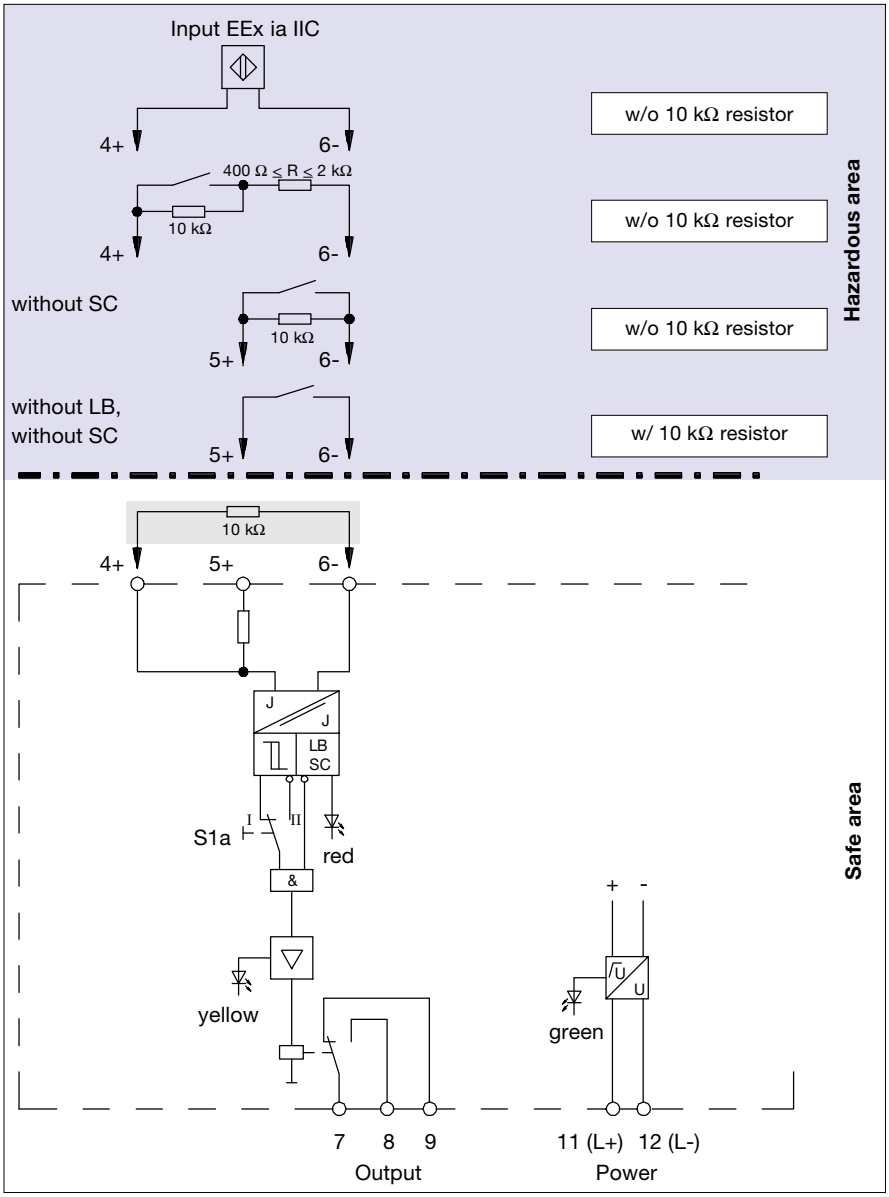
Transformer Isolated Barrier KHD2-RW1/Ex1
Output: Relay

- **Single Channel**
- **Hazardous Field Circuit EEx ia IIC and Class I, Div 1, Groups A-G**
- **DC 24 V Nominal Power Supply**
- **Selectable Mode of Operation**
- **Optional Short Circuit (SC) and Lead Breakage (LB) Monitoring**
- **1 Relay Output with 1 Form 'C' Relay**

