA T4 Gb

TÜV NORD CERT GmbH, Langenarckstraße 20, 45141 Essen, notifiziert durch die Zentralstelle der Länder für Sicherheitstechnik (ZLS), Ident. Nr. 0044, Rechtsnachfolger der TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

Der Leiter der notifizierten Stelle

 Meyer

Geschäftsstelle Hannover, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61485, Fax +49 511 998-61580

Diese Bescheinigung darf nur unverändert weiterverbreitet werden.

Ausgabe oder Änderungen bedürfen der Genehmigung der TÜV NORD CERT GmbH

P17.F-001 Rev. 01/04.16

EC-Type Examination Certificate TÜV MCP Ex (i) - 804920.EX, 804960.EX



(13) SCHEDULE

(14) EC-Type-Examination Certificate No. TÜV 14 ATEX 150860

(15) Description of equipment

The Manual Call Point (MCP) series standard Ex(i) of the types listed below are used for the manual release of a fire alarm in a fire alarm control and indicating equipment (c.i.e.). They are operated singly or (connected in parallel) in a detector line; the supply is provided via a galvanically separating barrier or a safety barrier (earthed circuit) installed in the safe area. The permissible ambient temperature range is -20°C ... 70°C.

List of the tested types of the MCP series IQ8mcp Ex(i):

Standard mcp 804920.EX	Standard mcp 804960.EX
------------------------	------------------------

Electrical data

Detector circuit in type of protection intrinsic safety Ex Ib IIC/IIA
 (Connections 1 [-ULin], 2 [-ULout],
 3 [+ULin], 4 [+ULout] and shield)
 only for connection to a certified
 intrinsically safe circuit with linear characteristic line
 (see above)

Maximum values:
 $U_i = 21$ V
 $I_i = 252$ mA
 The effective internal capacitances and inductances are negligibly small.

The interconnection with the galvanically separating barrier or a safety barrier and the permissible reactances of the connecting cables have to be taken from the manufacturers manual. No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables between the barrier and the specified detectors.

(16) The test documents are listed in the test report No. 15 203 150860

(17) Special conditions for safe use

none

(18) Essential Health and Safety Requirements

no additional ones

page 2/2



EC-Type-Examination Certificate

(1) Translation

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 94/9/EC

(3) Certificate Number TÜV 14 ATEX 150860

(4) for the equipment: Manual Call Point (MCP) series standard mcp Ex(i)
 Standard mcp 804920.EX
 Standard mcp 804960.EX

(5) of the manufacturer: NOVAR GmbH

(6) Address: Dieselstraße 2
 41469 Neuss

Order number: 8000440885

Date of issue: 2015-10-29

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EC-Type-Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 15 203 150860.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012 + A11:2013 EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:

 II 2 G Ex Ib IIC/IIA T4 Gb

TÜV NORD CERT GmbH, Langemannstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS) - Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body



Handover office, Am TÜV 1, 30519 Hannover, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

This certificate may only be reproduced without any change, schedule included.
 Excerpts or changes shall be allowed by the TÜV NORD CERT GmbH

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EU-Type Examination Certificate TÜV MCP Ex (i) - 804920.EX, 804960.EX

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TÜV NORD

(13) SCHEDULE

(14) EU-Type Examination Certificate No. TÜV 14 ATEX 150789 Issue 00

(15) Description of product

The Manual Call Point (MCP) series IQ8mcp Ex(i) of the types listed below are used for the manual release of a fire alarm in a fire alarm control and indicating equipment (c.i.e.). They are operated singly or (connected in parallel) in a detector line; the supply is provided via a galvanically separating barrier or a safety barrier (earthed circuit) installed in the safe area. The permissible ambient temperature range is -20°C ... 70°C.

List of the tested types of the MCP series IQ8mcp Ex(i)

IQ8mcp 804924 EX	in type of protection intrinsic safety	Ex Ib IIC/IIA/IIA
IQ8mcp 804961 EX	only for connection to a certified intrinsically safe circuit with linear characteristic line (see above)	

Electrical data

Detector circuit in type of protection intrinsic safety Ex Ib IIC/IIA/IIA

(Connections 1 [-Ulin], 2 [-ULout], 3 [+ULin], 4 [+ULout] and shield)

Maximum values:

$U_i = 21$ V

$I_i = 252$ mA

Effective internal capacitance: 1nF

The effective internal inductance is negligibly small.

The permissible number of detectors as well as the interconnection with the galvanically separating barrier or a safety barrier and the permissible reactances of the connecting cables have to be taken from the manufacturer's manual.

At the determination of the permissible number of detectors, a current of 10mA was taken into account. No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables between the barrier and the specified detectors.

Changes:

A) A new capacitor with series resistor was added on the pc board.

B) The pc board was changed accordingly.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 16 203 184346

The following documents were also basis for testing:

EC-Type Examination Certificate TÜV 14 ATEX 150789 / Test Report 15 203 150789

(17) Specific Conditions for Use

none

(18) Essential Health and Safety Requirements

no additional ones

- End of Certificate -

page 1/2

TÜV NORD

EU-Type Examination Certificate

(1) Equipment and protective systems intended for use in potentially explosive atmospheres. Directive 2014/34/EU

(2) Certificate Number TÜV 14 ATEX 150789 Issue: 00

(3) for the product: Manual Call Point (MCP) series IQ8mcp Ex(i) IQ8mcp 804924 EX IQ8mcp 804961 EX

(4) of the manufacturer: NOVAR GmbH

(5) Address: Dieselstraße 2, 41469 Neuss, Germany

(6) Order number: 8000462198

(7) Date of issue: 2016-10-05

(8) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(9) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential ATEX Assessment Report No. 16 203 184346.

(10) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013 EN 60079-11:2012 EN 60079-25:2010

except in respect of those requirements listed at item 18 of the schedule.

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:

Ex II 2 G Ex Ib IIC/IIA T4 Gb

TÜV NORD CERT GmbH, Langemarkstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

Hanover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61455, Fax +49 511 998-61590

This certificate may only be reproduced without any change, schedule included. Exempts or changes shall be allowed by the TÜV NORD CERT GmbH

P17-E-01 Rev. 0104.16

EU-Baumusterprüfbescheinigung TÜV MCP Ex (i) - 804924.EX, 804961.EX



(13) **ANLAGE**

(14) EU-Baumusterprüfbescheinigung Nr. TÜV 14 ATEX 150860 Ausgabe 00

(15) Beschreibung des Produktes

Die Handfeuermelderserie Standard mcp Ex(i) der unten aufgeführten Typen dienen zur manuellen Auslösung eines Feueralarms an eine Brandmelderzentrale. Sie werden einzeln oder (parallel geschaltet) in einer Melderlinie betrieben, die Speisung erfolgt über eine im sicheren Bereich installierte galvanisch trennende Barrieren oder eine Sicherheitsbarriere (geerdeter Stromkreis). Der zulässige Umgebungstemperaturbereich beträgt -20°C ... 70°C.

Liste der geprüften Typen der Handfeuermelderserie Standard mcp Ex(i):

Standard mcp 804920.EX

Standard mcp 804960.EX

Elektrische Daten

Melderstromkreis in Zündschutzart Eigensicherheit Ex Ib IIC/IIA/IIA

(Anschlüsse 1 [-Ulin], 2 [-ULout], 3 [+ULin], 4 [+ULout] und Schirm)

nur zum Anschluss an einen bescheinigten eigensicheren Stromkreis mit linearer Kennlinie (siehe oben)

Höchstwerte:

$U_i = 21 \text{ V}$

$I_i = 252 \text{ mA}$

Die wirksamen inneren Kapazitäten und Induktivitäten sind vernachlässigbar klein.

Die Zusammenschaltung mit der galvanisch trennenden Barriere oder der Sicherheitsbarriere und die zulässigen Reaktanzen der Verbindungsleitungen sind der Betriebsanleitung des Herstellers zu entnehmen.

In die Verbindungsleitung zwischen der Barriere und den einzelnen Meldern dürfen keine konzentrierten Kapazitäten und keine konzentrierten Induktivitäten eingeschaltet werden.

Änderungen:

Die Leiterkarte wurde modifiziert.

(16) Zeichnungen und Dokumente sind im ATEX Prüfungsbericht Nr. 16 203 184610 aufgelistet. Folgende Dokumente waren ebenfalls Grundlage für die Prüfung: EG-Baumusterprüfbescheinigung TÜV 14 ATEX 150860 / Prüfbericht 15 203 150860

(17) Besondere Bedingungen für die Verwendung

keine

(18) Wesentliche Gesundheits- und Sicherheitsanforderungen

keine zusätzlichen

- Erde der Bescheinigung -

Seite 2/2



(13) **ANLAGE**

(14) EU-Baumusterprüfbescheinigung Nr. TÜV 14 ATEX 150860 Ausgabe 00

(15) Beschreibung des Produktes

Die Handfeuermelderserie Standard mcp Ex(i) der unten aufgeführten Typen dienen zur manuellen Auslösung eines Feueralarms an eine Brandmelderzentrale. Sie werden einzeln oder (parallel geschaltet) in einer Melderlinie betrieben, die Speisung erfolgt über eine im sicheren Bereich installierte galvanisch trennende Barrieren oder eine Sicherheitsbarriere (geerdeter Stromkreis). Der zulässige Umgebungstemperaturbereich beträgt -20°C ... 70°C.

