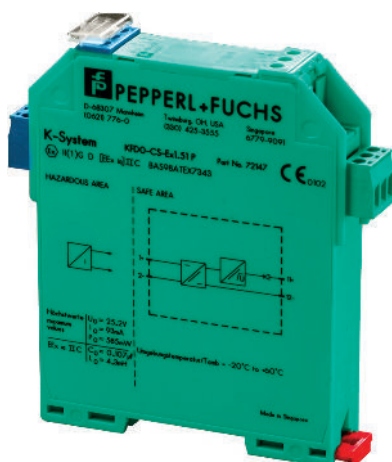


Orbis

Conventional Galvanic Barrier



Product Overview

Product	Conventional Galvanic Barrier
Part No.	29600-378

Product Information

The Conventional Galvanic Barrier is DIN-Rail mounted and installed in the safe area to ensure system integrity.

The device also enables compliance with the ATEX directive

Technical data

All data is supplied subject to change without notice. Specifications are typical at 24 V, 23°C and 50% RH unless otherwise stated.

Inputs (Not intrinsically safe) Terminals 12-, 11+; 8-, 10-, 9+

Nominal voltage DC 4 V ... 35 V

Max. current consumption 0 mA ... 40 mA

Max. power dissipation
at 40 mA and $U_E < 23.7$ V < 700 mW per channel
at 40 mA and $U_E > 23.7$ V < 1.2 W per channel

Fail-safe maximum voltage U_m 250 V

Field circuit (Intrinsically safe) Terminals 1+, 2-, 4+, 5-

Min. output voltage
for $3 \text{ V} < U_E < 23.7 \text{ V}$ $U_E - (0.4 \times \text{current in mA}) - 0.7$
for $U_E > 23.7 \text{ V}$ $23 \text{ V} - (0.4 \times \text{current in mA})$

Max. short-circuit current at
 $U_E > 23.7 \text{ V}$ $\leq 65 \text{ mA}$

Max. transfer current $\leq 40 \text{ mA}$

Details of Certificate of Conformity BASEEFA No. Ex-88.B.2331
Other international approvals

Technical data (cont'd)

Voltage U_0	28 V
Current I_0	93 mA
Power P_0	0.65 W
Permissible circuit values ignition protection class, category	[EEx ia]
Explosion group	IIA IIB IIC
Max. external capacitance	1.04 μF 0.39 μF 0.13 μF
Max. external inductance	33.6 mH 12.6 mH 4.2 mH
Fail-safe maximum voltage U_m	
Power supply	250 V
Entity parameters	FM No. 1Z2A1.AX

Terminals 1+, 2-, 4+, 5-	
Voltage V_{OC}	26.71 V
Current I_{SC}	88.8 mA
Voltage V_i	- V
Explosion group	A&B C&E D, F&G
Max. external capacitance	0.16 μF 0.48 μF 1.28 μF
Max. external inductance	4.60 mH 18.32 mH 37.55 mH

CSA No. LR65756-13
Safety parameters Terminals 1+, 2-, 4+, 5-

KFD0-CS-Ex1.51

Voltage V_{OC}	28.0 V
Current I_{SC}	93.3 mA
Explosion group	A&B C&E D, F&G
Max. external capacitance (C_a)	0.14 μF 0.42 μF 0.42 μF
Max. external inductance (L_a)	3.1 mH 16.8 mH 16.8 mH
Transfer characteristics	

Calibrated accuracy at 20 °C (68 °F) $\leq \pm 200 \mu\text{A}$ inclusive calibration, linearity, hysteresis and load fluctuations at the output up to 1 kOhm load

Temperature drift $\leq 2 \mu\text{A} / \text{K}$ (273 K ... 323 K) $\leq 5 \mu\text{A} / \text{K}$ (253 K ... 333 K)

