Features

- 1-channel
- Input EEx ia IIC
- Device installation in Zone 2
- 24 V DC supply voltage
- Lead breakage (LB) and short-circuit (SC) monitoring
- 4 limit values
- Transfer of HART signals
- Power Rail bus
- EMC acc. to NAMUR NE 21

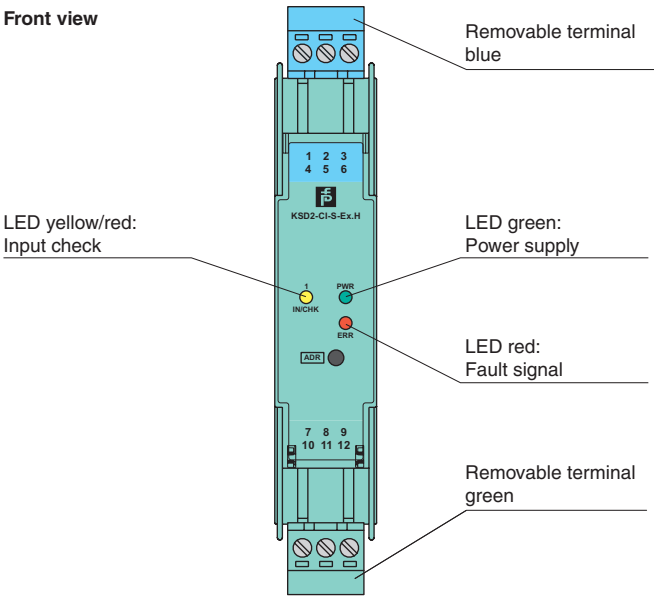
Function

The KSD2-CI-S-Ex.H is designed for the connection of 2-wire transmitters. It may also be used as a repeater for 0/4 mA ... 20 mA signals (current source).

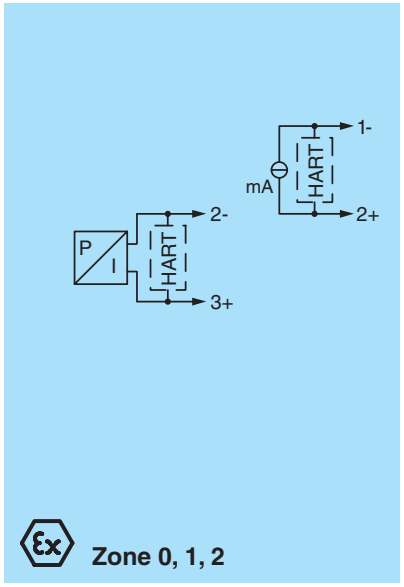
With a supply voltage > 20 V DC it is guaranteed that at least 14.7 V at 20 mA are available in the hazardous area. The circuit (terminals 3+, 1-) is monitored for lead faults.

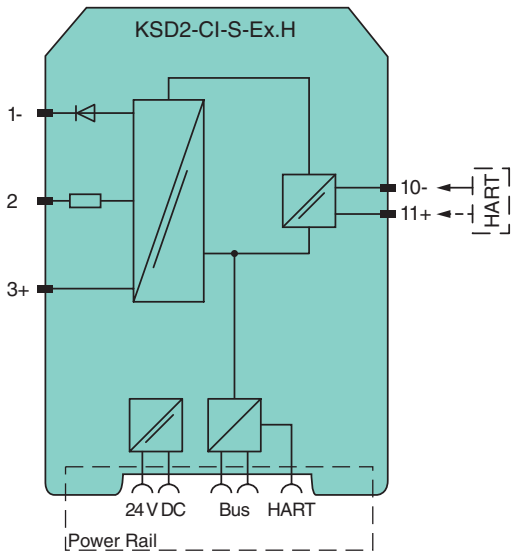
The input is galvanically isolated from the bus and the power supply.