Liste der geprüften Typen der Handfeuermelderserie Standard mcp Ex(i):

Standard mcp 804920.EX

Standard mcp 804960.EX

Elektrische Daten

Melderstromkreis in Zündschutzart Eigensicherheit Ex Ib IIC/IIA/IIA

(Anschlüsse 1 [-Ulin], 2 [-ULout], 3 [+ULin], 4 [+ULout] und Schirm)

nur zum Anschluss an einen bescheinigten eigensicheren Stromkreis mit linearer Kennlinie (siehe oben)

Höchstwerte:

$U_i = 21 \text{ V}$

$I_i = 252 \text{ mA}$

Die wirksamen inneren Kapazitäten und Induktivitäten sind vernachlässigbar klein.

Die Zusammenschaltung mit der galvanisch trennenden Barriere oder der Sicherheitsbarriere und die zulässigen Reaktanzen der Verbindungsleitungen sind der Betriebsanleitung des Herstellers zu entnehmen.

In die Verbindungsleitung zwischen der Barriere und den einzelnen Meldern dürfen keine konzentrierten Kapazitäten und keine konzentrierten Induktivitäten eingeschaltet werden.

Änderungen:

Die Leiterkarte wurde modifiziert.

(16) Zeichnungen und Dokumente sind im ATEX Prüfungsbericht Nr. 16 203 184610 aufgelistet. Folgende Dokumente waren ebenfalls Grundlage für die Prüfung: EG-Baumusterprüfbescheinigung TÜV 14 ATEX 150860 / Prüfbericht 15 203 150860

(17) Besondere Bedingungen für die Verwendung

keine

(18) Wesentliche Gesundheits- und Sicherheitsanforderungen

keine zusätzlichen

- Erde der Bescheinigung -

Seite 2/2

EC-Type Examination Certificate TÜV MCP Ex (i) - 804924.EX, 804961.EX

Translation
EC-Type-Examination Certificate
 intended for use in potentially explosive atmospheres, Directive 94/9/EC

(1) Certificate Number TÜV 14 ATEX 150789

(2) for the equipment: Manual Call Point (MCP) series IQ8mcp Ex(i)
 IQ8mcp 804924 EX
 IQ8mcp 804961 EX

(3) of the manufacturer: NOVAR GmbH

(4) Address: Dieselstraße 2
 41469 Neuss

(5) Order number: 8000440883

(6) Date of issue: 2015-10-29

(7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EC-Type-Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, notified body No. 0044 in accordance with Article 9 of the Council Directive of the EC of March 23, 1994 (94/9/EC), certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 15 203 150789

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
 EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-25:2010

(10) If the sign 'X' is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-type-examination certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment or protective system must include the following:
 Ex II 2 G Ex Ib IIC/IIB/IIA T4 Gb

TÜV NORD CERT GmbH, Langemannstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Ident. Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

 Meyer

Hannover office, Am TÜV 1, 30519 Hannover, Fon +49 (0)511 986 1455, Fax +49 (0)511 986 1590

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(13) SCHEDULE

(14) EC-Type-Examination Certificate No. TÜV 14 ATEX 150789

(15) Description of equipment

The Manual Call Point (MCP) series IQ8mcp Ex(i) of the types listed below are used for the manual release of a fire alarm in a fire alarm control and indicating equipment (c.i.e.). They are operated singly or (connected in parallel) in a detector line; the supply is provided via a galvanically separating barrier or a safety barrier (earthed circuit) installed in the safe area. The permissible ambient temperature range is -20°C ... 70°C.

List of the tested types of the MCP series IQ8mcp Ex(i)
 IQ8mcp 804924 EX
 IQ8mcp 804961 EX

Electrical data

Detector circuit in type of protection intrinsic safety Ex Ib IIC/IIB/IIA
 (Connections 1 [-ULin], 2 [-ULout], intrinsically safe circuit with linear characteristic line (see above)
 Maximum values:
 U_i = 21 V
 I_i = 252 mA
 Effective internal capacitance: 1nF
 The effective internal inductance is negligibly small.

The permissible number of detectors as well as the interconnection with the galvanically separating barrier or a safety barrier and the permissible reactances of the connecting cables have to be taken from the manufacturers manual.
 At the determination of the permissible number of detectors, a current of 10mA was taken into account.
 No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables between the barrier and the specified detectors.

(16) The test documents are listed in the test report No. 15 203 150789

(17) Special conditions for safe use
 none

(18) Essential Health and Safety Requirements
 no additional ones

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EU-Type Examination Certificate TÜV MCP Ex (i) - 804924.EX, 804961.EX

TÜV NORD

(13) **SCHEDULE**

(14) EU-Type Examination Certificate No. TÜV 14 ATEX 150860 X Issue 00

(15) Description of product

The Manual Call Point (MCP) series standard Ex(i) of the types listed below are used for the manual release of a fire alarm in a fire alarm control and indicating equipment (c.i.e.). They are operated singly or (connected in parallel) in a detector line, the supply is provided via a galvanically separating barrier or a safety barrier (earthed circuit) installed in the safe area. The permissible ambient temperature range is -20°C ... 70°C.

List of the tested types of the Manual Call Point (MCP) series standard Ex(i):
Standard mcp 804920 EX
Standard mcp 804960 EX

Electrical data

Detector circuit in type of protection intrinsic safety Ex Ib IIC/IIA/IIA
(Connections 1 [-ULin], 2 [-ULout], intrinsically safe circuit with linear characteristic line
3 [+ULin], 4 [+ULout] and shield)
(see above)
Maximum values:
U_i = 21 V
I_i = 252 mA
The effective internal capacitances and inductances are negligibly small.

The interconnection with the galvanically separating barrier or a safety barrier and the permissible reactances of the connecting cables have to be taken from the manufacturers manual. No concentrated capacitances and no concentrated inductances are allowed to be installed into the connection cables between the barrier and the specified detectors.

Changes:
The pc board was modified.

(16) Drawings and documents are listed in the ATEX Assessment Report No. 16 203 184610

The following documents were also basis for testing:
EC-Type Examination Certificate TÜV 14 ATEX 150860 / Test Report 15 203 150860

(17) Specific Conditions for Use
none

(18) Essential Health and Safety Requirements
no additional ones

- End of Certificate -

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TÜV NORD

EU-Type Examination Certificate

(1) Translation

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU

(3) Certificate Number TÜV 14 ATEX 150860 Issue: 00

(4) for the product: Manual Call Point (MCP) series standard Ex(i)
Standard mcp 804920 EX
Standard mcp 804960 EX

(5) of the manufacturer: NOVAR GmbH

(6) Address: Dieselstraße 2, 41469 Neuss, Germany
Order number: 8000462394
Date of issue: 2016-10-05

(7) The design of this product and any acceptable variation thereto are specified in the schedule to this EU-Type Examination Certificate and the documents therein referred to.

(8) The TÜV NORD CERT GmbH, Notified Body No. 0044, in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.
The examination and test results are recorded in the confidential ATEX Assessment Report No. 16 203 184610.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012+A11:2013 EN 60079-11:2012
except in respect of those requirements listed at item 18 of the schedule.

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions for Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design, and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the product shall include the following:
 II 2 G Ex Ib IIC/IIA/IIA T4 Gb

TÜV NORD CERT GmbH, Langemarkstraße 20, 45141 Essen, notified by the central office of the countries for safety engineering (ZLS), Dep.-Nr. 0044, legal successor of the TÜV NORD CERT GmbH & Co. KG Ident. Nr. 0032

The head of the notified body

Meyer

Hannover office, Am TÜV 1, 30519 Hannover, Tel. +49 511 998-61465, Fax +49 511 998-61590

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EC-Type Examination Certificate Baseefa Ex barrier (Part No. 764744)

Certificate Number
BAS01ATEX7005
Issue 7



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EC - TYPE EXAMINATION CERTIFICATE

Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

EC - Type Examination Certificate Number: BAS01ATEX7005 - Issue 7

Equipment or Protective System: A Range of Z-Series Shunt Zener Diode Safety Barriers

Manufacturer: Pepperl + Fuchs GmbH

Address: Lilienthalstrasse 200, 68307 Mannheim, Germany

This re-issued certificate extends EC - Type Examination Certificate No. BAS01ATEX7005 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1180, is responsible only for the additional work relating to this re-issued certificate and any other supplementary certificate it has issued.

The examination and test results are recorded in confidential Report No's. GBBAS-EXTR 10.0094/00

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0: 2006 EN 60079-11: 2007 EN 61241-11: 2006

except in respect of those requirements listed at item 18 of the Schedule.

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

This EC - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

The marking of the equipment or protective system shall include the following :

Ⓢ II (1) GD [Ex Ia] IIC (-20°C ≤ T_a ≤ +60°C)
[Ex IaD]

Ⓢ I (M1) [Ex Ia] I (-20°C ≤ T_a ≤ 60°C)

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0808

Project File No. 100355

This certificate is granted subject to the general terms and conditions of Baseefa. It is not to be used in any way that the equipment may be used in particular industries or circumstances.

