

**Features**

- 8-channel isolated barrier
- 24 V DC supply
- Dry contact or NAMUR inputs
- Relay output
- Fault indication output
- Line fault detection (LFD)
- Reversible mode of operation
- Configurable via PC

**Function**

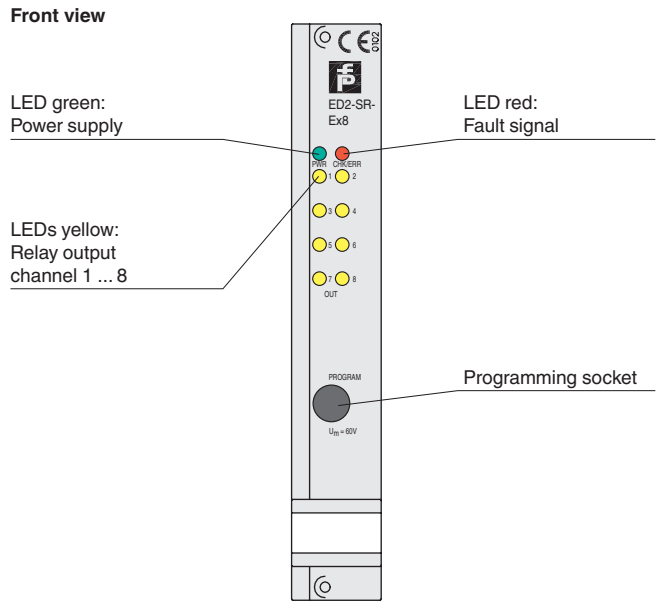
This isolated barrier is used for intrinsic safety applications. The device transfers digital signals (NAMUR sensors/mechanical contacts) from a hazardous area to a safe area.

Each proximity sensor or switch controls a relay output for the safe area load. The desired arrangement between the input channel and output channel can be configured. The assignment of multiple outputs to one input signal is possible (signal duplication). The assignment of multiple inputs to one output is also possible. The mode of operation and the line fault detection can be determined for each individual channel. This allows a desired mix of sensors and mechanical contacts with or without LB/SC.

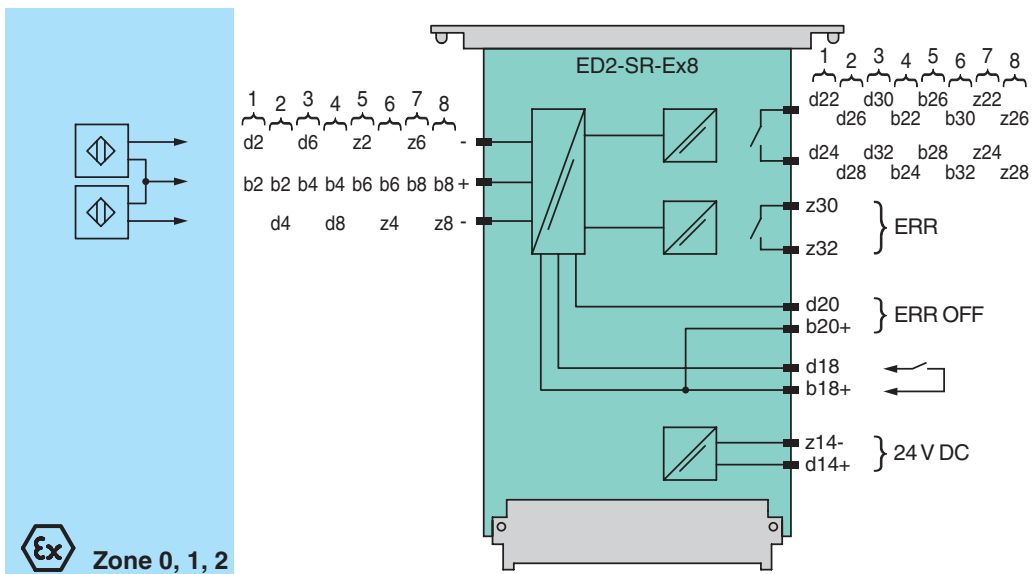
The device is easily configured by the use of configuration software.

During an error condition, the relay reverts to its de-energized state and the LEDs indicate the fault according to NAMUR NE44.