Assembly



Connection





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Supply	
Connection	Power Rail
Rated voltage	20 ... 30 V DC
Ripple	< 10 %
Power loss	1.3 W
Power consumption	1.6 W
Input	
Connection	terminals 1, 2, 3
Input signal	0 ... 20 mA or 4 ... 20 mA
Input resistance	approx. 325 Ω , terminals 1, 2
Transmitter supply voltage	> 16.5 V at 20 mA
Lead monitoring	breakage I ≤ 0.8 mA , short-circuit I > 23.2 mA
Output	
Interface	CAN protocol via Power Rail bus
Connection	Power Rail
Transfer characteristics	
Deviation	0.1 % of the input signal range at 20 °C (293 K)
Influence of ambient temperature	0.01 %/K of the input signal range
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Insulation coordination	EN 50178:1997
Electromagnetic compatibility	NE 21:2006
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	IP20
Connection	terminal connection ≤ 2.5 mm^2
Mass	approx. 140 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in)
Mounting	DIN rail mounting
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	BVS 04 ATEX E 086 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1)G [EEx ia] IIC ⟨Ex⟩ II (1) D [Ex iaD]
Supply	Power Rail
Maximum safe voltage U_m	40 V DC (Attention! U_m is no rated voltage.)
Signal	CAN bus and HART (Power Rail)
Maximum safe voltage U_m	60 V DC (Attention! U_m is no rated voltage.)
HART-connection	terminals 10-, 11+
Maximum safe voltage U_m	60 V DC (Attention! U_m is no rated voltage.)
Input	terminals 1-, 2+
Voltage U_o	27 V
Current I_o	negligibly small
Voltage U_i	28 V
Current I_i	115 mA
Output	terminals 2-, 3+
Voltage U_o	26 V
Current I_o	93 mA
Power P_o	540 mW (linear characteristic)
Statement of conformity	Pepperl+Fuchs
Group, category, type of protection, temperature classification	⟨Ex⟩ II 3G EEx nA II T4 X
Electrical isolation	
Input/power supply, internal bus	safe electrical isolation acc. to IEC 60079-11:2007, voltage peak value 375 V
Directive conformity	
Directive 94/9/EC	EN 60079-0:2006, EN 60079-11:2007 , EN 60079-26:2007 , EN 60079-11:2007
General information	
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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Function

2-wire transmitters are connected to terminals 2- and 3+. The input for the signal current is terminal 2. 2-wire transmitters with HART communication are connected to terminals 3+ and 2-. The KSD2-CI-S-Ex.H is delivered standard with the KF-STP-** device connectors, which are equipped with 2.3 mm jacks which may be used for connecting a HART communicator. A handheld terminal can be connected to terminals 11+ und 10-. The device supports also the HART communication via the Power Rail bus.

Current sources which produce a signal in the range of 0/4 mA ... 20 mA are connected to terminals 2+ and 1-. Therefore, the current flows in the signal input and can be transmitted in the safe area.

Application

- The supply of power to 2-wire transmitters and the transfer of the measurement current
- Current signal repeater
- Supply of HART transmitters in the hazardous areas and transfer of the analogue measurement current into the safe area. The interface allows a bidirectional communication between the transmitter and the handheld terminal. The device can be connected in the safe area. The bus transfers the digital value of the signal current to the HART communication.

Notes

Software functions

Adjustable by the **PACT***ware***™** human machine interface:

- TAG numbers, 28 alphanumeric characters, can be programmed into device
- Commentary, may be saved in PC memory
- Information on devices may be saved in PC memory
- Physical units are adjustable
  - list see system description RPI
- Lead monitoring selectable
- Separate detection and indication of lead breakage and lead short circuit
- 4 limiting values
  - upper alarm level limit
  - upper warn level limit
  - lower alarm level limit
  - lower warn level limit
- Hysteresis adjustable
- Lower scale value and upper scale value of the measurement range
  - for the determination of the overflow and underflow range
  - for the configuration of the analogue monitor of the human machine interface
- Overrange and underrange alarm
- Malfunction output status
  - user defined
  - min.
  - max.
  - hold last value
- Simulation
  - of the input value
  - of the device diagnosis
  - of the process channel diagnosis

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