Baseefa

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Buxton, Derbyshire SK17 9RZ

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e-mail info@baseefa.com web site www.baseefa.com

Baseefa is a trading name of Baseefa Ltd

Registered in England No. 4305578. Registered address as above.

R S SINCLAIR

DIRECTOR

On behalf of

Baseefa

Re-issued 19 November 2010 to replace original

Certificate Number
BAS01ATEX7005
Issue 7



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Schedule

Certificate Number BAS01ATEX7005 - Issue 7

15 Description of Equipment or Protective System

The Z-Series Shunt Zener Diode Safety Barriers are designed to restrict the transfer of energy, from unspecified safe area equipment to intrinsically safe circuits, the limitation of voltage and current. The range consists of single, double, triple and quadruple channel barriers covering polarised - positive and negative, non-polarised, non-polarised-star connected barriers and diode return barriers.

The barriers consist of electronic components on a single printed circuit board encapsulated within a moulded plastic enclosure which incorporates two or four terminals with separate earth terminal at both the hazardous and non-hazardous area ends and an integral spring mounted foot, designed for a DIN rail.

The barriers are asymmetrical and have light blue hazardous area terminals.

Input Parameters

Single Channel - Terminals 7 & 8

Dual Channel - Terminals 5, 6, 7 & 8

Triple Channel - Terminals 5, 6, 7 & 8

& Quad Channel - Terminals 5, 6, 7 & 8 w.r.t. GND

U_m = 250V

Output Parameters

Single Channel - Terminals 1 & 2

Dual Channel - Terminals 1, 2 & 3

U_o = See CH1 below

I_o = See CH1 below

P_o = See CH1 below

Dual Channel - Terminals 4, 2 & 3

U_o = See CH2 below

I_o = See CH2 below

P_o = See CH2 below

Triple Channel - Terminals -

U_o = See

I_o = See

P_o = See

Quad Channel - Terminals -

U_o = See

I_o = See

P_o = See

1 & 2	CH1	1 w.r.t. GND	1 w.r.t. GND
3 & 2	CH2	2 w.r.t. GND	2 w.r.t. GND
CH2	CH2	CH2	CH2
CH2	CH2	CH2	CH2
4 & 2	CH3	3 w.r.t. GND	3 w.r.t. GND
CH3	CH3	CH3	CH3
CH3	CH3	CH3	CH3
CH3	CH3	CH3	CH3
4 w.r.t. GND	CH4	4 w.r.t. GND	4 w.r.t. GND
CH4	CH4	CH4	CH4
CH4	CH4	CH4	CH4
CH4	CH4	CH4	CH4

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Z700 Series Positive Polarity Shunt Zener Diode Barriers									
Barrier	Channel	Fuse (mA)	U_a (V)	R_{min} (Ω)	I_a (mA)	P_a (W)	FOS	IIC	
Z705	CH1	250	4.94	9.8	504	0.62	9.92		
Z710	CH1	100	9.56	49	195	0.47	25.64		
Z710.CL	CH1	100	9.56	49	195	0.47	25.64		
Z713	CH1	160	15.75	21.8	723	2.84	1.50		
Z715	CH1	100	14.7	98	150	0.55	9.80		
Z715.CL	CH1	100	14.7	98	150	0.55	9.80		
Z715.1k	CH1	100	14.7	980	15	0.06	98.0		
Z722	CH1	50	22	147	150	0.82	2.24		
Z722.CL	CH1	50	22	147	150	0.82	2.24		
Z728	CH1	50	28	301	93	0.65	1.93		
Z728.CL	CH1	50	28	301	93	0.65	1.93		
Z728.H	CH1	80	28	235	120	0.83	1.50		
Z731	CH1	50	28	300	93	0.65	1.93		
	CH2	400	7.2	4.9	1470	2.64	3.40		
	Combined		28	4.8	1570 @ 7.34 V	2.95	3.18		
Z755	CH1	250	4.94	9.8	504	0.62	9.92		
	CH2	250	4.94	9.8	504	0.62	9.92		
	Combined		4.94	9.8	1008 @ 4.94V	1.25	4.96		
Z757	CH1	200	7.14	9.8	729	1.30	6.85		
	CH2	200	7.14	9.8	729	1.30	6.85		
	Combined		7.14	4.9	1457 @ 7.14V	2.60	3.43		
Z763	CH1	100	11.6	31.35	370	1.07	13.51		
	CH2	100	11.6	31.35	370	1.07	13.51		
	Combined		13.2	15.67	422 @ 6.6V	0.70	6.44		
Z764	CH1	50	11.6	980	12	0.03	416		
	CH2	50	11.6	980	12	0.03	416		
	Combined		11.6	490	24 @ 11.6V	0.06	208		
Z765	CH1	100	14.7	98	150	0.55	9.80		
	CH2	100	14.7	98	150	0.55	9.80		
	Combined		14.7	49	300 @ 14.7V	1.10	4.90		
Z772	CH1	50	22	147	150	0.82	2.24		
	CH2	50	22	147	150	0.82	2.24		
	Combined		22	73.5	300 @ 22V	1.64	-		
Z778	CH1	50	28	607	46	0.32	3.91		
	CH2	50	28	607	46	0.32	3.91		
	Combined		28	303.5	93 @ 28V	0.65	1.93		
Z779	CH1	50	28	301	93	0.65	1.93		
	CH2	50	28	301	93	0.65	1.93		
	Combined		28	150.5	186 @ 28V	1.30	-		
Z779.H	CH1	80	28	235	120	0.83	1.50		
	CH2	80	28	235	120	0.83	1.50		
	Combined		28	117.5	238 @ 28V	1.67	-		
Z786	CH1	50	28	301	93	0.65	1.93		
	CH2	50	28	301	93	0.65	1.93		
	Combined		28	301	93	0.65	1.93		
Z787	CH1	50	28	301	93	0.65	1.93		
	CH2	50	28	301	93	0.65	1.93		
	Combined		28	301	93 @ 28V	0.65	1.93		
Z787.H	CH1	80	28	235	120	0.83	1.50		
	CH2	80	28	235	120	0.83	1.50		
	Combined		28	235	120 @ 28V	0.83	1.50		

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Z700 Series Positive Polarity Shunt Zener Diode Barriers									
Barrier	Channel	Fuse (mA)	U_a (V)	R_{min} (Ω)	I_a (mA)	P_a (W)	FOS	IIC	
Z788	CH1	50	28	301	93	0.65	1.93		
	CH2	50	9.56	49	195	0.47	25.64		
	Combined		28	288 @ 12.2V	0.87	16.38			
Z788.R	CH1	50	28	301	93	0.65	1.93		
	CH2	50	9.56	49	195	0.47	25.64		
	Combined		28	288 @ 12.2V	0.87	16.38			
Z788.H	CH1	80	28	235	120	0.83	1.50		
	CH2	80	9.56	49	195	0.47	25.64		
	Combined		28	40	314 @ 12.8V	1.00	10.73		
Z788.R.H	CH1	80	28	235	120	0.83	1.50		
	CH2	80	9.56	49	195	0.47	25.64		
	Combined		28	40	314 @ 12.8V	1.00	10.73		
Z789	CH1	50	28	613.8	45.6	0.32	3.94		
	CH2	50	28	613.8	45.6	0.32	3.94		
	CH3	50	28	613.8	45.6	0.32	3.94		
	CH4	50	28	613.8	45.6	0.32	3.94		
	Combined (CH1 + CH2)		28	306.9	91.2	0.64	1.97		
Z796	CH1	50	26.6	314	85	0.56	2.38		
	CH2	50	20.5	407	50	0.26	8.54		
	Combined		26.6	177	135 @ 24V	0.82	1.93		
Z796.L	CH1	50	26.0	314	83	0.54	2.59		
	CH2	50	20.0	407	49	0.25	9.46		
	Combined		26.0	177	132 @ 23.4V	0.77	2.10		

Z800 Series Negative Polarity Shunt Zener Diode Barriers									
Barrier	Channel	Fuse (mA)	U_a (V)	R_{min} (Ω)	I_a (mA)	P_a (W)	FOS	IIC	
Z805	CH1	250	4.94	9.8	504	0.62	9.92		
Z810	CH1	100	9.56	49	195	0.47	25.64		
Z810.CL	CH1	100	9.56	49	195	0.47	25.64		
Z813	CH1	160	15.75	21.8	723	2.84	1.50		
Z815	CH1	100	14.7	98	150	0.55	9.80		
Z815.CL	CH1	100	14.7	98	150	0.55	9.80		
Z815.1k	CH1	100	14.7	980	15	0.06	98.0		
Z822	CH1	50	22	147	150	0.82	2.24		
Z822.CL	CH1	50	22	147	150	0.82	2.24		
Z828	CH1	50	28	301	93	0.65	1.93		
Z828.CL	CH1	50	28	301	93	0.65	1.93		
Z828.H	CH1	80	28	235	120	0.83	1.50		
Z855	CH1	250	4.94	9.8	504	0.62	9.92		
	CH2	250	4.94	9.8	504	0.62	9.92		
	Combined		4.94	9.8	1008 @ 4.94V	1.25	4.96		
Z857	CH1	200	7.14	9.8	729	1.30	6.85		
	CH2	200	7.14	9.8	729	1.30	6.85		
	Combined		7.14	4.9	1457 @ 7.14V	2.60	3.43		
Z864	CH1	50	11.6	980	12	0.03	416		
	CH2	50	11.6	980	12	0.03	416		
	Combined		11.6	490	24 @ 11.6V	0.06	208		
Z865	CH1	100	14.7	98	150	0.55	9.80		

