



HART Transmitter Power Supply, Input Isolator

FB3202B2

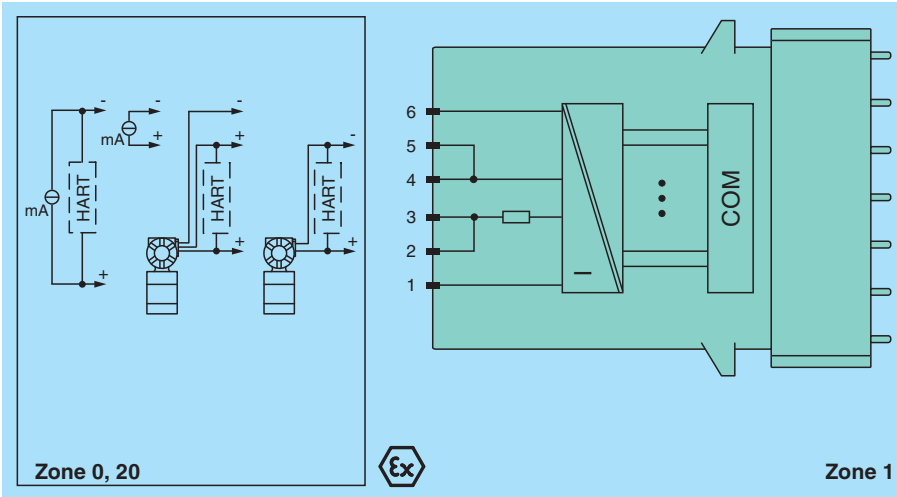
- 1-channel
- Input Ex ia
- Power supply for 2- or 3-wire transmitters with 4 mA ... 20 mA
- Module can be exchanged under voltage (hot swap)
- Installation in suitable enclosures in Zone 1
- Supply circuit 15 V (20 mA)
- Input from active signals of 4-wire transmitters
- HART communication via field bus or service bus
- HART communication also for separately powered devices
- Simulation mode for service operations (forcing)
- Line fault detection (LFD) and Live Zero monitoring
- Permanently self-monitoring



Function

The transmitter power supply feeds 2- and 3-wire transmitters. Active signals from separately powered field devices and 4-wire transmitters can be connected. Open-circuit, short-circuit, and Live Zero status are detected. The intrinsically safe input is galvanically isolated from the bus and the power supply.

Connection



Technical Data

Slots	
Occupied slots	1
Supply	
Connection	backplane bus
Rated voltage	U_r 12 V DC , only in connection with the power supplies FB92**
Power dissipation	0.75 W
Power consumption	1.1 W
Internal bus	
Connection	backplane bus

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Technical Data

Interface	manufacturer-specific bus to standard com unit
Analog input	
Number of channels	1
Suitable field devices	
Field device	pressure converter
Field device [2]	flow converter
Field device [3]	level converter
Field device [4]	Temperature Converter
Field device interface	
Connection	2-wire transmitter
Connection [2]	3-wire transmitter
Connection [3]	4-wire transmitter
Connection	2-wire transmitter (HART): supply circuit: 2/3+, 4/5- 3-wire transmitter (HART): supply circuit: 2/3+, 6- measuring circuit: 4/5+, 6- 4-wire transmitter (separately powered): measuring circuit: 4/5+, 6- HART measuring circuit: 1+, 6-
Transmitter supply voltage	min. 15 V at 20 mA ; 21.5 V at 4 mA
Input resistance	15 Ω (terminals 5, 6) <P></P> 236 Ω (terminals 1, 6) HART
Line fault detection	can be switched on/off for each channel via configuration tool , configurable via configuration tool
Short-circuit	factory setting: > 22 mA configurable between 0 ... 26 mA
Open-circuit	factory setting: < 1 mA configurable between 0 ... 26 mA
HART communication	yes
HART secondary variable	yes
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
Resolution	12 Bit (0 ... 26 mA)
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) Status LED (2) yellow: Live Zero monitoring
Coding	optional mechanical coding via front socket
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013
Conformity	
Electromagnetic compatibility	
Degree of protection	NE 21:2007
Environmental test	IEC 60529:2000
Shock resistance	EN 60068-2-14:2009
Vibration resistance	EN 60068-2-27:2009
Damaging gas	EN 60068-2-6:2008
Relative humidity	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

Technical Data

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 mm ²) or screw terminals (0.08 ... 1.5 mm ²)
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 13 ATEX E 050 X
Marking		Ⓜ II 2(1) G Ex d [ia Ga] IIC T4 Gb Ⓜ II (1) D [Ex ia Da] IIIC
Supply		
Voltage	U_o	27 V
Current	I_o	92 mA
Power	P_o	619 mW (linear characteristic)
Connection 1 to 6		
Voltage		8.9 V
Current		4 mA
Power		24 mW (trapezoid characteristic curve)
Input		
Voltage	U_o	0.7 V
Current	I_o	7 mA
Power	P_o	5 mW (trapezoid characteristic curve)
Voltage	U_i	30 V DC
Current	I_i	100 mA
Power	P_i	100 mW $P_i < 100$ mW is fulfilled by $I_i < 100$ mA, so a comparison of $P_o < P_i$ is not necessary.
Internal capacitance	C_i	242 nF
Internal inductance	L_i	0 mH
Galvanic isolation		
Input/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 13 ATEX E 050 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

Front view

