

**Features**

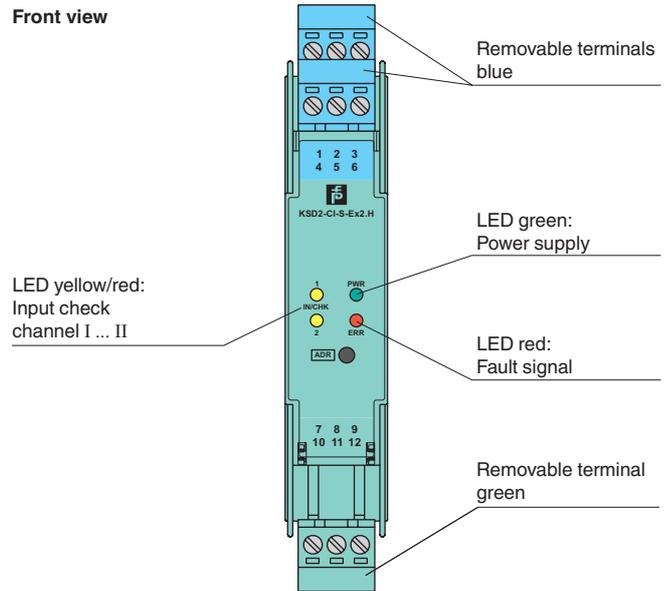
- 2-channel
- Input EEx ia IIC
- 24 V DC supply voltage
- 4 limit values per channel
- Device installation in Zone 2
- Lead breakage (LB) and short-circuit (SC) monitoring
- Transfer of HART signals
- Power Rail bus
- EMC acc. to NAMUR NE 21

**Function**

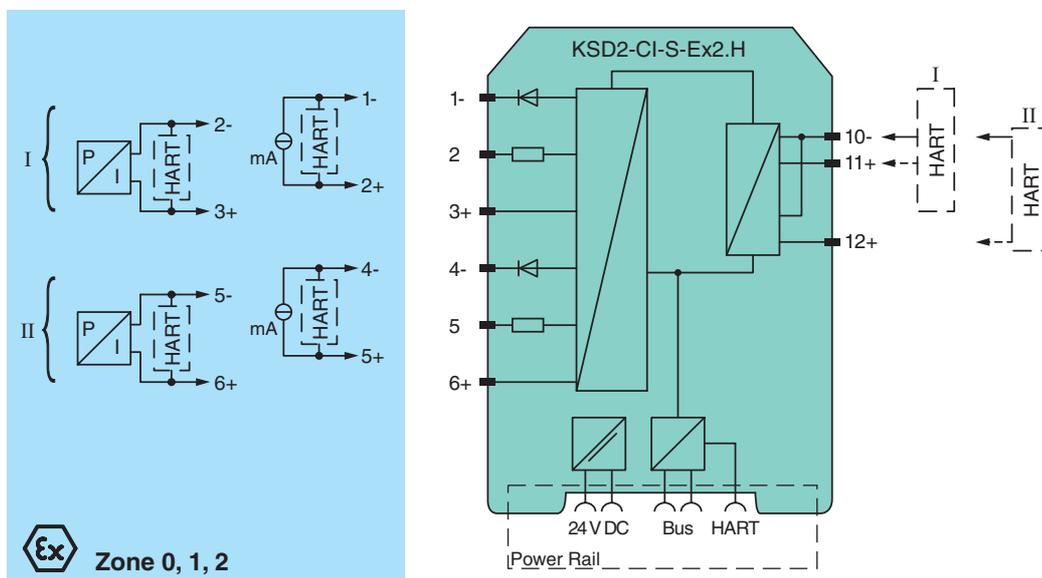
The KSD2-CI-S-Ex2.H is designed for the connection of 2-wire transmitters. It may also be used as a repeater for 0/4 mA ... 20 mA signals (current source). With a rated voltage > 20 V DC it is guaranteed that at least 15 V is available to the transmitter in the hazardous area at a current of 20 mA. The supply circuits (terminals 2-, 3+ or 5-, 6+) are monitored for lead faults.

The two inputs are galvanically connected and have a common negative potential which is decoupled by diodes. They are galvanically isolated from the bus and the power supply.

**Assembly**



**Connection**



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<b>Supply</b>	
Connection	Power Rail
Rated voltage	20 ... 30 V DC
Ripple	< 10 %
Power loss	1.8 W
Power consumption	2.5 W
<b>Input</b>	
Connection	terminals 1, 2, 3; 4, 5, 6
Input signal	0 ... 20 mA or 4 ... 20 mA
Input resistance	approx. 325 Ω , terminals 1, 2 or 4, 5
Transmitter supply voltage	> 16.5 V at 20 mA
Lead monitoring	breakage I ≤ 0.8 mA , short-circuit I > 23.2 mA
<b>Output</b>	
Interface	CAN protocol via Power Rail bus
Connection	Power Rail
<b>Transfer characteristics</b>	
Deviation	0.1 % of the input signal range at 20 °C (68 °F)
Influence of ambient temperature	0.01 %/K of the input signal range
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
<b>Conformity</b>	
Insulation coordination	EN 50178:1997
Electromagnetic compatibility	NE 21:2006
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Protection degree	IP20
Connection	terminal connection ≤ 2.5 mm <sup>2</sup>
Mass	approx. 150 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in)
Mounting	DIN rail mounting
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	BVS 04 ATEX E 086 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)G [Ex ia] IIC ⊕ II (1) D [Ex iaD]
<b>Supply</b>	
Maximum safe voltage U <sub>m</sub>	40 V DC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Signal</b>	
Maximum safe voltage U <sub>m</sub>	60 V DC (Attention! U <sub>m</sub> is no rated voltage.)
<b>HART-connection</b>	
Maximum safe voltage U <sub>m</sub>	60 V DC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Input</b>	
Voltage U <sub>o</sub>	27 V
Current I <sub>o</sub>	negligibly small
Voltage U <sub>i</sub>	28 V
Current I <sub>i</sub>	115 mA
<b>Output</b>	
terminals 2-, 3+; 5-, 6+	
Voltage U <sub>o</sub>	26 V
Current I <sub>o</sub>	93 mA
Power P <sub>o</sub>	540 mW (linear characteristic)
<b>Statement of conformity</b>	
Group, category, type of protection, temperature classification	⊕ II 3G Ex nA IIC T4 X
<b>Electrical isolation</b>	
Input/power supply, internal bus	safe electrical isolation acc. to IEC 60079-11:2007, voltage peak value 375 V
<b>Directive conformity</b>	
Directive 94/9/EC	EN 60079-0:2006, EN 60079-11:2007, EN 60079-26:2007 , EN 60079-15:2005
<b>General information</b>	
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .

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## Function

**2-wire transmitters** are connected to terminals 2- and 3+ or 5- and 6+. The input for the signal current is terminal 2 or terminal 5. 2-wire transmitters with HART communication are connected to terminals 2- and 3+ or 5- and 6+.

The KSD2-CI-S-Ex2.H is delivered with the connectors KF-STP-\*\*. The 2.3 mm jacks are integrated in this connectors for use with HART communicators. A handheld terminal can be connected to the terminals 11+, 12+ and 10-. The device supports also the HART communication via the Power Rail bus.

**2-wire current sources** which generate a signal in the range of 0/4 mA ... 20 mA, are connected to terminals 2+ and 1- or 5+ and 4-. Therefore, the current flows in the signal input and can be transferred to 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 **PACTware™** 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