



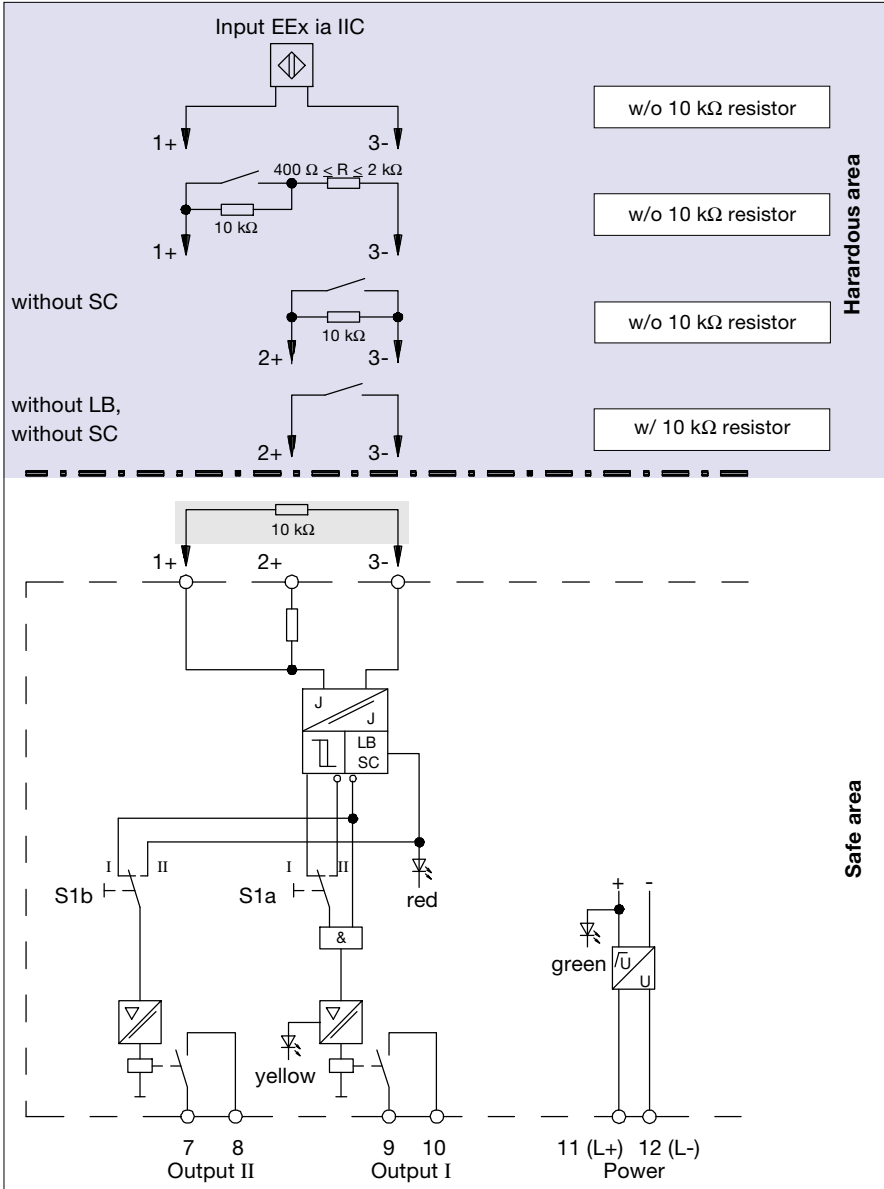
Transformer Isolated Barrier KHD2-SR-Ex1.LK  
Output: Relay



- 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 Signal Output with 1 N.O. Relay
- 1 Error Message Output with 1 N.O. Relay