**Assembly**



**Connection**



Release date 2012-05-22 12:20 Date of issue 2012-05-22 119237\_eng.xml

<b>General specifications</b>	
Signal type	Digital Input
<b>Supply</b>	
Connection	d14+, z14-
Rated voltage	20 ... 30 V DC
Ripple	≤ 10 %
Power consumption	approx. 4 W
<b>Input</b>	
Connection	channel 1: d2-, b2+ channel 2: d4-, b2+ channel 3: d6-, b4+ channel 4: d8-, b4+ channel 5: z2-, b6+ channel 6: z4-, b6+ channel 7: z6-, b8+ channel 8: z8-, b8+
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Open circuit voltage/short-circuit current	approx. 7.5 V DC / approx. 7.5 mA
Switching point/switching hysteresis	1.2 ... 2.1 mA / approx. 0.2 mA
Line fault detection	breakage I ≤ 0.15 mA , short-circuit I > 6 mA
Pulse length/pulse interval	≥ 1 ms / ≥ 1 ms
<b>Output</b>	
Connection	channel 1: d22, d24 channel 2: d26, d28 channel 3: d30, d32 channel 4: b22, b24 channel 5: b26, b28 channel 6: b30, b32 channel 7: z22, z24 channel 8: z26, z28
Output	signal ; relay
Contact loading	60 V AC/1 A/60 VA; 60 V DC/1 A resistive load/24 W
Energized/De-energized delay	5 ms / 5 ms
Mechanical life	2 x 10 <sup>7</sup> switching cycles
<b>Error message output</b>	
Connection	z30, z32
Output	fault signal ; relay
Contact loading	60 V AC/1 A/60 VA; 60 V DC/1 A resistive load/24 W
Energized/De-energized delay	5 ms / 5 ms
Mechanical life	2 x 10 <sup>7</sup> switching cycles
<b>Transfer characteristics</b>	
Switching frequency	< 10 Hz
<b>Electrical isolation</b>	
Output/power supply	basic insulation acc. to DIN EN 50178, rated insulation voltage of 50 V <sub>eff</sub>
Output/Output	basic insulation acc. to DIN EN 50178, rated insulation voltage of 50 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility Directive 2004/108/EC	The device has been used for the same applications for several years. It therefore features an appropriate electromagnetic field immunity. The device must not be used in new plants.
Low voltage Directive 2006/95/EC	EN 50178:1997
<b>Conformity</b>	
Insulation coordination	EN 50178
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Protection degree	IP20
Connection	48-pin plug connector acc. to DIN 41612 , series 2 , type F , z, b and d provided
Mass	approx. 175 g
Dimensions	20 x 128 x 193 mm (0.8 x 5 x 7.6 in)
Construction type	Eurocard 100 x 160 mm (3.9 x 6.3 in) acc. to DIN 41494, front panel 4TE, mountable in 19" rack
Coding	a1/a7
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	PTB 00 ATEX 2207 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD [Ex ia] IIC

Release date 2012-05-22 12:20 Date of issue 2012-05-22 119237\_eng.xml

Input		EEx ia IIC
Voltage	$U_o$	11.8 V
Current	$I_o$	14.6 mA
Power	$P_o$	43 mW (linear characteristic)
Supply		
Maximum safe voltage	$U_m$	40 V (Attention! The rated voltage can be lower.)
Output		
Maximum safe voltage	$U_m$	253 V (Attention! The rated voltage can be lower.)
Interface		
Maximum safe voltage	$U_m$	60 V (Attention! The rated voltage can be lower.)
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 50014:1997, EN 50020:1994
<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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .
<b>Accessories</b>		
Designation		- adapter with RS 232 interface - SOSA configuration software

## Configuration

The following parameters can be configured via the SOSA configuration software:

- Signal duplication
- OR logic
- Arrangement input – output
- Operating mode per channel
- Fault message per channel





In the case of signal duplication, the fault free inputs have priority in that the inputs assigned to an output, are connected to a common output through an OR gate. The parameterization of only the desired monitoring functions is insufficient when monitoring an input for a lead fault. The fault signal output and the fault signal LED only function correctly when each input used is assigned an output LED.

## Input switching

Sensors in accordance to EN 60947-5-6 (NAMUR) are basically monitored for lead breakage and short circuiting. Mechanical contacts must be switched respectively (10 kΩ parallel to contact, 1 kΩ in series to parallel switching) when monitoring the control circuit. If the 1 kΩ resistor is left out, short circuit monitoring is disabled. If both resistors are left out, the control circuit is not monitored. Basically, the method of monitoring must be configured by means of the software.

### Operating mode

The mode of operation of the output relays can be set by means of the bridge b18/d18 for all output relays. For this, the following arrangement applies:

b18, d18	Input	Output
Bridged	Logic 1 	Relay energized
	Logic 0 	Relay de-energized
No bridge	Logic 0 	Relay energized
	Logic 1 	Relay de-energized

When a b18, d18 jumper is available, the software programming of the operating mode has no influence. Without a b18, d18 jumper the operation mode is determined by the software programming.