Pepperl Fuchs FB4202B2 HART Output Isolator Instruction Manual

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Contents

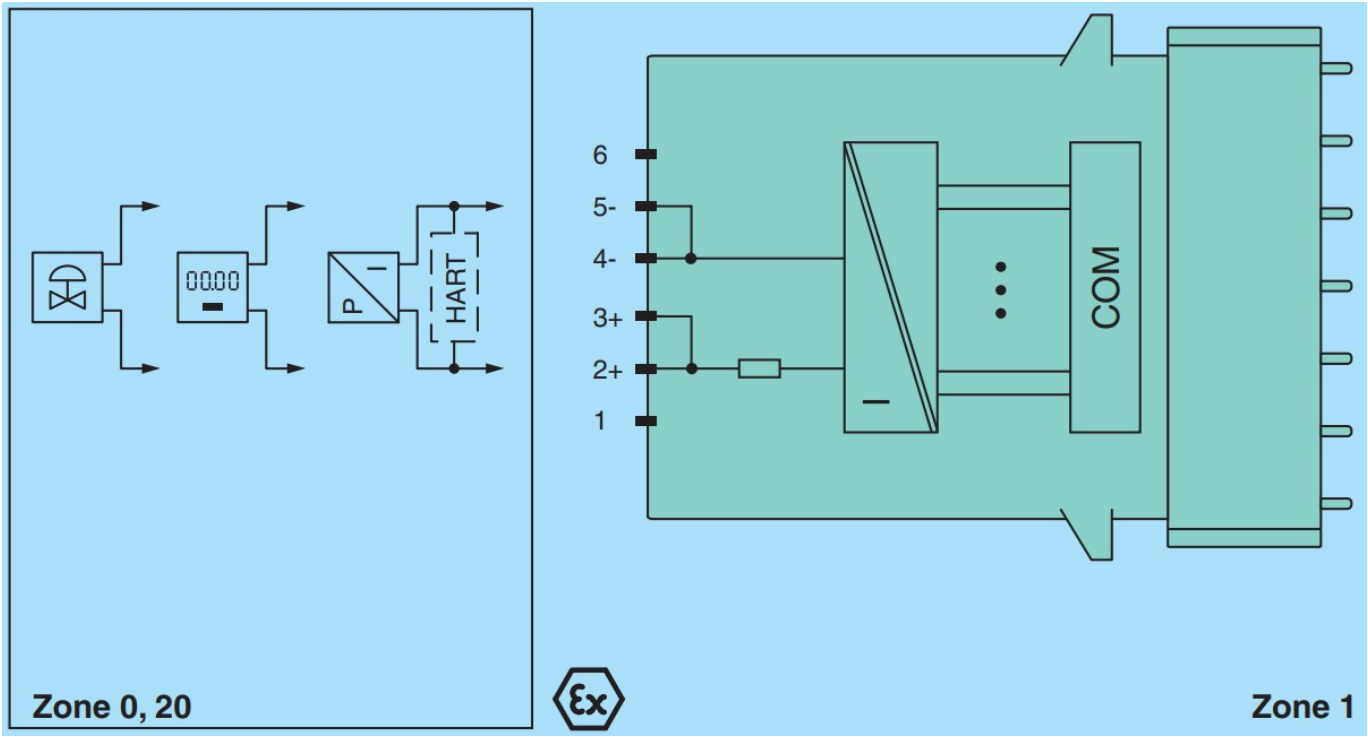
Features

- 1-channel
- Output Ex ia
- Installation in suitable enclosures in Zone 1
- Module can be exchanged under voltage (hot swap)
- Analog output module for 0/4 mA … 20 mA
- HART communication via field bus or service bus
- Simulation mode for service operations (forcing)
- Line fault detection (LFD)
- Permanently self-monitoring

Function

The device drives positioners, proportional valves, I/P converters, or local indicators.
Open and short-circuit line faults are detected.
The output is galvanically isolated from the bus and the power supply.

