GBX2000

I.S. Isolated barrier for conventional systems (P&F KFD0-CS-Ex1.51P)

General

The GBX2000 is a galvanic isolation barrier selected specifically for use between an Intrinsically safe conventional zone and a zone-monitor.

Application

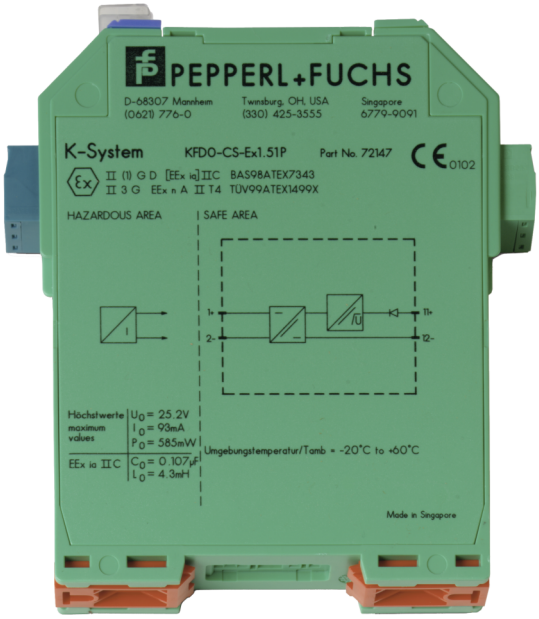
Every GBX2000 (4 terminals) functions like a "DC current isolator" with reverse polarity protection. The input and output are galvanically isolated from each other.

It is designed for the connection of fire detectors, smoke detectors, temperature sensors, etc. The detector's increased current range and the higher accuracy allow for differentiation between normal operation, fire alarm, lead breakage and short circuit currents in the safe area. In many cases they may also be used for controlling I/P converters. A separate power supply with auxiliary power is not required. Due to the input voltage limiting of 24 V, the maximum voltage output is 21 V.

Application

• The isolation of power loops for the control of positioner, I/P converters etc. A current source is connected to the safe area terminals.

• The isolation of a current signal from fire detectors or similar sensors. In this case, a voltage source can be connected to the safe area terminals. A specific measurement current across a passive sensor can be measured in the safe area with a series resistor (min. 50 ohm). When a voltage supply is used, the measuring resistor can also provide current limitations.



Details

- Approved with the IU2055 zone monitor unit
- Output EEx ia IIC
- Device installation permissible in zone 2
- Polarity reversal protected
- Accuracy 1%
- EMC acc. to NAMUR NE 21
- Up to SIL2 acc. to IEC 61508

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Technical specifications

Electrical

Operating voltage	4 to 35 VDC

Physical

Physical dimensions	20 x 107 x 115 mm
Net weight	± 100 g
Mounting type	DIN-Hutschiene

Environmental

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

Regulatory

Certification	CENELEC/ATEX

Inputs/outputs (intrinsically safe)

Voltage	for 4 V < Uin < 24 V: ≥ Uin - (0.37 x current in mA) - 1.0 for Uin > 24 V: = 21 V - (0.36 x current in mA)
Short-circuit current	at Uin > 24 V: ≥ 65 mA
Transfer current	≤ 40 mA
Current	0 to 40 mA
Power loss	at 40 mA and Uin < 22 V: 700 mW at 40 mA and Uin > 22V: 1.2 W

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	2.9 µF	0.82 µF	0.107 µF
External inductance	33 mH	18 mH	4.3 mH

EDWARDS
Built for Resilience

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Last updated on 16 October 2026 - 11:34