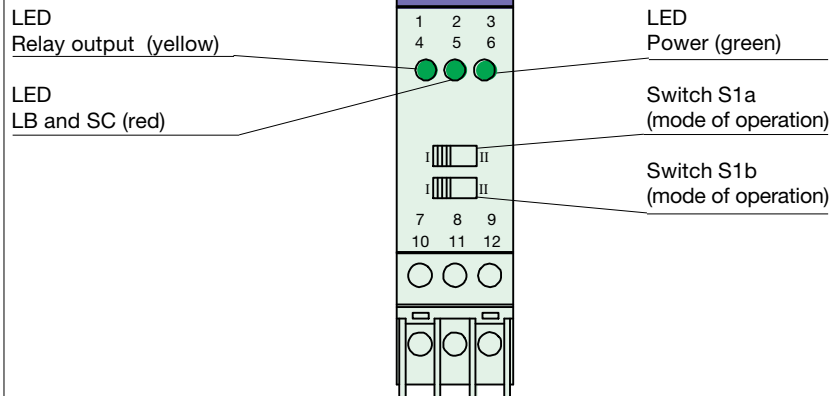
**This Model will be replaced by KHD2-SR2-Ex1.W.LB**

This device is a single-channel, transformer-isolated intrinsic safety barrier with a built-in amplifier which isolates and transfers discrete signals from 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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<p><b>Technical Data</b></p> <p><b>Power supply</b> Nominal voltage Ripple Max. current consumption</p>	<p>DC 20.4 V ... 27.6 V ≤ 10 % 50 mA</p>	<p>Terminals 11 (L+), 12 (L-)</p>
<p><b>Field circuit (Intrinsically safe)</b> Nominal data Open circuit voltage / Short circuit current Switch point / Switching hysteresis Input pulse length / Input pulse pause Lead monitoring</p>	<p>to DIN 19 234 resp. NAMUR ≈ DC 8 V / ≈ 8 mA 1.2 mA ... 2.1 mA / ≈ 0.2 mA ≥ 20 ms / ≥ 20 ms Breakage I ≤ 0.1 mA</p>	<p>Terminals 1+, 2+, 3-  Short circuit I &gt; 6 mA</p>
<p><b>Details of Certificate of Conformity</b> Voltage U<sub>0</sub> Current I<sub>0</sub> Power P<sub>0</sub> <b>Permissible circuit values</b> <b>Ignition protection class, category</b> Explosion group Max. external capacitance Max. external inductance <b>Fail-safe maximum voltage U<sub>m</sub></b> Power supply</p>	<p><b>PTB No. Ex-89.C.2073</b> 12.7 V 20 mA 61 mW</p> <p><b>[EEx ia]</b> IIB / IIC 1.38 μF / 0.455 μF 5 mH / 2 mH</p> <p><b>[EEx ib]</b> IIB / IIC 5.0 μF / 1.2 μF 330 mH / 90 mH</p> <p>DC 40 V</p>	<p>Other international approvals see page 454</p>
<p><b>Entity Parameters</b> Non incndive Voltage V<sub>oc</sub> Current I<sub>sc</sub> Voltage V<sub>t</sub> Current I<sub>t</sub> Explosion group Max. external capacitance (C<sub>e</sub>) Max. external inductance (L<sub>e</sub>)</p>	<p><b>FM "in preparation"</b> Yes / No V mA V mA A&amp;B C&amp;E D, F&amp;G μF μF μF mH mH mH</p>	<p>Terminals</p>
<p><b>Safety Parameters</b></p>	<p><b>CSA "in preparation"</b></p>	<p>Terminals</p>
<p><b>Output (Not intrinsically safe)</b> <b>Output I: Signal</b> <b>Output II: Error Message</b> Contact load Mechanical service life Response time: Energising delay / De-energising delay</p>	<p>AC: 250 V / 2 A / cos φ &gt; 0.7; DC: 30 V / 2 A resistance load 5 x 10<sup>7</sup> operations  ≈ 20 ms / ≈ 20 ms</p>	<p>Terminals 7, 8 Terminals 9, 10</p>
<p><b>Transfer characteristics</b> Switching frequency</p>	<p>≤ 25 Hz</p>	
<p><b>Conformity to standard</b> Input Isolation co-ordination Galvanic isolation Climatical condition EMC</p>	<p>to DIN 19234 (NAMUR) to EN 50 178 to EN 50 178 to IEC 721 to EN 50 081-2 / EN 50 082-2</p>	
<p><b>Weight</b> <b>Ambient temperature</b> <b>Max. wire size</b></p>	<p>≈ 150 g (≈ 5.3 oz) -20 °C ... +65 °C (-4 °F ... +149 °F) 2.5mm<sup>2</sup> (14 AWG)</p>	

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