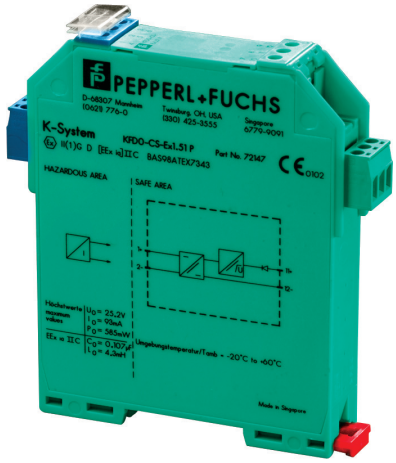
Orbis

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* *at 40 mA and U_E > 23.7 V*	*< 700 mW per channel* *< 1.2 W per channel*
Fail-safe maximum voltage	*Um 250 V*
Field circuit (Intrinsically safe)	*Terminals 1+, 2-; 4+, 5-*
Min. output voltage *for 3 V < U_E < 23.7 V* *for U_E > 23.7 V*	*U_E - (0.4 x current in mA) - 0.7* *23 V - (0.4 x current in mA)*
Max. short-circuit current at U_E > 23.7 V	*≤ 65 mA*
Max. transfer current	*≤ 40 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_t	*- 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 0F)	*≤ ± 200 µA inclusive calibration, linearity, hysteresis and load fluctuations at the output up to 1 kOhm load*		
Temperature drift	*≤ 2 µA / K (273 K ... 323 K) ≤ 5 µA / K (253 K ... 333 K)*		
Rise time	*≤ 20 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	*≈ 100 g (≈ 3.5 oz)*		
Ambient temperature	*-20 °C ... +60 °C (-4 °F ... 140 °F)*		
Max. wire size	*2.5 mm² (14 AWG)*		

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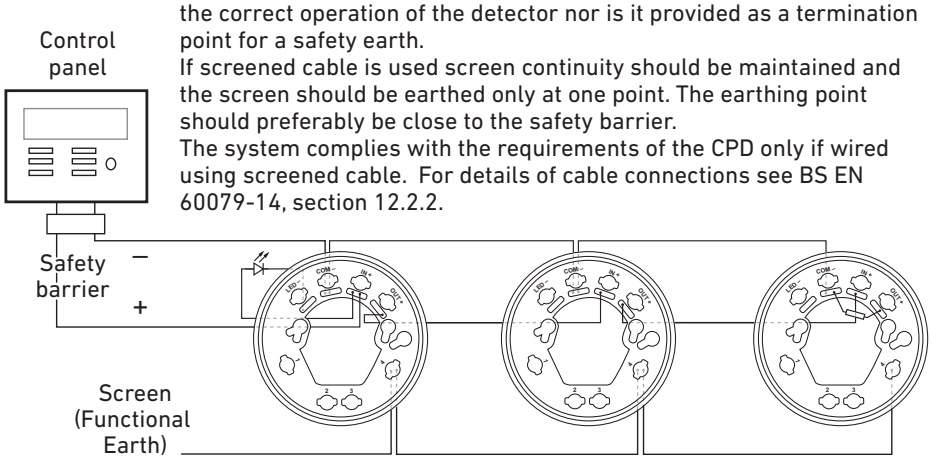
Base wiring diagram

Note: the earth terminal in the base is provided for convenience where continuity of a cable sheath or similar is required. It is not necessary for the correct operation of the detector nor is it provided as a termination point for a safety earth.
If screened cable is used screen continuity should be maintained and the screen should be earthed only at one point. The earthing point should preferably be close to the safety barrier.
The system complies with the requirements of the CPD only if wired using screened cable. For details of cable connections see BS EN 60079-14, section 12.2.2.



Three bases wired with a common LED

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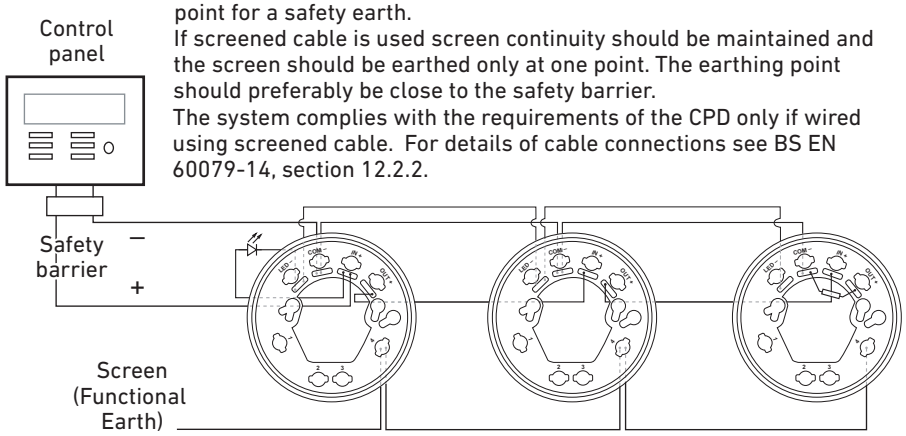
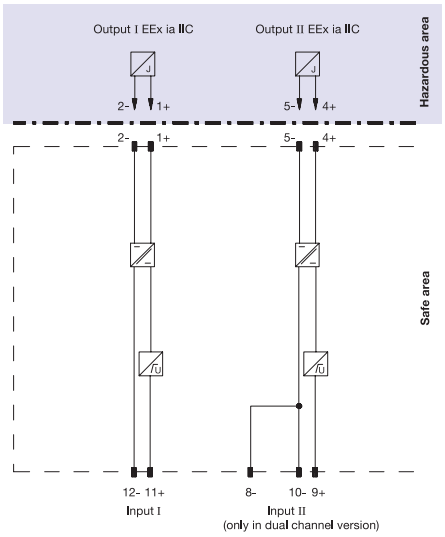


Internal systematic diagram



Conventional I.S. Configuration