- 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
- Power Rail bus
- EMC acc. to NAMUR NE 21

Function

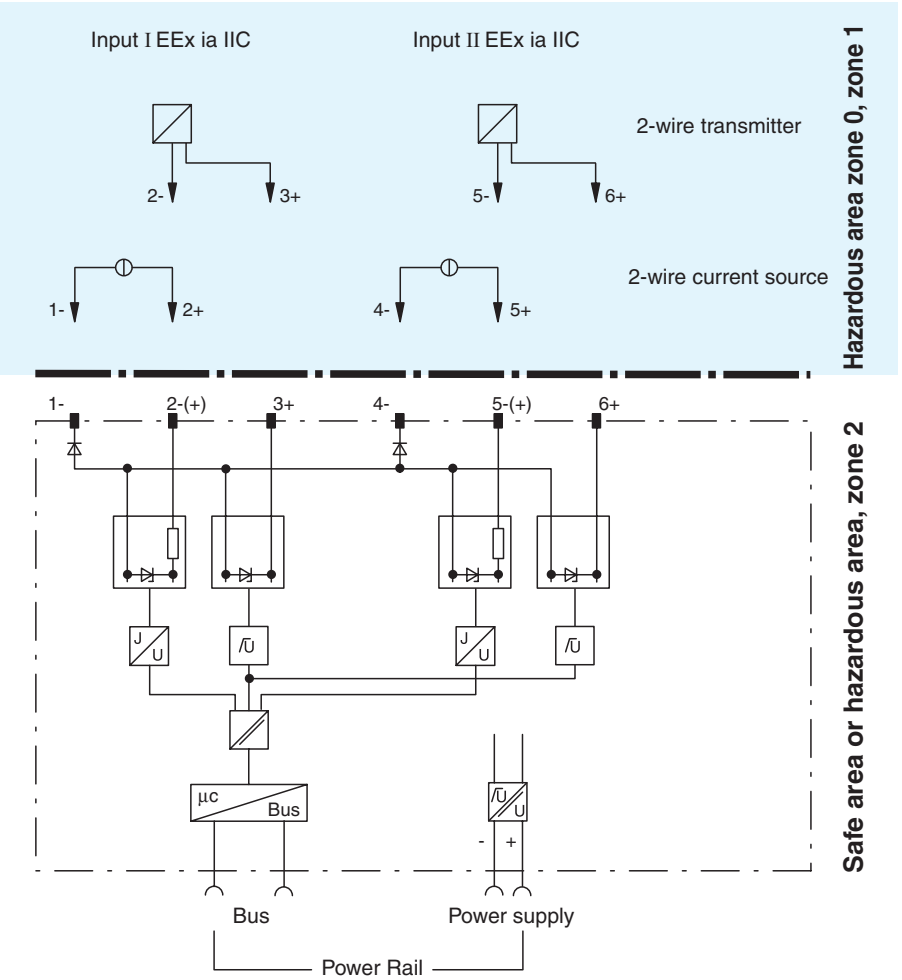
The KSD2-CI-Ex2 is designed for the connection of 2-wire transmitters. It may also be used as a repeater for 0/4 mA ... 20 mA signals (current source). With a supply voltage > 20 V DC it is guaranteed that at least 16.5 V is available to the transmitter in the hazardous area at a current of 20 mA. The supply circuits (terminal 3+, 2- or 6+, 5-) are monitored for lead faults.

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

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

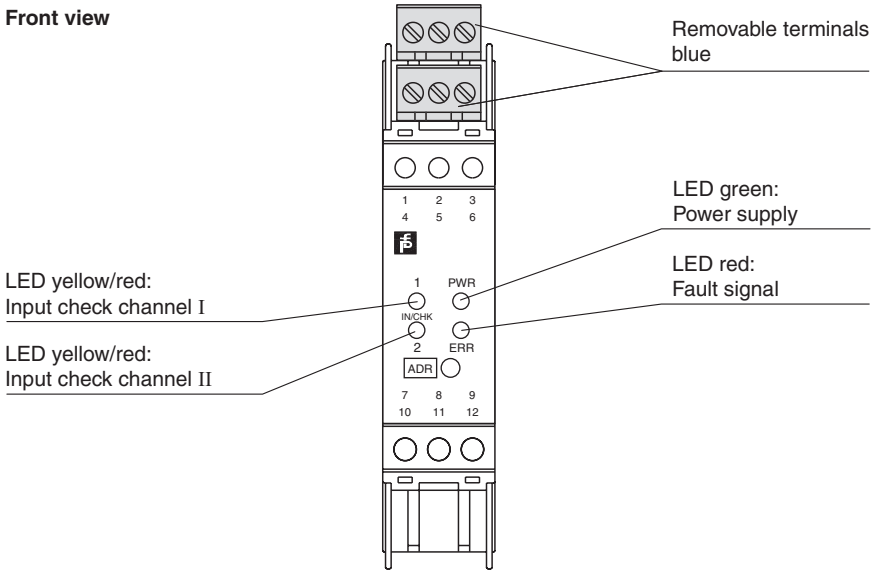
Current sources which produce a signal in the range of 0/4 mA ... 20 mA, are connected to terminals 2+ and 1- or 5+ and 4-. Therefore, the current flows in the signal input and can be transferred to the safe area.

Connection



Composition

Front view



Release date 2010-03-08 14:57 Date of issue 2010-03-08 189025_ENG.xml

Supply	
Connection	Power Rail
Rated voltage	20 ... 30 V DC
Ripple	< 10 %
Power loss	1.8 W
Power consumption	2.5 W
Input	
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
Line monitoring	breakage I ≤ 0.8 mA , short-circuit I > 23.2 mA
Output	
Connection	Power Rail
Interface	CAN protocol via Power Rail bus
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 (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Connection	terminal connection ≤ 2.5 mm^2
Mass	approx. 150 g
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
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
Safety maximum voltage U_m	40 V DC (Attention! U_m is no rated voltage.)
Signal	CAN bus and HART (Power Rail)
Safety maximum voltage U_m	60 V DC (Attention! U_m is no rated voltage.)
Input	terminals 1-, 2+; 4-, 5+
Voltage U_o	27 V
Current I_o	negligibly small
Voltage U_i	28 V
Current I_i	115 mA
Output	terminals 2-, 3+; 5-, 6+
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
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 60079-15:2005 , EN 60079-26:2007
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.

Application

Release date 2010-03-08 14:57 Date of issue 2010-03-08 189025_ENG.xml

- The supply of power to the 2-wire transmitters installed in the hazardous area and the transfer of the measurement current to the safe area
- Current signal repeaters

Notes

Software functions

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

- Information on devices may be saved in PC memory

The following are separately adjustable for each channel:

- TAG numbers, 28 alphanumeric characters, can be programmed into device
- Commentary, may be saved in PC memory
- Physical characteristics are adjustable
  - list see system description RPI
- Lead monitoring optional
- Separate detection and indication of lead breakage and lead short circuit
- 4 limit values
  - upper alarm limit
  - upper warning limit
  - lower warning limit
  - lower alarm limit
  - hysteresis adjustable
- Start value and end value of the measurement range
  - for determination of the overflow and underflow range
  - for the configuration of the analog value indicator of the control display
- Signaling of having exceeded or fallen short of the measurement range
- Determining the behavior in the case of an error
  - signal value optional
  - start value of the measurement range
  - end value of the measurement range
  - maintenance of the last accepted measurement value
- Simulation
  - of the output value
  - of the device diagnosis
  - of the process channel diagnosis

Release date 2010-03-08 14:57 Date of issue 2010-03-08 189025_ENG.xml