- 2-channel
- Input EEx ia IIC
- 24 V DC supply voltage
- 4 limit values per channel
- Device installation permissible in zone 2
- Lead breakage (LB) monitoring 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- or 3-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 15 V is available to the transmitter in the hazardous area at a current of 20 mA. The supply circuits (terminal 3+, 1- or 6+, 4-) are monitored for lead faults.

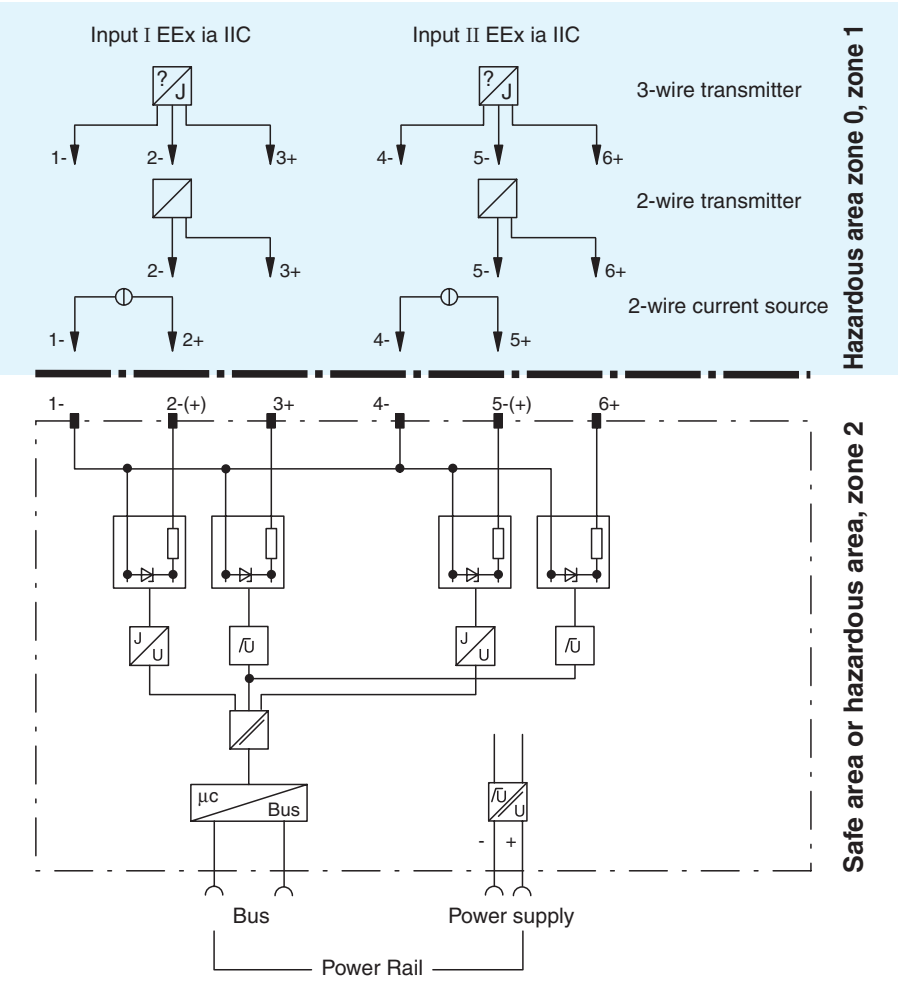
The two inputs are galvanically connected and have a common negative potential. They are galvanically isolated from the bus and the power supply.

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.

3-wire transmitters are connected to terminals 3+, 2- and 1- or 6+, 5- and 4-. The transmitter power is supplied through the terminals 3+ and 1- or 6+, and 4-. The signal input is terminal 2 or terminal 5.

