

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Current output up to 625 Ω load
- HART I/P and valve positioner
- Lead breakage monitoring
- Suitable for long field cables (> 1000 m)
- Connection via spring terminals with push-in connection technology
- Up to SIL 2 acc. to IEC 61508

Function

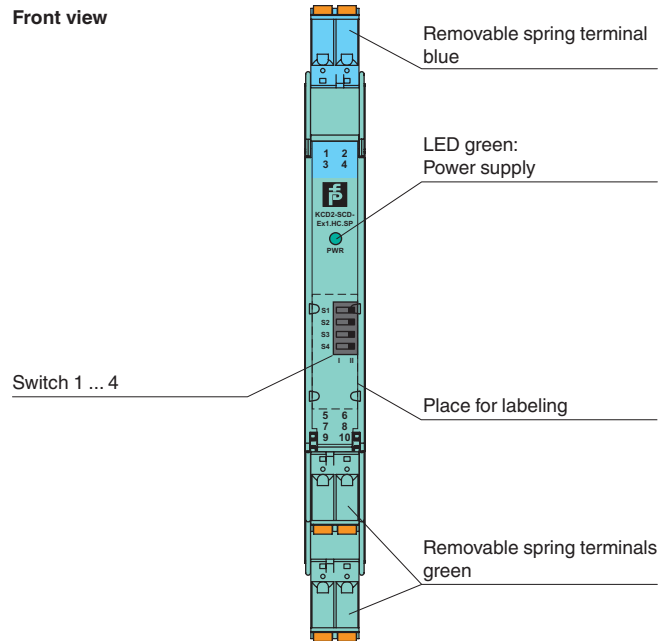
This isolated barrier is used for intrinsic safety applications. It repeats the input signal from a control system to drive HART I/P converters, valve actuators, and displays located in a hazardous area.

Bi-directional communication is supported for HART devices.

An open field circuit presents a high impedance to the control side to allow alarm conditions to be monitored by control systems.

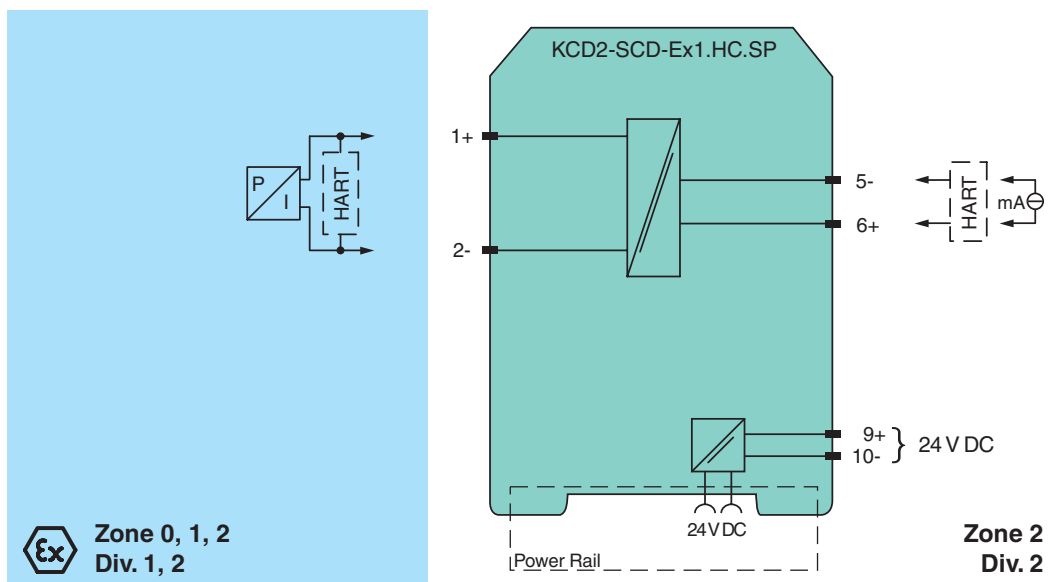
Test sockets for the connection of HART communicators are integrated into the terminals of the device.

