

**Features**

- 2-channel isolated barrier
- 24 V DC supply (Power Rail)
- Isolated dry contacts or NAMUR inputs
- Isolated passive transistor output
- Line fault detection (LFD)
- Reversible mode of operation

**Function**

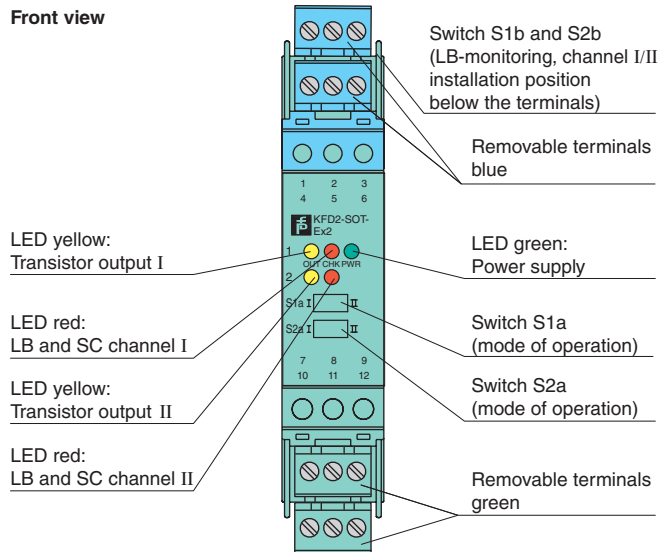
This isolated switch amplifier transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

Each proximity sensor or switch controls a passive transistor output for the safe area load. The intrinsically safe inputs and the outputs are isolated from each other. The normal output state can be reversed using switches S1a and S2a. Switches S1b and S2b enable or disable line fault detection of the field circuits.

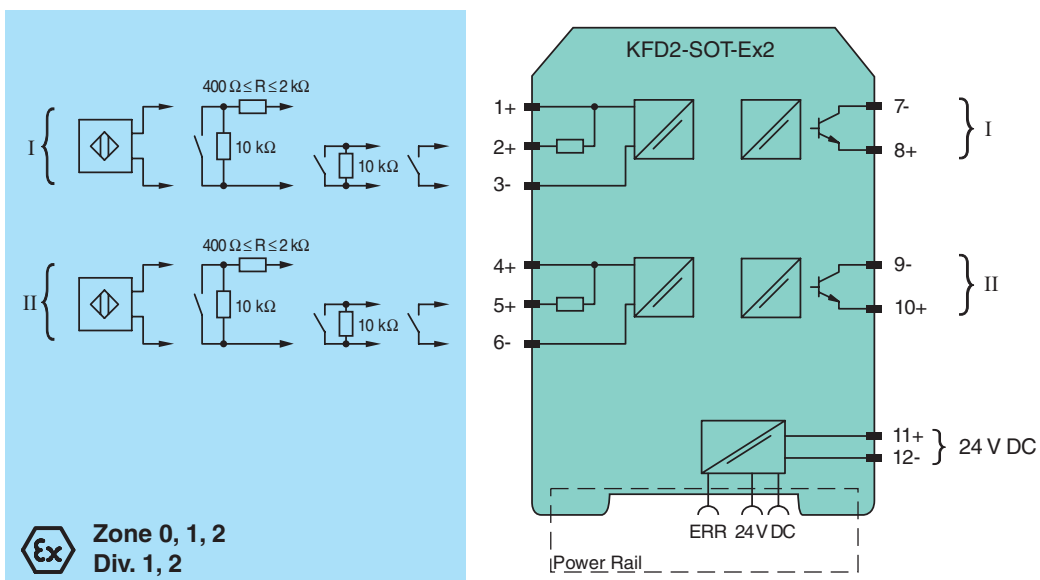
During an error condition, relays revert to their de-energized state and LEDs indicate the fault according to NAMUR NE44.

A unique collective error messaging feature is available when used with the Power Rail system.

**Assembly**



**Connection**

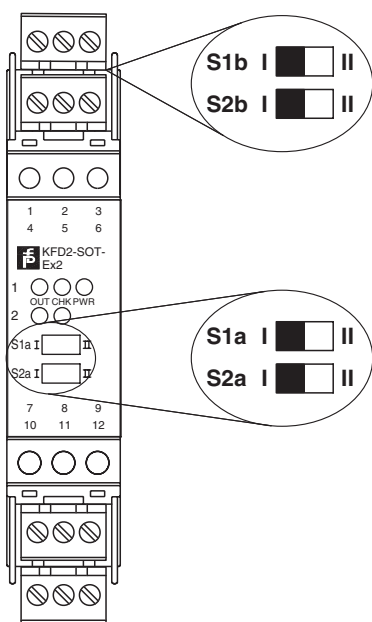


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<b>General specifications</b>	
Signal type	Digital Input
<b>Supply</b>	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	20 ... 35 V DC
Ripple	≤ 10 %
Rated current	≤ 27 mA
<b>Input</b>	
Connection	terminals 1+, 2+, 3-; 4+, 5+, 6-
Open circuit voltage/short-circuit current	approx. 8 V DC / approx. 8 mA
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Line fault detection	breakage I ≤ 0.1 mA , short-circuit I > 6 mA
<b>Output</b>	
Connection	output I: terminals 7-, 8+ , output II: terminals 9-, 10+
Switching voltage	≤ 40 V
Switching current	≤ 100 mA , short-circuit protected
Signal level	1-signal: switching voltage - 2.5 V max. at 10 mA switching current or 3 V max. at 100 mA switching current 0-signal: switched off (off-state current ≤ 10 μA)
Output I	electronic output, passive
Output II	electronic output, passive
<b>Transfer characteristics</b>	
Switching frequency	≤ 5 kHz
<b>Electrical isolation</b>	
Output/power supply	functional insulation acc. to EN 50178, rated insulation voltage 50 V <sub>eff</sub> AC
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	approx. 150 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	PTB 00 ATEX 2082 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Voltage	U <sub>o</sub> 12.7 V
Current	I <sub>o</sub> 17.3 mA
Power	P <sub>o</sub> 55 mW (linear characteristic)
Supply	
Maximum safe voltage	U <sub>m</sub> 253 V AC / 125 V DC (Attention! U <sub>m</sub> is no rated voltage.)
Output	
Maximum safe voltage	U <sub>m</sub> 60 V AC (Attention! The rated voltage can be lower.)
EC-Type Examination Certificate	DMT 01 ATEX E 133
Group, category, type of protection	⊕ I (M1) [Ex ia] I
Electrical isolation	
Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 50014, EN 50020 , EN 60079-15:2005 , EN 60079-0:2009, EN 60079-11:2007 , EN 50303:2000
<b>International approvals</b>	
FM approval	
Control drawing	116-0035
CSA approval	
Control drawing	116-0047
<b>General information</b>	
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

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**Configuration**



**Switch position**

S	Function		Position
1a	Mode of operation Output I active	with high input current	I
		with low input current	II
2a	Mode of operation Output II active	with high input current	I
		with low input current	II
1b*	Line fault detection Channel I	ON	I
		OFF	II
2b*	Line fault detection Channel II	ON	I
		OFF	II

\* Installation position below the terminals

**Operating status**

Control circuit	Input signal
Initiator high impedance/ contact opened	low input current
Initiator low impedance/ contact closed	high input current
Lead breakage, lead short-circuit	Line fault

**Accessories**

**Power feed modules KFD2-EB2...**

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

**Power Rail UPR-03**

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

**The Power Rail must not be fed via the device terminals of the individual devices!**