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Z800 Series Negative Polarity Shunt Zener Diode Barriers		Fuse (mA)	U _o (V)	R _{min} (Ω)	I _o (mA)	P _o (W)	FOS IIC
Z872	CH2	100	14.7	98	150	0.55	9.80
	Combined		14.7	49	300 @ 14.7V	1.10	4.90
	CH1	50	22	147	150	0.82	2.24
	CH2	50	22	147	150	0.82	2.24
Z878	Combined		Not Permitted for Grp. IIC				
	CH1	50	22	75.5	300 @ 22V	1.64	-
	CH2	50	28	607	46	0.32	3.91
	CH2	50	28	607	46	0.32	3.91
Z879	Combined		Not Permitted for Grp. IIC				
	CH1	50	28	303.5	93 @ 28V	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
Z879.H	Combined		Not Permitted for Grp. IIC				
	CH1	80	28	150.5	186 @ 28V	1.30	-
	CH2	80	28	235	120	0.83	1.50
	CH2	80	28	235	120	0.83	1.50
Z886	Combined		Not Permitted for Grp. IIC				
	CH1	50	28	117.5	238 @ 28V	1.67	-
	CH2	50	28	235	120	0.83	1.50
	CH2	50	28	235	120	0.83	1.50
Z887	Combined		Diode Return* - See Note below				
	CH1	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
Z887.H	Combined		Diode Return* - See Note below				
	CH1	80	28	301	93 @ 28V	0.65	1.93
	CH2	80	28	235	120	0.83	1.50
	CH2	80	28	235	120	0.83	1.50
Z888	Combined		Diode Return* - See Note below				
	CH1	50	28	235	120 @ 28V	0.83	1.50
	CH2	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
Z888.R	Combined		Diode Return* - See Note below				
	CH1	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
	CH2	50	28	301	93	0.65	1.93
Z888.H	Combined		Diode Return* - See Note below				
	CH1	80	28	235	120	0.83	1.50
	CH2	80	28	235	120	0.83	1.50
	CH2	80	28	235	120	0.83	1.50
Z888.R.H	Combined		Diode Return* - See Note below				
	CH1	80	28	314 @ 12.8V	1.00	10.73	25.64
	CH2	80	28	235	120	0.83	1.50
	CH2	80	28	235	120	0.83	1.50
Z896	Combined		Diode Return* - See Note below				
	CH1	50	28	314 @ 12.8V	1.00	10.73	25.64
	CH2	50	26.6	314	85	0.56	2.38
	CH2	50	20.5	407	50	0.26	8.54
Z896.L	Combined		Diode Return* - See Note below				
	CH1	50	26.6	177	135 @ 24V	0.82	1.93
	CH2	50	26.0	314	83	0.54	2.59
	CH2	50	20.0	407	49	0.25	9.46
Z896	Combined		Diode Return* - See Note below				
	CH1	50	26.0	177	132 @ 23.4V	0.77	2.10
	CH2	50	26.0	177	132 @ 23.4V	0.77	2.10
	CH2	50	26.0	177	132 @ 23.4V	0.77	2.10

Z900 Series Fieldbus Barrier		Fuse (mA)	U _o (V)	R _{min} (Ω)	I _o (mA)	P _o (W)	FOS IIC
Z922 (+/-)	CH1	100	+11	50	218	0.60	22.93
	CH2	100	-11	50	218	0.60	22.93
	Combined		22	101	218 @ 22V	1.20	1.54
	Combined		22	101	218 @ 22V	1.20	1.54

Certificate Number
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Z900 Series a.c. Shunt Zener Diode Barriers		Fuse (mA)	U _o (V)	R _{min} (Ω)	I _o (mA)	P _o (W)	FOS IIC
Z905 (a.c.)	CH1	250	4.9	9.8	500	0.62	10.0
	CH1	100	9.94	49	203	0.50	24.63
	CH1	100	15	98	153	0.57	8.82
	CH1	100	15	98	153	0.57	8.82
Z915 (a.c.)	CH1	100	15	98	153	0.57	8.82
	CH1	100	15	98	153	0.57	8.82
	CH1	100	15	98	153	0.57	8.82
	CH1	100	15	98	153	0.57	8.82
Z915.1k (a.c.)	CH1	50	28	301	93	0.65	1.93
	CH1	50	4.5	11.76	383	0.43	13.05
	CH2	50	4.5	11.76	383	0.43	13.05
	CH2	50	4.5	11.76	383	0.43	13.05
Z924 (a.c.)	CH1	50	4.5	11.76	383	0.43	13.05
	CH2	50	4.5	11.76	383	0.43	13.05
	CH2	50	4.5	11.76	383	0.43	13.05
	CH2	50	4.5	11.76	383	0.43	13.05
Z965 (a.c.)	CH1	50	8.7	352.8	25	0.05	200
	CH2	50	8.7	352.8	25	0.05	200
	CH2	50	8.7	352.8	25	0.05	200
	CH2	50	8.7	352.8	25	0.05	200
Z966 (a.c.)	CH1	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
Z966.H (a.c.)	CH1	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
	CH2	50	12	980	12	0.04	416
Z967 (Star)	CH1	50	16.8	58	286 @ 16.8V	1.20	2.93
	CH2	50	16.8	58	286 @ 16.8V	1.20	2.93
	CH2	50	16.8	58	286 @ 16.8V	1.20	2.93
	CH2	50	16.8	58	286 @ 16.8V	1.20	2.93
Z969 (Special Star)	CH1	80	14.24	35.6	400	1.42	4.12
	CH2	80	17.6	50.8	349	1.53	2.03
	CH2	80	19.24	20.8	740 @ 15.63V	2.95	1.50
	CH2	80	19.24	20.8	740 @ 15.63V	2.95	1.50
Z972 (Star)	CH1	50	22	301	73	0.40	4.61
	CH2	50	22	301	73	0.40	4.61
	CH2	50	22	301	73	0.40	4.61
	CH2	50	22	301	73	0.40	4.61
Z978 (Star)	CH1	50	28	607	46	0.32	3.91
	CH2	50	28	607	46	0.32	3.91
	CH2	50	28	607	46	0.32	3.91
	CH2	50	28	607	46	0.32	3.91

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Notes: Barriers models marked * have channels with diode returns. The hazardous area terminals for the channels with diode returns should be regarded as 28V voltage sources. The 28V must be considered as the theoretical maximum up to which a capacitive load can be applied to the terminals due to the leakage current of the diode return. This voltage is only used in calculating the load capacitance.

LOAD PARAMETERS

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the output terminals must not exceed the following values:

Z700 Series Positive Polarity Shunt Zener Diode Barriers													
Barrier	Ch.	Group I (C)			Group II (C)			Group III (C)			Group I (L)		
		C (pF)	L (mH)	L/R (mH/Ω)	C (pF)	L (mH)	L/R (mH/Ω)	C (pF)	L (mH)	L/R (mH/Ω)	C (pF)	L (mH)	
Z705	CH1	100	0.14	57	1,000	0.55	228	1,000	1.1	456	1,000	1.35	
Z705	CH2	100	0.14	57	1,000	0.55	228	1,000	1.1	456	1,000	1.35	
Z710	CH1	3.6	0.93	56	26.6	3.54	20.0	210.0	7.48	610	99	12.7	
Z710	CH2	3.6	0.93	56	26.6	3.54	20.0	210.0	7.48	610	99	12.7	
Z715	CH1	0.479	0.008	12	2.88	0.77	40	11.6	6.54	99	13.6	0.89	
Z715	CH2	0.62	1.58	64	3.6	6.32	357	14.9	12.64	513	16.9	20.74	
Z715	CH3	0.62	1.58	64	3.6	6.32	357	14.9	12.64	513	16.9	20.74	
Z715	CH4	0.62	1.58	64	3.6	6.32	357	14.9	12.64	513	16.9	20.74	
Z722	CH1	0.165	1.58	43	1.14	6.32	172	4.20	12.64	345	5.8	20.74	
Z722	CH2	0.165	1.58	43	1.14	6.32	172	4.20	12.64	345	5.8	20.74	
Z722	CH3	0.165	1.58	43	1.14	6.32	172	4.20	12.64	345	5.8	20.74	
Z722	CH4	0.165	1.58	43	1.14	6.32	172	4.20	12.64	345	5.8	20.74	
Z728	CH1	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z728	CH2	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z728	CH3	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z728	CH4	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z731	CH1	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z731	CH2	0.083	4.11	54	0.65	16.44	41	2.15	32.82	406	3.4	33.95	
Z735	CH1	0.083	0.014	12	0.65	0.87	228	1,000	0.11	0.11	1,000	0.11	
Z735	CH2	100	0.14	57	1,000	0.55	228	1,000	0.11	456	1,000	1.35	
Z737	CH1	0.083	0.014	12	0.65	0.87	228	1,000	0.11	456	1,000	1.35	
Z737	CH2	100	0.14	57	1,000	0.55	228	1,000	0.11	456	1,000	1.35	
Z740	CH1	0.083	0.014	12	0.65	0.87	228	1,000	0.11	456	1,000	1.35	
Z740	CH2	100	0.14	57	1,000	0.55	228	1,000	0.11	456	1,000	1.35	
Z740	CH3	1.5	0.016	33	10.8	1.03	132	43.0	2.07	265	41.9	3.40	
Z740	CH4	1.5	0.016	33	10.8	1.03	132	43.0	2.07	265	41.9	3.40	
Z763	CH1	8.49	0.257	517	10.8	0.87	228	1,000	0.33	109	1,000	0.33	
Z763	CH2	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH3	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH4	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH5	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH6	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH7	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH8	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH9	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH10	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH11	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH12	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH13	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH14	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH15	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH16	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH17	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH18	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH19	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH20	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH21	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH22	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH23	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH24	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH25	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH26	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH27	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH28	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH29	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH30	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH31	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH32	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH33	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH34	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH35	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH36	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH37	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH38	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH39	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH40	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH41	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH42	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH43	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH44	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH45	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH46	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH47	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH48	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH49	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH50	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH51	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH52	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH53	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH54	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH55	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH56	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH57	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH58	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH59	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH60	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH61	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH62	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH63	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH64	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH65	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH66	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH67	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH68	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH69	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH70	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH71	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH72	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH73	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH74	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH75	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH76	100	0.14	57	1,000	0.55	228	1,000	0.33	109	1,000	0.33	
Z763	CH77	100	0.14										