Connection



Technical Data

Slots

- Occupied slots 1

Supply

- **Connection:** backplane bus
- **Rated voltage:** Ur 12 V DC , only in connection with the power supplies FB92**
- **Power dissipation:** 0.8 W
- **Power consumption:** 0.95 W

Internal bus

- **Connection:** backplane bus
- **Interface:** manufacturer-specific bus to standard com unit

Analog output

- **Number of channels:** 1

Suitable field devices

- **Field device:** Proportional Valve
- **Field device [2]:** I/P converters
- **Field device [3]:** on-site display
- **Connection:** channel I: 2/3+, 4/5-

- **Current:** 0 … 25 mA short-circuit protected
- **Line fault detection:** can be switched on/off for each channel via configuration tool , configurable via configuration tool
  - **Short-circuit:** No
  - **Open-circuit:** deviation of preset output value > 0.5 mA
- **Load:** 750 Ω max.
- **HART communication:** yes
- **HART secondary variable:** MODBUS: yes; all other bus systems: no
- **Watchdog:** within 0.5 s the device goes in safe state, e.g. after loss of communication

Transfer characteristics

Deviation

- **After calibration:** 0.1 % of the signal range at 20 °C (68 °F)
- **Influence of ambient temperature:** 0.1 %/10 K of the signal range
- **Refresh time:** 100 ms

Indicators/settings

- **LED indication:**
  Power LED (P) green: supply
  Diagnostic LED (I) red: module fault , red flashing: communication error , white: fixed parameter set (parameters from com unit are ignored) , white flashing: requests parameters from com unit
  Status LED (1) red: line fault (lead breakage or short circuit)
- **Coding:** optional mechanical coding via front socket

Directive conformity

- Electromagnetic compatibility
- **Directive 2014/30/EU:** EN 61326-1:2013

Conformity

- **Electromagnetic compatibility:** NE 21:2007
- **Degree of protection:** IEC 60529:2000
- **Environmental test:** EN 60068-2-14:2009
- **Shock resistance:** EN 60068-2-27:2009
- **Vibration resistance:** EN 60068-2-6:2008
- **Damaging gas:** EN 60068-2-42:2003
- **Relative humidity:** EN 60068-2-78:2001

Ambient conditions

- **Ambient temperature:** -20 … 60 °C (-4 … 140 °F)
- **Storage temperature:** -25 … 85 °C (-13 … 185 °F)
- **Relative humidity:** 95 % non-condensing
- **Shock resistance:** shock type I, shock duration 11 ms, shock amplitude 15 g, number of shocks 18
- **Vibration resistance:**
  frequency range 10 … 150 Hz; transition frequency: 57.56 Hz, amplitude/acceleration ± 0.075 mm/1 g; 10 cycles frequency range 5 … 100 Hz; transition frequency: 13.2 Hz amplitude/acceleration ± 1 mm/0.7 g; 90 minutes at each resonance
- **Damaging gas:** designed for operation in environmental conditions acc. to ISA-S71.04-1985, severity level G3

Mechanical specifications

- **Degree of protection:** IP20 (module) , a separate housing is required acc. to the system description
- **Connection:** removable front connector with screw flange (accessory) wiring connection via spring terminals (0.14 … 1.5 mm2) or screw terminals (0.08 … 1.5 mm2)
- **Mass:** approx. 350 g
- **Dimensions:** 28 x 107 x 132 mm (1.1 x 4.2 x 5.2 inch)

Data for application in connection with hazardous areas

- **EU-type examination certificate:** BVS 12 ATEX E 015 X
- **Marking**
  1 II 2(1) G Ex d [ia Ga] IIC T4 Gb
  1 II (1) D [Ex ia Da] IIIC

Output

- **Voltage:** Uo 27 V
- **Current:** Io 87 mA
- **Power:** Po 575 mW (linear characteristic)

Galvanic isolation

- **Output/power supply, internal bus:** safe electrical isolation acc. to EN 60079-11:2007 , voltage peak value 375 V

Directive conformity

- **Directive 2014/34/EU**
  EN IEC 60079-0:2018+AC:2020
  EN 60079-1:2014
  EN 60079-11:2012

