

Features

- 4 channels
- Inputs Ex ia
- Converter for 2-, 3- and 4-wire RTDs (Pt100 ... Pt1000), slide wire sensors etc.
- Installation in Zone 2, Zone 22, Div. 2, or safe area
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring
- Module can be exchanged under voltage

Function

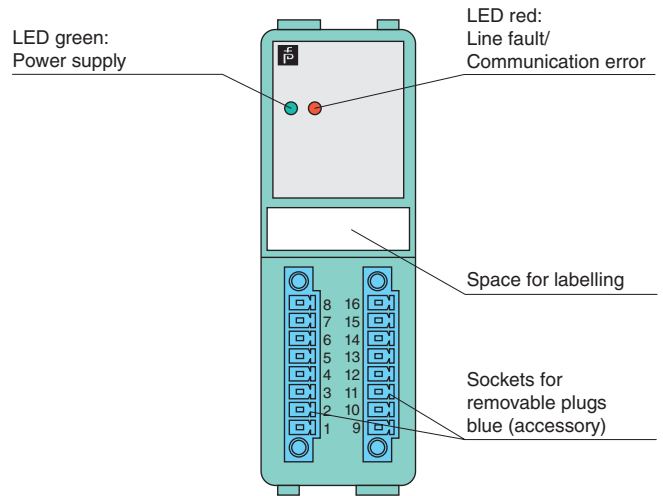
The RTD converter accepts 2-, 3-, 4-wire RTD signals (Pt100 ... Pt1000) and slide-wire sensors from the field. Ni100 through Ni1000 can also be connected.

Open and short-circuit line faults are detected.

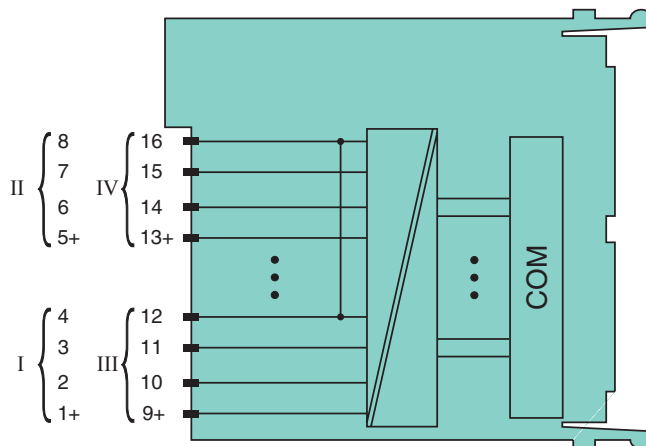
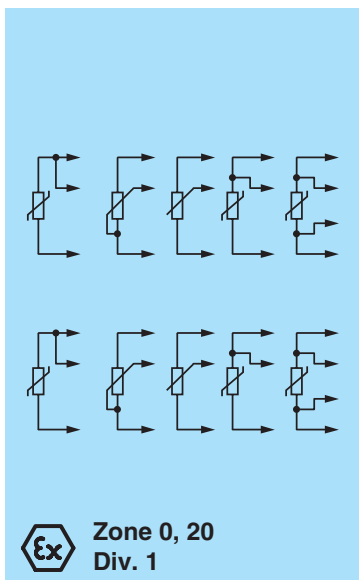
The intrinsically safe inputs are galvanically isolated from the bus and the power supply.

