



- 1-channel
- Control circuit EEx ia IIC
- 230 V AC supply voltage
- Reversible mode of operation
- Lead breakage (LB) monitoring
- 1 relay contact output (change-over contact)

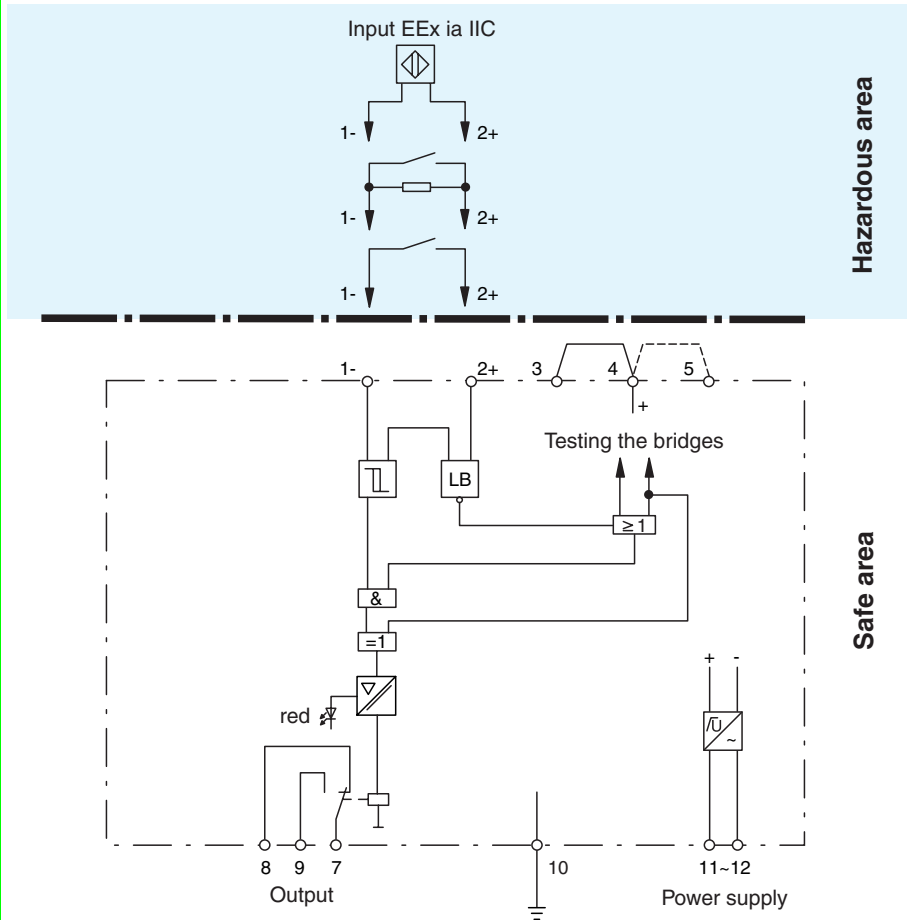
WE 77/Ex-1 230V

Function

The transformer isolated barrier transfers digital signals into hazardous areas. Sensors per EN 60947-5-6 (NAMUR) or mechanical contacts may be used as transmitters.

The control circuit is monitored for lead breakage (LB).

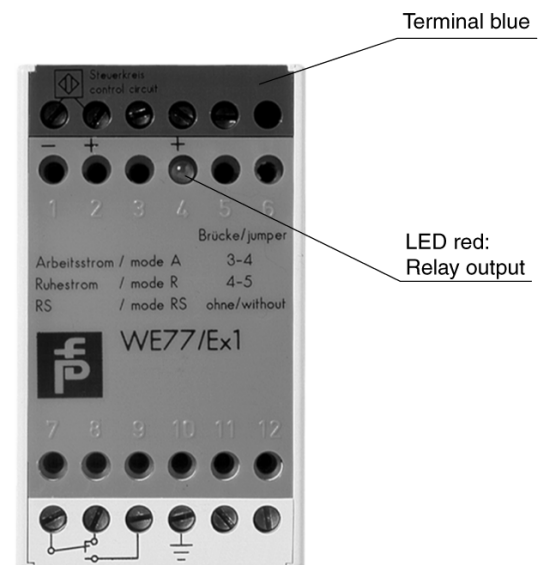
Connection




Composition

Front View









Housing type W1
(see system description)











General specifications	
Signal type	Digital Input
Supply	
Connection	terminals 11, 12
Rated voltage U_r	198 ... 253 V AC ; 45 ... 65 Hz
Power dissipation	1.6 W
Power consumption	approx. 2.3 VA
Input	
Connection side	field side
Connection	terminals 1-, 2+
Rated values	acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
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
Pulse/Pause ratio	≥ 0.5 ms / ≥ 0.5 ms
Line fault detection	breakage $I \leq 0.1$ mA
Output	
Connection side	control side
Connection	terminals 7, 8, 9
Output	signal ; relay
Contact loading	253 V AC/2 A/500 VA/cos ϕ min. 0,7; 125 V AC/4 A/500 VA cos ϕ min. 0,7; 40 V DC/2 A/80 W ohmic load
Energized/De-energized delay	approx. 10 ms / approx. 20 ms
Mechanical life	10^7 switching cycles
Transfer characteristics	
Switching frequency	< 10 Hz
Galvanic isolation	
Input/Output	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Input/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output/power supply	basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Indicators/settings	
Display elements	LED
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Low voltage	
Directive 2014/35/EU	EN 61010-1:2010
Conformity	
Degree of protection	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Degree of protection	IP20
Connection	screw terminals
Mass	approx. 390 g
Dimensions	40 x 104 x 110 mm (1.6 x 4.1 x 4.3 inch)
Data for application in connection with hazardous areas	
EU-Type Examination Certificate	PTB 02 ATEX 2065
Marking	 II (1)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input	Ex ia
Voltage U_o	13.4 V DC
Current I_o	31 mA
Power P_o	145 mW (trapezoid characteristic curve)
Supply	
Maximum safe voltage U_m	253 V AC (Attention! The rated voltage can be lower.)
Output	
Maximum safe voltage U_m	253 V AC (Attention! The rated voltage can be lower.)
Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012
General information	
Supplementary information	Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

Mode of Operation

Mode of operation without lead breakage detection

Jumpers	Input	Output
Jumpers between terminals 4 and 5		 Relay energized
	0-Signal	
Jumpers between terminals 4 and 5		 Relay de-energized
	1-Signal	
Jumpers between terminals 3 and 4		 Relay energized
	1-Signal	
Jumpers between terminals 3 and 4		 Relay de-energized
	0-Signal	

Mode of operation with lead breakage detection

Jumpers	Input	Output
Without jumpers		 Relay energized
	0-Signal	
Without jumpers		 Relay de-energized
	1-Signal	
Without jumpers		 Relay de-energized
	0-Signal	
Without jumpers		 Relay de-energized
	1-Signal	