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Barrier	Ch.	Group IIC				Group IIB				Group IIA				Group I			
		C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)
Z807	CH1	0.99	1.73	58	2.29	0.95	2.35	9.30	13.90	471	11.3	22.82	773				
	CH2	0.99	1.73	58	2.29	0.95	2.35	9.30	13.90	471	11.3	22.82	773				
	Comb.	0.99	1.73	58	2.29	0.95	2.35	9.30	13.90	471	11.3	22.82	773				
Z808	CH1	0.98	0.22	24	4.28	0.88	50	16.1	1.77	159	18.4	2.91	327				
	CH2	0.333	0.29	23	1.93	1.16	92	8.10	2.33	185	10	3.83	304				
	Comb.	0.248	0.063	1.2	1.52	0.25	48	6.03	0.59	96	7.7	0.83	158				
Z809	CH1	0.165	6.67	88	1.14	26.68	333	4.20	33.37	707	5.8	87.57	1.160				
	CH2	0.165	6.67	88	1.14	26.68	333	4.20	33.37	707	5.8	87.57	1.160				
	Comb.	0.165	6.67	88	1.14	26.68	333	4.20	33.37	707	5.8	87.57	1.160				
Z810	CH1	0.083	16.80	110	0.65	67.21	440	2.15	134.42	880	3.4	220.54	1.445				
	CH2	0.083	16.80	110	0.65	67.21	440	2.15	134.42	880	3.4	220.54	1.445				
	Comb.	0.083	4.11	55	0.65	16.44	220	2.15	32.88	441	3.4	53.95	723				

- Notes:
- The above load parameters apply when one of the two conditions below is given:
 - the total L_s of the external circuit (excluding the cable) is $< 1\%$ of the L_{50} value or
 - the total C_s of the external circuit (excluding the cable) is $< 1\%$ of the C_{50} value.
 - The above parameters are reduced to 50% when both of the two conditions below are given:
 - the total L_s of the external circuit (excluding the cable) is $\geq 1\%$ of the L_{50} value and
 - the total C_s of the external circuit (excluding the cable) is $\geq 1\%$ of the C_{50} value.
 - The reduced capacitance of the external circuit (including cable) shall not be greater than 1pF for Group IIB and 600nF for Group IIC.

16	Report Number	17	Special Conditions for Safe Use	18	Essential Health and Safety Requirements	19	Drawings and Documents
GB/BAS/EXT10.0094/00	None.			All relevant Essential Health and Safety Requirements are covered by the standards listed at item 9.			
Number	Sheet	Issue	Date	Description			
251-0219C	1 of 1	C	07.02.01	Circuit Diagram for Z705 (positive) & Z805 (negative) Version			
251-0220D	1 of 1	D	07.02.01	Circuit Diagram for 3 Diode Z7.. (positive) & Z8.. (negative) Polarity Versions			
251-0222B	1 of 1	B	08.03.01	Circuit Diagram for 3 Diode Dual Channel Positive and Negative Polarity Versions			
251-0224B	1 of 1	B	07.02.01	Circuit Diagram for Single Channel Positive and Negative Polarity Versions			
251-0225B	1 of 1	B	07.02.01	Circuit Diagram for 6 Diode Positive and Negative Polarity CL Versions			

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		C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)
Z888	CH1	0.083	4.11	55	0.65	16.44	220	2.15	32.88	441	3.4	53.95	723				
	CH2	3.60	0.93	76	26.0	3.74	30.5	210.0	7.46	610	99.0	12.27	1.000				
	Comb.	0.083	0.42	40	0.65	1.71	160	2.15	3.42	341	3.4	5.62	526				
Z888.R	CH1	0.083	4.11	55	0.65	16.44	220	2.15	32.88	441	3.4	53.95	723				
	CH2	3.60	0.93	76	26.0	3.74	30.5	210.0	7.46	610	99.0	12.27	1.000				
	Comb.	0.083	0.42	40	0.65	1.71	160	2.15	3.42	341	3.4	5.62	526				
Z888.H	CH1	0.083	2.46	42	0.65	9.87	170	2.15	19.75	341	3.4	32.40	559				
	CH2	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
	Comb.	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
Z888.R.H	CH1	0.083	2.46	42	0.65	9.87	170	2.15	19.75	341	3.4	32.40	559				
	CH2	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
	Comb.	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
Z806	CH1	3.60	0.93	76	26.0	3.74	30.5	210.0	7.46	610	99.0	12.27	1.000				
	CH2	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
	Comb.	0.083	0.36	36	0.65	1.44	138	2.15	1.97	148	2.69	16.32	297				
Z806.L	CH1	0.099	5.16	66	0.77	20.64	264	2.69	41.28	528	4.00	67.34	867				
	CH2	0.099	5.16	66	0.77	20.64	264	2.69	41.28	528	4.00	67.34	867				
	Comb.	0.099	2.84	45	0.77	8.16	148	2.69	16.32	297	4.00	26.78	501				

Barrier	Ch.	Group IIC				Group IIB				Group IIA				Group I			
		C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)
Z802 (+/-)	CH1	1.97	0.74	58	13.8	2.99	235	60.0	5.98	470	53	9.81	771				
	CH2	1.97	0.74	58	13.8	2.99	235	60.0	5.98	470	53	9.81	771				
	Comb.	0.165	0.74	29	1.14	2.99	118	4.20	5.98	232	5.8	9.81	389				

Barrier	Ch.	Group IIC				Group IIB				Group IIA				Group I			
		C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)	C	L	R	L (mH)
Z805 (a.c.)	CH1	100	0.14	58	1.000	0.56	232	1.000	1.13	464	1.000	1.86	761				
	CH2	100	0.14	58	1.000	0.56	232	1.000	1.13	464	1.000	1.86	761				
	Comb.	3.3	0.035	29	23.0	0.14	116	135	0.28	232	91	0.46	382				
Z806	CH1	3.0	0.86	70	20.0	3.45	282	100	6.90	564	83	11.32	953				
	CH2	3.0	0.86	70	20.0	3.45	282	100	6.90	564	83	11.32	953				
	Comb.	3.0	0.21	35	20.0	0.86	141	100	1.79	282	83	2.81	462				
Z806 (a.c.)	CH1	5.9	4.48	184	90.0	17.95	796	1.000	35.91	1.473	450	38.91	2.416				
	CH2	5.9	4.48	184	90.0	17.95	796	1.000	35.91	1.473	450	38.91	2.416				
	Comb.	5.9	4.48	184	90.0	17.95	796	1.000	35.91	1.473	450	38.91	2.416				
Z806 (a.c.)	CH1	5.9	56.88	662	50.0	227.55	2.651	1.000	455.11	3.303	450	746.66	8.700				
	CH2	5.9	56.88	662	50.0	227.55	2.651	1.000	455.11	3.303	450	746.66	8.700				
	Comb.	5.9	56.88	662	50.0	227.55	2.651	1.000	455.11	3.303	450	746.66	8.700				
Z806 (a.c.)	CH1	1.41	2.60	100	99.7	0.65	1.871	36.0	1.975	2.743	35	3.380	12.703				
	CH2	1.41	2.60	100	99.7	0.65	1.871	36.0	1.975	2.743	35	3.380	12.703				
	Comb.	0.125	0.33	36	0.93	1.32	148	3.35	2.64	280	4.6	4.33	476				