Assembly

Front view



Connection



Zone 2 Div. 2

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

| | | |
|---|-------|--|
| Supply | | |
| Connection | | backplane bus |
| Rated voltage | U_n | 12 V DC , only in connection with the power supplies LB9*** |
| Power consumption | | 0.6 W |
| Internal bus | | |
| Connection | | backplane bus |
| Interface | | manufacturer-specific bus to standard com unit |
| Input | | |
| Number of channels | | 4 |
| Suitable sensors | | 2-, 3- , 4-wire connection, thermocouple , slide wire sensors |
| Connection | | channel I: resistance/potentiometer input 1 ... 4 channel II: resistance/potentiometer input 5 ... 8 channel III: resistance/potentiometer input 9 ... 12 channel IV: resistance/potentiometer input 13 ... 16 |
| Lead resistance | | $\leq 50 \Omega$ per strand |
| Measurement range | | Pt100 (18-390 Ω) (500 Ω incl. line resistance) Pt200 (37-780 Ω) Pt500 (92-1952 Ω) Pt1000 (185-3905 Ω) Ni100 (69-270 Ω) Ni500 (345-1350 Ω) Ni1000 (690-2700 Ω) |
| Slide-wire sensor | | 0 ... 10000 Ω |
| Measuring current | | 200 μ A |
| Line fault detection | | can be switched on/off for each channel via configuration tool |
| Short-circuit | | $< 10 \Omega$ |
| Open-circuit | | $> 1 \text{ k}\Omega$ |
| Smallest span | | 50 Ω for 0.1 % accuracy |
| Linearity error | | 0.1 % |
| Conversion time | | $\leq 500 \text{ ms}$ (4 channels) $\leq 1 \text{ s}$ (for 4x 3-wire Pt100) |
| Busy after download | | 5 ... 15 s |
| Transfer characteristics | | |
| Deviation | | |
| Influence of ambient temperature | | max. 0,1 %/10 K |
| Indicators/settings | | |
| LED indicator | | LED green: supply LED red: line fault, collective alarm , flashing: communication error |
| Coding | | optional mechanical coding via front socket |
| Directive conformity | | |
| Electromagnetic compatibility | | |
| Directive 2004/108/EC | | EN 61326-1 |
| Conformity | | |
| Electromagnetic compatibility | | NE 21 |
| Degree of protection | | IEC 60529 |
| Environmental test | | EN 60068-2-14 |
| Shock resistance | | EN 60068-2-27 |
| Vibration resistance | | EN 60068-2-6 |
| Damaging gas | | EN 60068-2-42 |
| Relative humidity | | EN 60068-2-56 |
| Ambient conditions | | |
| Ambient temperature | | -20 ... 60 $^{\circ}\text{C}$ (-4 ... 140 $^{\circ}\text{F}$) |
| Storage temperature | | -25 ... 85 $^{\circ}\text{C}$ (-13 ... 185 $^{\circ}\text{F}$) |
| Relative humidity | | 95 % non-condensing |
| Shock resistance | | shock type I, shock duration 11 ms, shock amplitude 50 m/s^2 , number of shock directions 6, number of shocks per direction 100 |
| Vibration resistance | | frequency range 5 ... 500 Hz, amplitude 5 ... 13.2 Hz $\pm 1.5 \text{ mm}$, 13.2 ... 100 Hz 1g, sweep rate 1 octave/min, duration 10 sweeps 5 Hz - 100 Hz - 5 Hz |
| Damaging gas | | for plugs: 21 days in 25 ppm SO_2 , at 25 $^{\circ}\text{C}$ and 75 % rel. humidity, device G3 |
| Mechanical specifications | | |
| Degree of protection | | IP20 when mounted on backplane |
| Connection | | removable front connector with screw flange (accessory) wiring connection via spring terminals (0.14 ... 1.5 mm^2) or screw terminals (0.08 ... 1.5 mm^2) |
| Mass | | approx. 150 g |
| Dimensions | | 32 x 100 x 103 mm (1.26 x 3.9 x 4 in) |
| Data for application in connection with Ex-areas | | |

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

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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| | | |
|--|----------------|---|
| EC-Type Examination Certificate | | PTB 03 ATEX 2042 , for additional certificates see www.pepperl-fuchs.com |
| Group, category, type of protection | |  II (1) G [Ex ia] IIC  II (1) D [Ex ia] IIIC |
| Input | | |
| Voltage | U _o | 7.14 V |
| Current | I _o | 70 mA |
| Power | P _o | 123 mW (linear characteristic) |
| Statement of conformity | | PF 08 CERT 1234 X |
| Group, category, type of protection | |  II 3 G Ex nA IIC T4 Gc |
| Electrical isolation | | |
| Input/power supply, internal bus | | safe electrical isolation acc. to EN 60079-11, voltage peak value 375 V |
| Directive conformity | | |
| Directive 94/9/EC | | EN 60079-0:2009 EN 60079-11:2007 EN 60079-15:2010 EN 61241-11:2006 |
| International approvals | | |
| UL approval | | E106378 |
| IECEx approval | | BVS 09.0037X |
| Approved for | | Ex nAc [ia] IIC T4 [Ex iaD] IIIC |
| General information | | |
| System information | | The module has to be mounted in appropriate backplanes (LB9***) in Zone 2 or outside hazardous areas. Here, the corresponding declaration of conformity has to be observed. For use in hazardous areas (e. g. Zone 2, Zone 22 or Div. 2) the module must be installed in an appropriate enclosure. |
| 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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