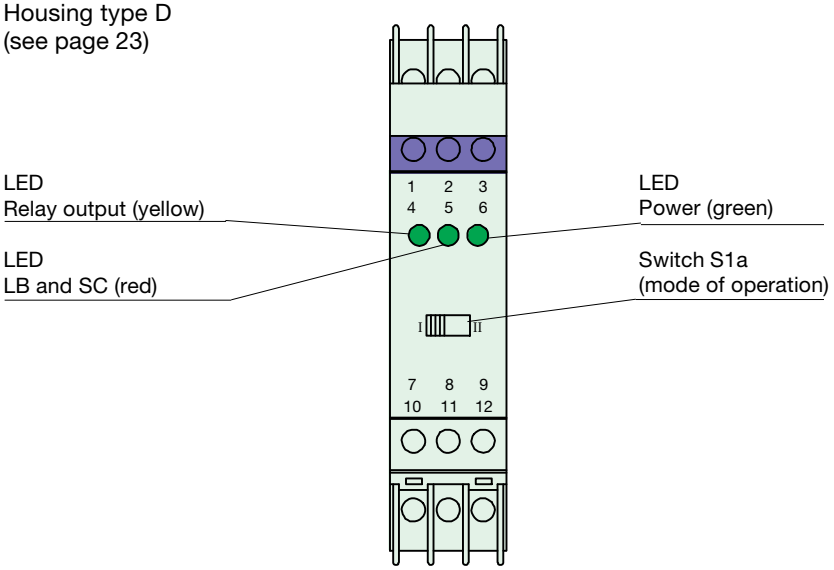
This Model will be replaced by KHD2-SR2-Ex1.W

This device is a single-channel, transformer-isolated intrinsic safety barrier with a built-in amplifier which isolates and transfers discrete signals (NAMUR sensors/mechanical contacts) form a hazardous area to a safe area.
It may also be used to act as an amplifier/interface for discrete signals in non-explosive applications.
The output changes state when the input signal changes state depending on the mode of operation selected.



Front View

Housing type D
(see page 23)



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Pepperl+Fuchs GmbH · Process Automation Division · 68301 Mannheim · Telephone (06 21) 7 76-0 · Fax (06 21) 7 76-10 00

Transformer Isolated Barrier KHD2-RW1/Ex1
Output: Relay

Technical Data				
Power supply				Terminals 11 (L+), 12 (L-)
Nominal voltage	DC 20.4 V ... 27.6 V			
Ripple	≤ 10 %			
Max. current consumption	30 mA			
Field circuit (Intrinsically safe)				Terminals 4+, 5+, 6-
Nominal data	to DIN 19 234 resp. NAMUR			
Open circuit voltage / Short circuit current	≈ DC 8 V / ≈ 8 mA			
Switch point / Switching hysteresis	1.2 mA ... 2.1 mA / ≈ 0.2 mA			
Input pulse length / Input pulse pause	≥ 20 ms / ≥ 20 ms			
Lead monitoring	Breakage I ≤ 0.1 mA			Short circuit I > 6 mA
Details of Certificate of Conformity	**PTB No. Ex-89.C.2073**			Other international approvals see page 454
Voltage U_0	12.7 V			
Current I_0	20 mA			
Power P_0	61 mW			
Permissible circuit values				
Ignition protection class, category	**[EEx ia]**		**[EEx ib]**	
Explosion group	IIB	/ IIC	IIB	/ IIC
Max. external capacitance	1.38 µF	/ 0.455 µF	5.0 µF	/ 1.2 µF
Max. external inductance	5 mH	/ 2 mH	330 mH	/ 90 mH
Fail-safe maximum voltage U_m				
Power supply	DC 40 V			
Entity Parameters	**FM No.1T8A4.AX**			Terminals 4+, 6-; 5+,6-
Non incendive	No			
Voltage V_{OC}	12.9 V			
Current I_{SC}	19.8 mA			
Voltage V_t	- V			
Current I_t	- mA			
Explosion group	A&B	C&E	D, F&G	
Max. external capacitance (C_a)	1.273 µF	3.820 µF	10.18 µF	
Max. external inductance (L_a)	84.88 mH	298.7 mH	744.4 mH	
	CSA No. LR 36087-8			
Safety Parameters	12.6 V / 650 Ohms			Terminals 4+, 6-; 5+, 6-
Output (Not intrinsically safe)				
Output:				Terminals 7, 8, 9
Contact load	AC: 250 V / 2 A / cos φ > 0.7; DC: 30 V / 2 A resistance load			
Mechanical service life	5 x 10^7 operations			
Response time:				
Energising delay / De-energising delay	≈ 20 ms / ≈ 20 ms			
Transfer characteristics				
Switching frequency	≤ 25 Hz			
Conformity to standard				
Input	to DIN 19234 (NAMUR)			
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			
Weight	≈ 150 g (≈ 5.3 oz)			
Ambient temperature	-20 °C ... +65 °C (-4 °F ... +149 °F)			
Max. wire size	2.5mm² (14 AWG)			

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