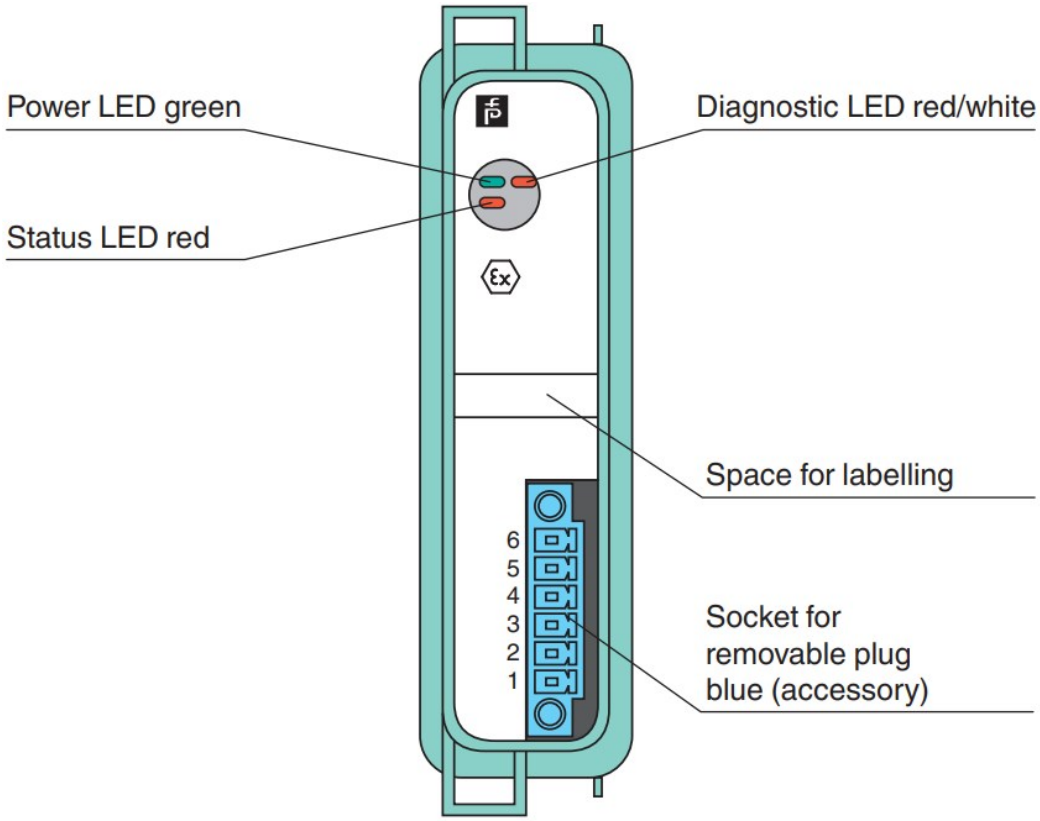
International approvals

- **ATEX approval:** BVS 12 ATEX E 015 X

General information

- **System information**
  The module has to be mounted in appropriate backplanes and housings (FB92**) in Zone 1, 2, 21, 22 or outside hazardous areas (gas or dust). Here, observe the corresponding EC-type examination certificate.
- **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.

Assembly



Refer to “General Notes Relating to Pepperl+Fuchs Product Information”

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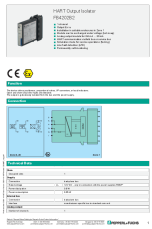
Documents / Resources

	Pepperl Fuchs FB4202B2 HART Output Isolator [pdf] Instruction Manual FB4202B2 HART Output Isolator, FB4202B2, HART Output Isolator, Output Isolator, Isolator

References

- Pepperl+Fuchs International. Industrial Sensors, Factory Automation, Process Automation, Intrinsic Safety, Explosion Protection
- Pepperl+Fuchs International. Industrial Sensors, Factory Automation, Process Automation, Intrinsic Safety, Explosion Protection