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Certificate Number
BAS01ATEX7005
Issue 7

Number	Sheet	Issue	Date	Description
252-0945E	1 & 2	E	30.01.01	Parts List for Z778 & Z878
252-0946E	1 & 2	E	30.01.01	Parts List for Z779 and Z879
252-0947F	1 & 2	F	05.03.04	Parts List for Z786 and Z886
252-0948F	1 & 2	F	05.03.04	Parts List for Z787 and Z887
252-0949E	1 & 2	E	30.01.01	Parts List for Z788 and Z888
252-0950E	1 & 2	E	30.01.01	Parts List for Z788.R and Z888.R
252-0951D	1 & 2	D	30.01.01	Parts List for Z955
252-0952C	1 & 2	C	05.02.01	Parts List for Z960
252-0953G	1 & 2	G	14.01.10	Parts List for Z961
252-0954F	1 & 2	F	30.01.01	Parts List for Z964
252-0955C	1 & 2	C	05.02.01	Parts List for Z965
252-0956F	1 & 2	F	30.01.01	Parts List for Z966
252-0957C	1 & 2	C	05.02.01	Parts List for Z967
252-0958C	1 & 2	C	05.02.01	Parts List for Z978
252-0959E	1 & 2	E	30.01.01	Parts List for Z796 and Z896
252-0960E	1 & 2	E	14.01.10	Parts List for Z954
252-0960J	1 & 2	J	14.01.10	Parts List for Z915
252-0967J	1 & 2	J	14.01.10	Parts List for Z915.1k
252-0968C	1 & 2	C	05.02.01	Parts List for Z972
252-0970G	1 & 2	G	14.01.10	Parts List for Z765 and Z865
252-0971D	1 & 2	D	05.02.01	Parts List for Z764 and Z864
252-1015E	1 & 2	E	14.01.10	Parts List for Z922
252-1074C	1 & 2	C	30.01.01	Parts List for Z757 and Z857
252-1109D	1 to 4	D	14.01.10	Parts List for Z731
252-1111C	1 & 2	C	30.01.01	Parts List for Z713 and Z813
252-1128C	1 & 2	C	30.01.01	Parts List for Z728.H and Z828.H
252-1129D	1 & 2	D	05.03.04	Parts List for Z787.H and Z887.H
252-1143B	1 & 2	B	30.01.01	Parts List for Z779.H and Z879.H
252-1144B	1 & 2	B	30.01.01	Parts List for Z788.H and Z888.H
252-1145B	1 & 2	B	30.01.01	Parts List for Z788.R.H and Z888.R.H
252-1149B	1 & 2	B	05.02.01	Parts List for Z969
252-1156B	1 & 2	B	30.01.01	Parts List for Z961.H
252-1157D	1 & 2	D	14.01.10	Parts List for Z966.H
252-1297A	1 & 2	A	30.10.00	Parts List for Z763
252-4011A	1 & 2	A	26.10.01	Parts List for Z796.L and Z896.L
252-5023	1 to 3	Original	01.04.04	Parts List for Z789
253-0260A	1 of 1	A	08.03.01	Component Overlay for 3 Diode Dual Z7.. (positive) & Z8.. (negative) Polarity Versions
253-0261A	1 of 1	A	31.10.00	Component Overlay (Ref.) for Z763 (PCB 255-1519A)
253-0274A	1 of 1	A	12.02.01	Component Overlay for 3 Diode Z7.. (positive) & Z8.. (negative) Polarity Versions
253-0275A	1 of 1	A	12.02.01	Component Overlay for Single Channel A.C Versions
253-0276A	1 of 1	A	12.02.01	Component Overlay for Single Channel Z7.. (positive) and Z8.. (negative) Polarity Versions

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Certificate Number
BAS01ATEX7005
Issue 7

Number	Sheet	Issue	Date	Description
251-0226D	1 of 1	D	07.02.01	Circuit Diagram for Single Channel Z9.. (a.c.) Versions
251-0227C	1 of 1	C	07.02.01	Circuit Diagram for Z755 (positive) & Z855 (negative) Polarity Versions
251-0229C	1 of 1	C	07.02.01	Circuit Diagram for Z788, Z888, Z788.H and Z888.H
251-0230C	1 of 1	C	07.02.01	Circuit Diagram for Z788.R, Z888.R, Z788.R.H & Z888.R.H
251-0231B	1 of 1	B	07.02.01	Circuit Diagram for Dual Channel A.C. Versions
251-0232B	1 of 1	B	08.02.01	Circuit Diagram for Dual Channel 9 Diode A.C. Versions
251-0233B	1 of 1	B	07.02.01	Circuit Diagram for Dual Channel Positive and Negative Polarity Versions
251-0234B	1 of 1	B	07.02.01	Circuit Diagram for Z786 and Z886
251-0235C	1 of 1	C	07.02.01	Circuit Diagram for Z787, Z887, Z787.H and Z887.H
251-0236B	1 of 1	B	08.02.01	Circuit Diagram for Z954
251-0237B	1 of 1	B	08.02.01	Circuit Diagram for Z928
251-0238C	1 of 1	C	07.02.01	Circuit Diagram for Z905 (a.c.) Barrier
251-0239C	1 of 1	C	07.02.01	Circuit Diagram for Z955 (a.c.) Barrier
251-0240B	1 of 1	B	08.02.01	Circuit Diagram for Dual Channel 18 Diode A.C. Versions
251-0251C	1 of 1	C	08.02.01	Circuit Diagram for Z922
251-0274C	1 of 1	C	07.02.01	Circuit Diagram for 3 Diode Z7.. (positive) & Z8.. (negative) Polarity CL Versions
251-0276C	1 of 1	C	07.02.01	Circuit Diagram for 3 Diode Dual Channel Z7.. (positive) & Z8.. (negative) Polarity
251-0283B	1 of 1	B	07.02.01	Circuit Diagram for Single Channel Z7.. (positive) & Z8.. (negative) Polarity Versions
251-0284B	1 of 1	B	07.02.01	Circuit Diagram for Z969
251-0290C	1 of 1	C	14.01.10	Circuit Diagram for Z966.H & Z961
251-0434B	1 of 1	B	12.06.01	Circuit Diagram for Z763
251-0450A	1 of 1	A	08.02.01	Circuit Diagram (Ref.) for Z731
251-5058	1 of 1	Original	31.03.04	Circuit Diagram Z789
252-0928D	1 of 1	D	30.01.01	Parts List for Z705 and Z805
252-0930G	1 of 1	G	14.01.10	Parts List for Z710 and Z810
252-0931G	1 & 2	G	14.01.10	Parts List for Z710.CL and Z810.CL
252-0933G	1 of 1	G	14.01.10	Parts List for Z715 and Z815
252-0934G	1 & 2	G	14.01.10	Parts List for Z715.CL and Z815.CL
252-0935G	1 of 1	G	14.01.10	Parts List for Z715.1k and Z815.1k
252-0936E	1 & 2	E	30.01.01	Parts List for Z722 and Z822
252-0937E	1 & 2	E	30.01.01	Parts List for Z722.CL and Z822.CL
252-0938E	1 & 2	E	30.01.01	Parts List for Z728 and Z828
252-0939E	1 & 2	E	30.01.01	Parts List for Z728.CL and Z828.CL
252-0940D	1 & 2	D	30.01.01	Parts List for Z905
252-0941G	1 & 2	G	14.01.10	Parts List for Z910
252-0942C	1 & 2	C	05.02.01	Parts List for Z928
252-0943D	1 & 2	D	30.01.01	Parts List for Z755 and Z855
252-0944E	1 & 2	E	30.01.01	Parts List for Z772 and Z872

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Certificate Number
BAS01ATEX7005
Issue 7

20 Certificate History

Certificate No.	Date	Comments
BAS01ATEX7005	26 June 2001	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amendments 1 & 2 and EN 50020: 1994 is documented in Test Report No. 000C/9982.
BAS01ATEX7005/1	16 November 2001	To permit the inclusion of drawings, an alternative place of manufacturer of the barriers and permit minor changes to the Z796 & Z896 barriers to form the Z796.L and Z896.L variants.
BAS01ATEX7005/2	9 March 2004	To permit the inclusion of 'Combined No Earth' parameters for the Z969 Barrier model not affecting the original assessment.
BAS01ATEX7005/3	26 April 2004	To permit the use of alternative diodes type in some of the barrier designs not affecting the original assessment.
BAS01ATEX7005/4	23 April 2004	To permit the additional of the Z789 Four Channel Shunt Zener Diode Safety Barrier to the range. The certification of this model is detailed in Baseefa Certification Report No. 04C/0278.
BAS01ATEX7005/5	21 July 2006	To permit alternative enclosure materials to be specified not affecting the original assessment. General Assembly Drawing No. 254-0312A replaced.
BAS01ATEX7005 Issue 6	19 January 2010	The certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2006, EN 60079-11: 2007 & EN 61241-11: 2006 including the revision of the equipment marking and load parameters in accordance with these standards. All models of the barriers were additionally assessed as Associated Electrical Apparatus to category [Ex ia] I in an ambient temperature range of -20°C to +60°C. The equipment markings were revised to include the group I markings and the load parameters listed in section 15 above revised to include group I parameters. Minor circuit changes were made to the Z954 model not affecting the output parameters previously specified. The above test and assessment is detailed in Report No. GB/BAS/EXTR09/0217/00. The certificate's listed manufacturer was also changed to: Peppert + Fuchs GmbH, Lilienthalstrasse 200, 68307 Mannheim, Germany.
BAS01ATEX7005 Issue 7	14 May 2010	This issue of the certificate adds Group IIB and IIA load parameters figures to the equipment description. This addition does not affect the original assessment.
For drawings applicable to each issue, see original of that issue.		