Assembly



SIL 2

Connection




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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

General specifications		
Signal type		Analog output
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
Supply		
Connection		Power Rail or terminals 9+, 10-
Rated voltage	U_r	19 ... 30 V DC
Ripple		≤ 10 %
Rated current	I_r	≤ 35 mA
Power dissipation		≤ 600 mW
Power consumption		≤ 700 mW
Input		
Connection side		control side
Connection		terminals 5-, 6+
Input signal		4 ... 20 mA , limited to approx. 27 mA
Input voltage		depending on switch configuration open loop voltage of the control system < 19 V open loop voltage of the control system < 26 V
Voltage drop		depending on switch configuration open loop voltage of the control system < 19 V: approx. 5 V at 20 mA open loop voltage of the control system < 26 V: approx. 12 V at 20 mA
Input resistance		> 100 kΩ, with field wiring open
Output		
Connection side		field side
Connection		terminals 1+, 2-
Voltage		≥ 12.5 V at 20 mA
Current		4 ... 20 mA
Load		0 ... 625 Ω
Ripple		20 mV _{rms}
Transfer characteristics		
Deviation		at 20 °C (68 °F), 0/4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
Influence of ambient temperature		< 2 μA/K (0 ... 60 °C (32 ... 140 °F)); < 4 μA/K (-20 ... 0 °C (-4 ... 32 °F))
Frequency range		field side into the control side: bandwidth with 0.5 V _{pp} signal 0 ... 3 kHz (-3 dB) control side into the field side: bandwidth with 1 mA _{pp} signal 0 ... 3 kHz (-3 dB)
Rise time		10 to 90 % ≤ 100 ms
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Input/power supply		functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Output/power supply		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Indicators/settings		
Display elements		LED
Control elements		DIP-switch
Configuration		via DIP switches
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Connection		spring terminals
Mass		approx. 100 g
Dimensions		12.5 x 114 x 124 mm (0.5 x 4.5 x 4.9 inch) , housing type A2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas		
EU-type examination certificate		CESI 11 ATEX 094
Marking		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1) D [Ex ia Da] IIIC , ⊕ I (M1) [Ex ia Ma] I
Output		Ex ia IIC, Ex iaD
Supply		
Maximum safe voltage	U_m	250 V AC (Attention! U_m is no rated voltage.)

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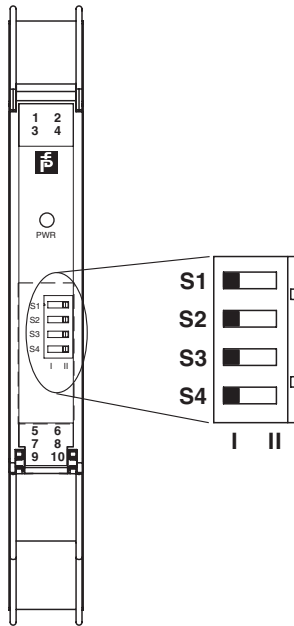
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Equipment		terminals 1+, 2-
Voltage	U _o	20 V
Current	I _o	100 mA
Power	P _o	500 mW
Permissible connection values [EEx ia]		
Certificate		PF 11 CERT 1968X
Marking		 II 3G Ex nA IIC T4 Gc
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
International approvals		
UL approval		
Control drawing		116-0395 (cULus)
IECEX approval		
Approved for		[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I
General information		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .
Accessories		
Optional accessories		- power feed module KFD2-EB2(.R4A.B)(.SP) - universal power rail UPR-03(-M)(-S) - profile rail K-DUCT-BU(-UPR-03)

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Configuration



Switch position

Function	S1	S2	S3	S4
Open loop voltage of the control system < 19 V	I	I	II	II
Open loop voltage of the control system < 26 V	II	I	II	II

Factory settings: open loop voltage of the control system < 19 V