
# Switch Amplifier

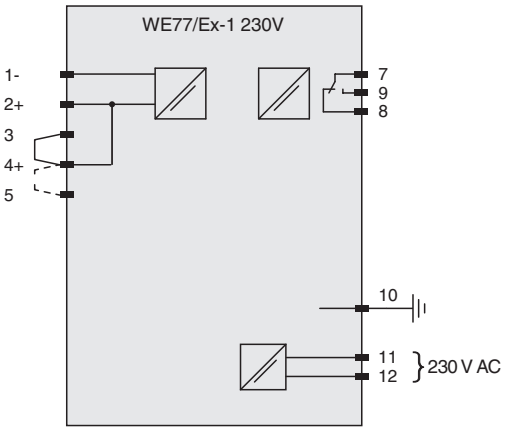
## WE77/Ex-1 230V

- 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)

## Function

The device 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).

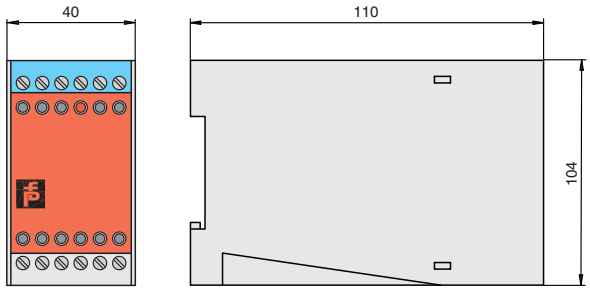
## Connection


**Zone 0, 1, 2**
**Div. 1, 2**

Release date: 2023-01-05 Date of issue: 2023-01-05 Filename: 129197_eng.pdf

## Dimensions




## Technical Data

| | | |
|---|---|---|
| **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 manual 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 | | min. 0.5 ms / min. 0.5 ms |
| Line fault detection | | breakage I ≤ 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 |

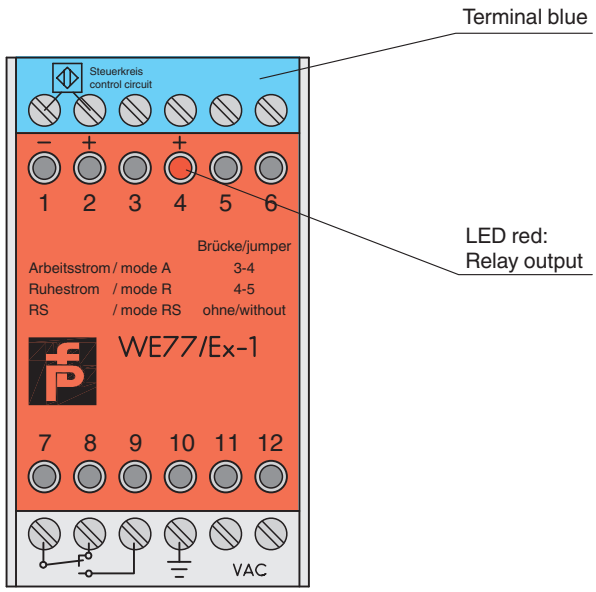
Release date: 2023-01-05 Date of issue: 2023-01-05 Filename: 129197_eng.pdf

## Technical Data

| | | |
|---|---|---|
| **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) (W x H x D) , housing type W1 |
| **Data for application in connection with hazardous areas** | | |
| EU-type examination certificate | | PTB 02 ATEX 2065 |
| Marking | | ⟨Ex⟩ 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. |

## Assembly

**Front view**



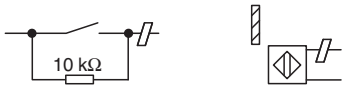
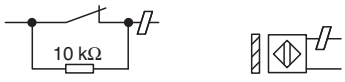

Release date: 2023-01-05 Date of issue: 2023-01-05 Filename: 129197_eng.pdf

## Configuration

### Mode of operation without lead breakage detection

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

### Mode of operation with lead breakage detection

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