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Certificate Number
BAS01ATEX7005
Issue 7

Number	Sheet	Issue	Date	Description
253-0277A	1 of 1	A	12.02.01	Component Overlay for Z788, Z788.H (positive) and Z888, Z888.H (negative) Barriers
253-0278A	1 of 1	A	26.02.01	Component Overlay for Z788.R, Z788.R.H (positive) & Z888.R, Z888.R.H (negative) Barriers
253-0279A	1 of 1	A	26.02.01	Component Overlay for Dual Channel A.C. Versions
253-0280A	1 of 1	A	26.02.01	Component Overlay for Dual Channel Z7... (positive) & Z8... (negative) Polarity Versions
253-0281A	1 of 1	A	26.02.01	Component Overlay for Z787, Z787.H (positive) & Z887, Z887.H (negative) Polarity Barriers
253-0282A	1 of 1	A	26.02.01	Component Overlay for Z786 (positive) and Z886 (negative) Polarity Barriers
253-0283A	1 of 1	A	26.02.01	Component Overlay for 3 Diode Dual Z7... (positive) & Z8... (negative) Polarity Versions
253-0284A	1 of 1	A	26.02.01	Component Overlay for Z713 (positive) & Z813 (negative) Polarity Barriers
253-0285B	1 of 1	B	14.01.10	Component Overlay for Z966.H & Z961
253-0286A	1 of 1	A	27.02.01	Component Overlay for Z705 (positive) & Z805 (negative) Versions
253-0287A	1 of 1	A	27.02.01	Component Overlay for 6 Diode Z7... (positive) and Z8... (negative) Polarity CL Versions
253-0288A	1 of 1	A	27.02.01	Component Overlay for Z755 (positive) & Z855 (negative) Barriers
253-0289A	1 of 1	A	27.02.01	Component Overlay for Z905 a.c. Barrier
253-0290A	1 of 1	A	27.02.01	Component Overlay for Z955 a.c. Barrier
253-0291A	1 of 1	A	27.02.01	Component Overlay for 3 Diode Z7... (positive) & Z8... (negative) Polarity CL Versions
253-0292A	1 of 1	A	27.02.01	Component Overlay for Zener Barrier Z954
253-0293A	1 of 1	A	27.02.01	Component Overlay for Z969
253-5017A	1 of 1	A	10.10.01	Component Overlay for Z928
253-5019A	1 of 1	A	10.10.01	Component Overlay for A.C. Star Connected 9 Diode Barrier
253-5020A	1 of 1	A	10.10.01	Component Overlay for A.C. Star Connected 18 Diode Barrier
253-5082	1 of 1	Original	2004 Mar 31	Component Overlay for Z789
255-1519B	1 to 3	B	09.04.01	P.C.B Master for Z763
255-1521A	1 to 3	A	08.03.01	PCB Master for Single and Dual Channel Zener Barriers (P.C.B 255-1521A)
255-1529A	1 to 3	A	27.02.01	PCB Master for Z731
255-1535A	1 to 3	A	27.02.01	PCB Master for Z922
255-1538A	1 to 3	A	27.02.01	PCB Master for A.C. Star Connected Barriers (Z7... Z8... & Z9... Type)
255-1541A	1 to 3	A	27.02.01	PCB Master for Z954
255-3457C	1 of 1	C	16.12.94	Component Overlay for Z922
255-5038	1 & 2	Original	2004 Mar 31	P.C.B Master for Z789
266-011BS-04A	1 & 2	A	2009-Nov-09	General Assembly Z7... Z8... & Z9... Series Zener Barriers
266-011BS-10	1 to 6	Original	2009-Nov-09	Type Label (ATEX & IECEx) Z-Series Shunt Zener Diode Safety Barriers

EC-Type Examination Certificate EECS / Baseefa Ex barrier (Part No. 804744)

Schedule																					
13	EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX7087																				
14																					
15	Description of Equipment or Protective System The Dual Channel Smart Fire Detector Isolator Type K'D0-CS-Ex2.54 is designed to provide a galvanically isolated interface to enable the connection of apparatus located in a hazardous area with apparatus located in a non-hazardous area by providing galvanic isolation and limiting to intrinsically safe levels the voltage and current into the hazardous area. The apparatus comprises a number of electrical components, including transformers, fuses, resistors and zener diodes, all mounted on a single printed circuit board (PCB) and housed within a plastic enclosure. The use of "F" in the type designation K'D0-CS-Ex2.54 represents either H for screw terminal connections, or F to indicate the use of FIM type plug in connectors with an alternative enclosure to accommodate the plugs and sockets. The apparatus is designed to operate from a d.c. supply of up to 40V on terminals 11 and 12 and on terminals 8, 9 and 10. The segregation of the hazardous area circuits meets the requirements for 250V. Input/Output Parameters $U_i = 250V$ (Terminals 11 and 12 and terminals 8, 9, and 10) $U_o = 28V$ $I_o = 93mA$ $P_o = 653mW$ (Terminals 1 and 2 and terminals 4 and 5) The capacitance and either the inductance or the inductance to resistance ratio (L_o/R_o) of the load connected to the output terminals of each channel must not exceed the following values: <table border="1"> <thead> <tr> <th>GROUP</th> <th>CAPACITANCE in μF</th> <th>INDUCTANCE in mH</th> <th>OR</th> <th>L/R RATIO in $\mu H/\Omega$</th> </tr> </thead> <tbody> <tr> <td>IIC</td> <td>0.077</td> <td>4.3</td> <td></td> <td>55</td> </tr> <tr> <td>IIB</td> <td>0.64</td> <td>17</td> <td></td> <td>199</td> </tr> <tr> <td>I/A</td> <td>2.14</td> <td>35</td> <td></td> <td>431</td> </tr> </tbody> </table>	GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/\Omega$	IIC	0.077	4.3		55	IIB	0.64	17		199	I/A	2.14	35		431
GROUP	CAPACITANCE in μF	INDUCTANCE in mH	OR	L/R RATIO in $\mu H/\Omega$																	
IIC	0.077	4.3		55																	
IIB	0.64	17		199																	
I/A	2.14	35		431																	

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Schedule	
1	EC-TYPE EXAMINATION CERTIFICATE
2	Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
3	EC-Type Examination Certificate Number : BAS00ATEX7087
4	Equipment or Protective System: DUAL CHANNEL SMART FIRE DETECTOR ISOLATOR TYPE K'D0-CS-Ex2.54
5	Manufacturer: PEPPERL + FUCHS GB LTD
6	Address: Oldham, Lancashire, OL1 4EL
7	This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
8	The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.
9	The examination and test results are recorded in confidential Report N° 00(C)0160 dated 13 June 2000
10	Compliance with the Essential Health and Safety Requirements has been assured by compliance with: EN 50014: 1997 + Amds 1 and 2 EN 50026: 1994
11	except in respect of those requirements listed at item 18 of the Schedule.
12	If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
13	This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.
14	The marking of the equipment or protective system shall include the following:-
15	Ⓔ II (1) GD [EECS ia] IIC (T _{amb} = -20°C to +40°C)
16	This certificate may only be reproduced in its entirety and without any change, schedule included.
17	File No: EECS 0807/02/182

Electrical Equipment Certification Service
Health and Safety Executive
Hampshire Hill, Burton, Derbyshire, S17 9JN, United Kingdom
Tel: +44(0)1298 28000 Fax: +44(0)1298 28244
Internet: www.baseefa.com e-mail: baseefa.info@hse.gov.uk

IM CLEARE
DIRECTOR
17 July 2000

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

Re-issued 7 February 2001 to delete the Special Condition for Safe Use CERTATEX/ECAT-20F, Issue 1, Dated September 1998

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13 Schedule

14 EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX7087

VARIATION THREE

To permit the use of an alternative circuit and the deletion of channel two from the type KFD0-CS-E82.34 thus forming the Smart Fire Detector Isolator Type KFD0-CS-E81.34-Y72221.

Input/Output Parameters

$U_n = 250V$
(Terminals 11 and 12)

$U_i = 25.2V$ $I_n = 43mA$ $R_s = 271m\Omega$
(Terminals 1 and 2)

The capacitance and either the inductance or the inductance to resistance ratio (L_o/R_o) of the load connected to the output terminals must not exceed the following values:

GROUP	CAPACITANCE in μF	OR INDUCTANCE in mH	L/R RATIO in $\mu H/ohm$
IIC	0.101	19.6	138
IIB	0.81	72	508
IIA	2.89	153	964

16 Report Nos.

00(C)/160

17 Special Conditions For Safe Use

None.