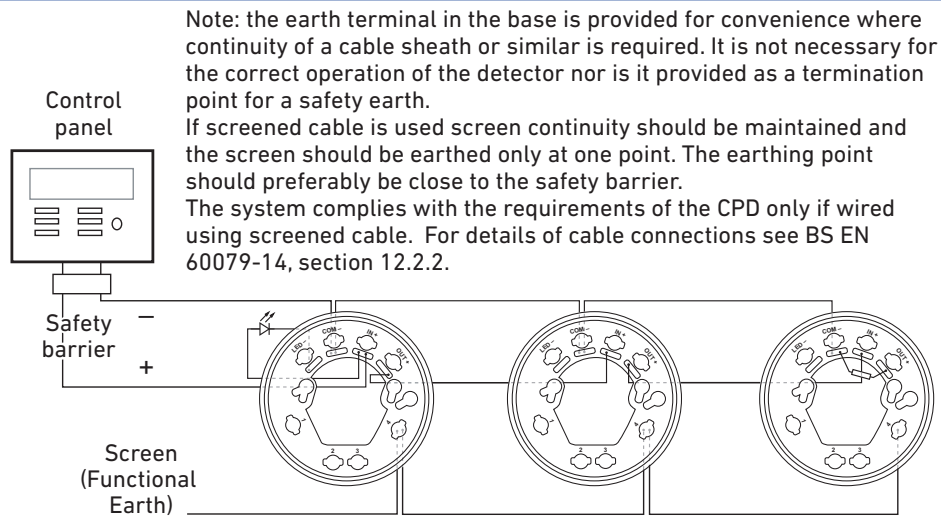
Rise time $\leq 20 \text{ ms}$ at 20 ms and 250 Ohm load

Conformity to standard

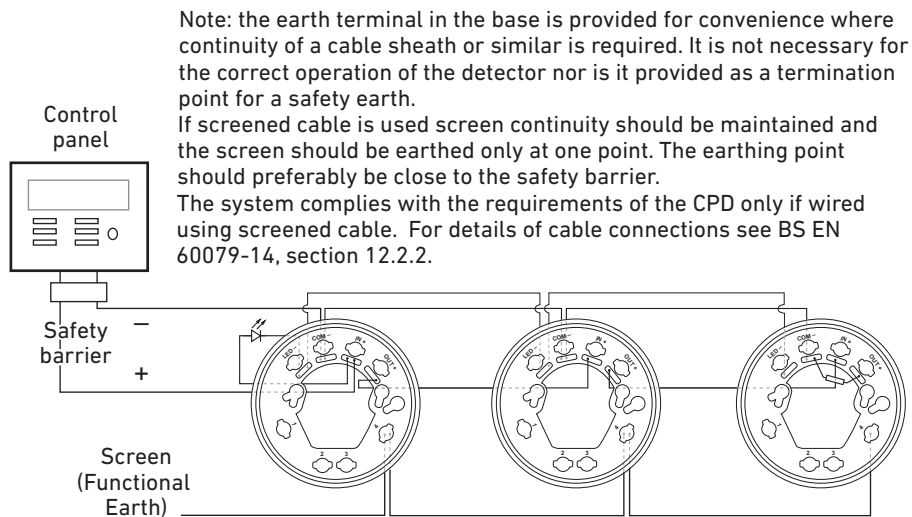
Isolation co-ordination	to EN 50 178
Galvanic isolation	to EN 50 178
Climatical condition	to IEC 721
EMC	to EN 50 081-2, EN 50 082-2, NAMUR NE 21
IP rating	IP20
Weight	$\approx 100 \text{ g}$ ($\approx 3.5 \text{ oz}$)
Ambient temperature	-20 °C ... +60 °C (-4 °F ... 140 °F)
Max. wire size	2.5 mm ² (14 AWG)



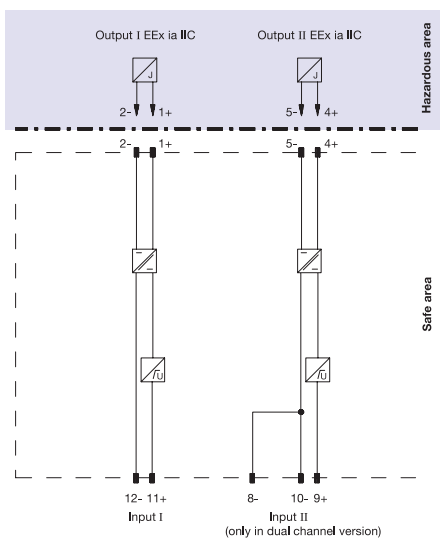
Base wiring diagram



Three bases wired with a common LED



Internal systematic diagram



Conventional I.S. Configuration