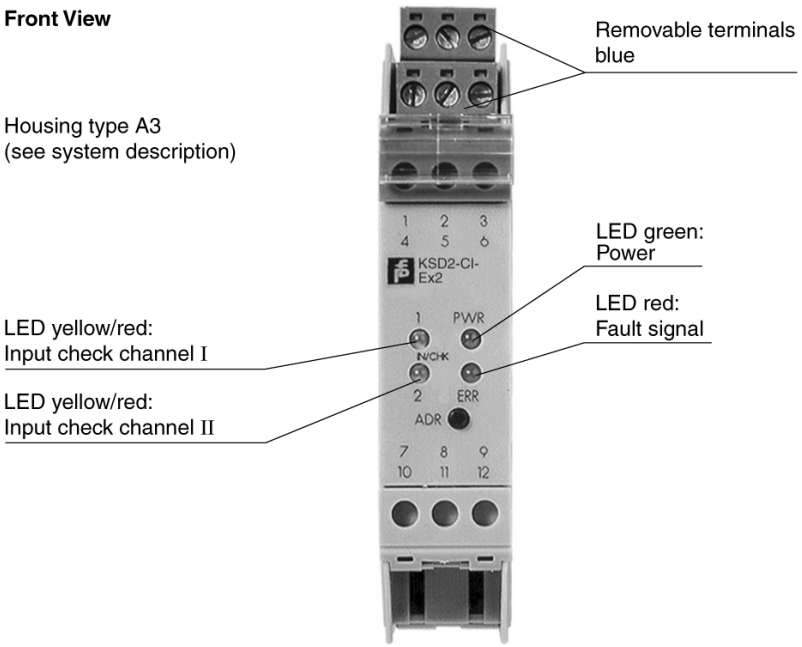
Current sources which produce a signal in the range of 0/4 mA ... 20 mA, are connected to terminals 2+ and 1- or 5+ and 4-. Therefore, the current flows in the signal input and can be transferred to the safe area.

Connection



Composition

Front View



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Supply		
Connection		Power Rail
Rated voltage		20 ... 30 V DC
Ripple		< 10 %
Power loss		1.4 W , increase up to 2.35 W in the case of short-circuit between terminals 1 and 3 or 2 and 3
Power consumption		1.9 W , increase up to 2.35 W in the case of short-circuit between terminals 1 and 3 or 2 and 3
Input		
Connection		terminals 1, 2, 3; 4, 5, 6
Input signal		0/4 ... 20 mA
Input resistance		approx. 105 Ω , terminals 1, 2 or 4, 5
Transmitter supply voltage		> 15 V at 20 mA
Lead monitoring		breakage I ≤ 2 mA , short-circuit U < 4 V
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
Electrical isolation		
Input/power supply, internal bus		safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity		
Electromagnetic compatibility		
Directive 89/336/EC		EN 61326
Explosion protection		
Directive 94/9 EC		EN 50014, EN 50020, EN 50284
Standard conformity		
Insulation coordination		EN 50178
Electrical isolation		EN 50020
Electromagnetic compatibility		NE 21
Protection degree		IEC 60529
Climatic conditions		IEC 60721
Ambient conditions		
Ambient temperature		-20 ... 60 °C (253 ... 333 K)
Damaging gas		acc. to ISA-S71.04-1985, severity level G3
Mechanical specifications		
Protection degree		IP20
Connection		terminal connection ≤ 2.5 mm^2
Mass		approx. 100 g
Dimensions		20 x 100 x 115 mm (0.8 x 3.9 x 4.5 in)
Mounting		DIN rail mounting
Data for application in conjunction with hazardous areas		
EC-Type Examination Certificate		PTB 00 ATEX 2010 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨Ex⟩ II (1)G [EEx ia] IIC
Supply		Power Rail
Safety maximum voltage U_m		40 V AC or 60 V DC (Attention! U_m is no rated voltage.)
Signal		CAN bus (Power Rail)
Safety maximum voltage U_m		40 V AC or 60 V DC (Attention! U_m is no rated voltage.)
Type of protection [EEx ia]		
Explosion group		IIB IIC
External capacitance		770 nF 99 nF
External inductance		16 mH 4 mH
Input		terminals 1, 2 or 4, 5
Voltage	U_o	3.5 V
Current	I_o	0.7 mA
Power	P_o	0.6 mW (linear characteristic)
Converter input		terminals 1, 2, 3 or 4, 5, 6
Voltage	U_o	25.2 V
Current	I_o	93 mA
Power	P_o	585 mW
Statement of conformity		TÜV 00 ATEX 1617 X , observe statement of conformity
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 EN 50020, voltage peak value 375 V

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Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

Application

- The supply of power to the 2- or 3-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

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