18 Essential Health and Safety Requirements

ESSENTIAL HEALTH & SAFETY REQUIREMENTS not covered by Standards listed at (9)	
Clause	Subject
1.1.3	Changes in characteristics of materials and combinations thereof
1.2.2	Components for incorporation or replacement
1.2.5	Additional means of protection
1.2.7	Protection against other hazards
1.4.2	Withstanding attack by aggressive substances

Compliance	
Report No 00(C)/160 Clause 5.1.1.3	
Report No 00(C)/160 Clause 5.1.2.2	
Report No 00(C)/160 Clause 5.1.1.5	
Report No 00(C)/160 Clause 5.1.2.7	
Report No 00(C)/160 Clause 5.1.4.2	

13		14		19	
Schedule		EC-TYPE EXAMINATION CERTIFICATE N° BAS00ATEX7087		DRAWINGS	
Number	Issue	Date	Description	Number	Issue
251-0412B	B	01.03.00	Circuit Diagram	251-0412B	B
252-1131F	F	13.03.00	Parts List, Single Channel	252-1131F	F
252-1070F	F	13.03.00	Parts List, Two Channel	252-1070F	F
255-1036F	F	31.01.00	PCB Master	255-1036F	F
257-0208A	A	03.02.00	PCB Lacquer details, Two Channel	257-0208A	A
257-0212A	A	08.05.00	PCB Lacquer details, Single Channel	257-0212A	A
253-0236A	A	31.01.00	Component Overlay	253-0236A	A
252-1130B	B	09.02.00	Parts list, Transformer	252-1130B	B
256-0120A	A	11.02.00	Winding Details	256-0120A	A
255-0751C	C	14.01.99	PCB Master, Transformer	255-0751C	C
254-0263A	A	16.06.98	Plastic Moulding details	254-0263A	A
255-0698B	B	11.06.99	Cutting/Drilling Details	255-0698B	B
256-0065C	C	11.02.00	Transformer Connection Details	256-0065C	C
254-0284B	B	15.02.00	GA, FIM Housing	254-0284B	B
254-0299A	A	15.02.00	GA, Transformer Isolated Barriers	254-0299A	A
260-1380B	B	2.1.01	Label, KHD0-CS-Ex1.54	260-1380B	B
260-1381B	B	3.1.01	Label, KFD0-CS-Ex1.54	260-1381B	B
260-1382B	B	3.1.01	Label, KHD0-CS-Ex2.54	260-1382B	B
260-1383B	B	3.1.01	Label, KFD0-CS-Ex2.54	260-1383B	B
260-1384B	B	3.1.01	Label, KFD0-CS-Ex1.54-Y72221	260-1384B	B
260-1385B	B	3.1.01	Label, KFD0-CS-Ex2.54-Y72222	260-1385B	B

This certificate may only be reproduced in its entirety and without any change, schedule included.

BASREFA List Keywords
2ISOLEAR

Certificate Number
BAS00ATEX7087/5Issued 20 January 2010
Page 1 of 4**SUPPLEMENTARY EC - TYPE EXAMINATION CERTIFICATE**

- 1 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC
- 2
- 3 Supplementary EC - Type Examination Certificate Number:
BAS00ATEX7087/5
- 4 Equipment or Protective System:
Dual Channel Smart Fire Detector Isolator Type K'D08-CS-E2.54
- 5 Manufacturer:
Popperl + Fuchs GmbH
- 6 Address:
Lilienthalstrasse 200, 68307 Mannheim, Germany
- 7 This supplementary certificate extends EC - Type Examination Certificate No. BAS00ATEX7087 to apply to equipment or protective systems designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

This supplementary certificate shall be held with the original certificate.

The original certificate was issued by The Electrical Equipment Certification Service, Notified Body Number 0600, which retains responsibility for its original documentation. Baseefa, Notified Body Number 1189, is responsible only for the additional work relating to this supplementary certificate and any other supplementary certificate it has issued.

This certificate may only be reproduced in its entirety, without any change, schedule included.

Baseefa Customer Reference No. 0908

Project File No. 090397

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15 Description of the variation to the Equipment or Protective System**Variation 5.1**

To permit the use of an alternative printed circuit board.

Variation 5.2

To permit electrical changes to form the Smart Fire Detector Isolator Type K'D08-CS-Ex* 56.

The output parameters for the K'D08-CS-Ex* 56 are as follows:

K'D08-CS-E2.56 - Dual Channel

Hazardous Area Terminals
(Terminals 1 w.r.t. 2 and 4 w.r.t. 3)

$$I_{L0} = 21V \quad C_1 = 5.6nF$$

$$I_{L1} = 252mA \quad I_{L2} = 0$$

$$P_{L1} = 1.323W$$

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to output terminals of the apparatus must not exceed the following values:

Hazardous Area Terminals
(Terminals 1 w.r.t. 2 and 4 w.r.t. 3)

GROUP	CAPACITANCE (nF)	INDUCTANCE (mH)	OR L/R RATIO ($\mu\Omega/ohm$)
IIC	0.182	0.56	26.9
IIB	1.264	2.24	107.6
IIA	4.774	4.48	215.3
I	6.294	7.35	353.2

The above parameters apply when one of the two conditions below is given:

- the total L_e of the external circuit (excluding the cable) is $< 1\%$ of the L_e value or
- the total C_e of the external circuit (excluding the cable) is $< 1\%$ of the C_e value.

The above parameters are reduced to 50% when both of the two conditions below are given:

- the total L_e of the external circuit (excluding the cable) $> 1\%$ of the L_e value and
- the total C_e of the external circuit (excluding the cable) $> 1\%$ of the C_e value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than $1\mu F$ for Group IIB and $600nF$ for Group IIC.

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(Terminals 1 w.r.t. 2)
 $U_n = 21V$ $C_1 = 5.64\mu F$
 $I_n = 252mA$ $Z_n = 0$
 $P_n = 1.323W$

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to output terminals of the apparatus must not exceed the following values:

Hazardous Area Terminals
(Terminals 1 w.r.t. 2)

GROUP	CAPACITANCE (nF)	INDUCTANCE OR L/R RATIO ($\mu H/m$)
IIC	1.82	0.56
III	1.26	2.24
IIA	4.774	4.48
I	6.294	7.35

The above parameters apply when one of the two conditions below is given:

- the total L_n of the external circuit (excluding the cable) is $< 1\%$ of the L_n value or
 - the total C_1 of the external circuit (excluding the cable) is $< 1\%$ of the C_0 value.

The above parameters are reduced to 50% when both of the two conditions below are given:

- the total L_n of the external circuit (excluding the cable) $\geq 1\%$ of the L_n value and
 - the total C_1 of the external circuit (excluding the cable) $\geq 1\%$ of the C_0 value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than $1\mu F$ for Group IIB and $600nF$ for Group IIC.

16 Report Number

GB/BAS/EXTR10.0010/00

17 Special Conditions for Safe Use

None.

18 Essential Health and Safety Requirements

Compliance with the Essential Health and Safety Requirements is not affected by this variation.

19 Drawings and Documents

Number	Sheet	Issue	Date	Description
16-069 IBS-E	1 of 1	E	10-Dec-09	Summary KFD0-CS-Ex* 56
16-069 IBS-01E	1 - 8	E	09-Oct-09	Description Smart Fire Detector Power Supply KFD0-CS-Ex* 56
16-069 IBS-01E	1 of 1	E	21-Apr-09	Schematic KFD0-CS-Ex* 54 & 56
16-069 IBS-02E	1 of 1	E	09-Oct-09	I.S. Relevant Components KFD0-CS-Ex* 56
16-069 IBS-03E	1 of 1	E	21-Apr-09	Component Layout KFD0-CS-Ex* 54 & 56
16-069 IBS-04E	1 - 10	E	20-Apr-09	Mechanical Parts KFD0-CS-Ex* 54 & 56

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Page 4 of 4**Number****Sheet****Issue****Date****Description**

16-069 IBS-01E	1 & 2	E	17-Apr-09	PCB Layout KFD0-CS-Ex* 54 & 56
16-069 IBS-01E	1 & 2	E	20-Apr-09	Transformers KFD0-CS-Ex* 54 & 56
16-069 IBS-07E	1 - 3	E	10-Dec-09	Lacquering Details KFD0-CS-Ex* 54 & 56
16-069 IBS-10E	1 - 3	E	23-Apr-09	Type Label KFD0-CS-Ex* 56
16-069 IBS-E	1 of 1	E	10-Dec-09	Summary KFD0-CS-Ex* 54
16-069 IBS-00E	1 - 8	E	12-Mar-09	Description Smart Fire Detector Power Supply KFD0-CS-Ex* 54
16-069 IBS-02E	1 of 1	F	12-Mar-09	I.S. Relevant Components KFD0-CS-Ex* 54
16-069 IBS-10E	1 - 3	E	23-Apr-09	Type Label KFD0-CS-Ex* 54

These drawings are common to, and held with, IECEx BAS 08.0079/1.

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