

GBX70

I.S. Galvanic Barrier For Addressable Systems

General

The GBX70 is a galvanic barrier used in 970 series intrinsic safe applications. The GBX70 is used in conjunction with the PT971 and PT972 protocol translators.

Galvanically Isolated Barrier

The galvanically isolated barrier is a two-wire device that does not need an external power supply. Current drawn from the fire panel loop by the barrier itself is less than 2 mA when loaded as specified. The housing is a rail-mounted type.

This interface is available as a single channel version and is recommended for any application in which direct earth connections are not acceptable.

Function

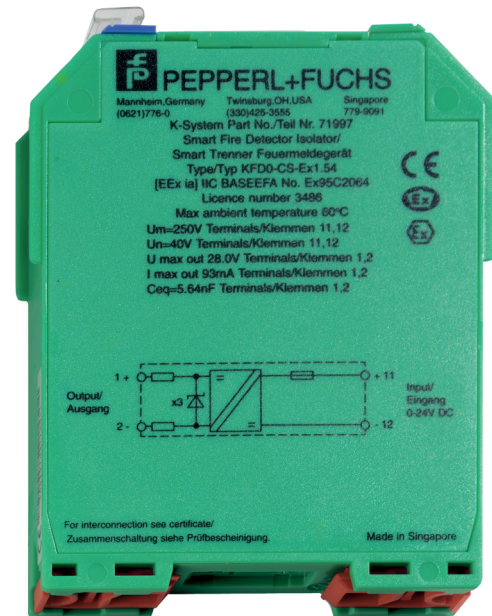
The GBX70 has 4 terminals. The input and output are galvanically isolated from each other. The device is used in order to control SMART compatible fire or smoke detectors in the hazardous area. The power source for the indicators is mounted in the safe area.

The device transfers the voltage to the hazardous area. A response from the indicator is displayed in the case of a current alteration in the safe area.

With the device it is possible to modulate an AC voltage signal upon an analogue signal. A digital data exchange between the devices in the safe area and the hazardous area is then possible parallel to signal transfer. The drop time of the digital signal must be less than 50 μ s and the current in the hazardous area must be greater than 1 mA.

Application

The connection of SMART compatible fire and smoke detectors, when a digital data exchange is required.



Details

- Designed especially for use with 970 series systems
- No earthing required
- DIN-Rail mount for easy installation
- For fire alarm in "SMART technology"
- Transmission range: 1 mA ... 20 mA
- Input EEx ia IIC
- Device installation permissible in zone 2
- Loop powered
- EMC acc. to NAMUR NE 21

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Technical specifications

Physical

Physical dimensions	20 x 107 x 115 mm
Net weight	± 100 g

Environmental

Operating temperature	-20 to +60°C
Environment	Indoor, IS
IP rating	IP20

Standards & regulation

Certification	CENELEC/ATEX
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Inputs/outputs (not intrinsically safe)

Voltage	4 to 26 VDC/0 to 6 Vss AC
Current	1 to 20 mA
Power loss	0.2 W

Inputs/outputs (intrinsically safe)

Voltage	0 ... 26 V for 4 V ≤ UE ≤ 26 V: - (0.38 x current in mA) - 0.5 for 4 V ≤ UE ≤ 26 V: = UE - (0,38 x current in mA) - 0,5
Short-circuit current	≥ 65 mA
Transfer current	0 to 20 mA

Ambient temperature

-20°C to +60°C

Mechanical specifications

Protection degree	IP20
Weight	± 100 g
Dimensions	20 x 107 x 115 mm

Group, category, type of protection

II (1) G D [EEx ia] IIC (-20°C ≤ Tamb ≤ 60°C)

Type of protection [EEx ia]

Explosion group	IIA	IIB	IIC
External capacitance	2.14 µF	0.64 µF	0.077 µF
External inductance	35 mH	17 mH	4.3 mH

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