

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Current output up to 650 Ω load
- HART I/P and valve positioner
- Lead breakage monitoring
- Accuracy 0.1 %
- Housing width 12.5 mm
- Up to SIL2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications. It drives SMART I/P converters, electrical valves, and positioners in hazardous areas.

Digital signals are superimposed on the analog values at the field or control side and are transferred bi-directionally.

Current transferred across the DC/DC converter is repeated at terminals 1 and 2.

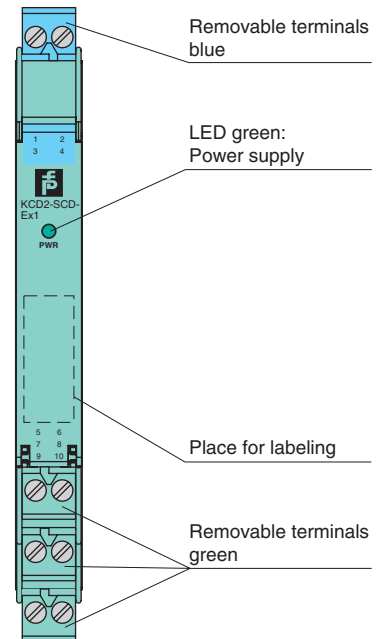
An open field circuit presents a high input impedance to the control side to allow lead breakage monitoring by control system.

If the loop resistance for the digital communication is too low, an internal resistor of 250 Ω between terminals 6 and 8 is available, which may be used as the HART communication resistor.

Sockets for the connection of a HART communicator are integrated into the terminals of the device.

Assembly

Front view

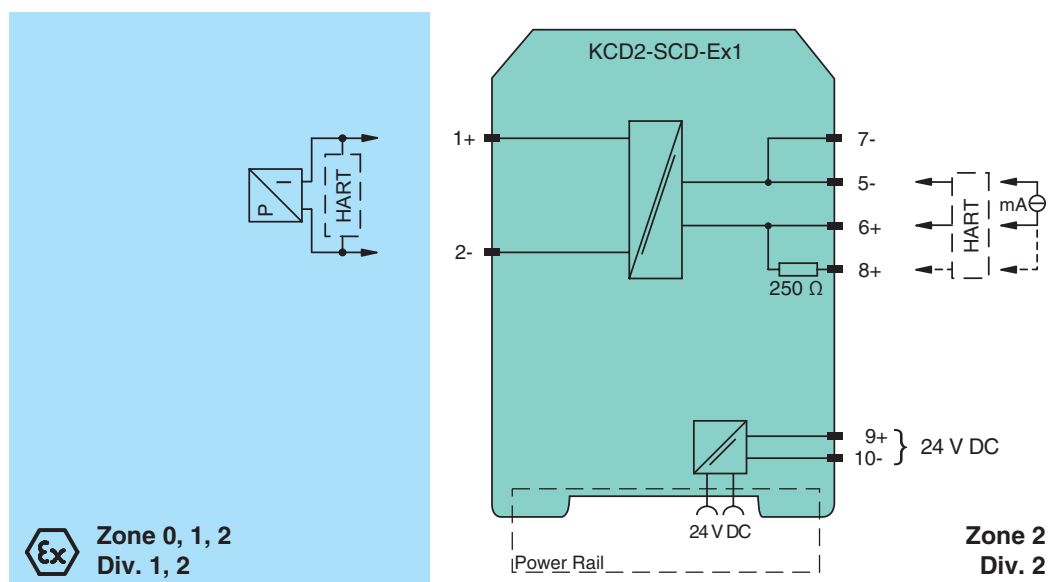


CE



SIL2

Connection



General specifications	
Signal type	Analog output
Supply	
Connection	Power Rail or terminals 9+, 10-
Rated voltage	19 ... 30 V DC
Ripple	≤ 10 %
Rated current	≤ 30 mA
Power loss	≤ 600 mW
Power consumption	≤ 700 mW
Input	
Connection	terminals 5-, 6+
Input signal	4 ... 20 mA limited to approx. 30 mA
Voltage drop U_d	approx. 6 V or internal resistance 300 Ω at 20 mA
Input resistance	> 100 kΩ at max. 23 V, with field wiring open
Output	
Connection	terminals 1+, 2-
Current	4 ... 20 mA
Load	0 ... 650 Ω
Voltage	≥ 13 V at 20 mA
Ripple	20 mV _{rms}
Transfer characteristics	
Deviation	at 20 °C / 0/4 ... 20 mA ≤ ± 0.1 % incl. non-linearity and hysteresis
Influence of ambient temperature	< 2 μA/°C (0 ... +60 °C); < 4 μA/°C (-20 ... 0 °C)
Frequency range	hazardous area into the safe area: bandwidth with 0.5 V _{ss} 0 ... 3 kHz (-3 dB) safe area into the hazardous area: bandwidth with 0.5 V _{ss} 0 ... 3 kHz (-3 dB)
Rise time	10 to 90 % ≤ 100 ms
Electrical isolation	
Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	reinforced insulation according to IEC 61140, rated insulation voltage 300 V _{eff}
Output/power supply	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Indicators/settings	
LED PWR	green
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IP20 according to EN 60529
Ambient conditions	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 100 g
Dimensions	12.5 x 114 x 124 mm (0.5 x 4.5 x 4.9 in) , housing type A2
Data for application in connection with Ex-areas	
EC-Type Examination Certificate	CESI 06 ATEX 021 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	Ⓔ II (1)GD [EEx ia] IIC, [Ex ia D] [circuit(s) in zone 0/1/2/20/21/22]
Output	Ex ia IIC, Ex iaD
Supply	
Maximum safe voltage U_m	253 V AC (Attention! U_m is no rated voltage.)
Equipment	
Voltage U_o	25.2 V
Current I_o	100 mA
Power P_o	630 mW
Statement of conformity	
Group, category, type of protection, temperature classification	Ⓔ II 3G Ex nA II T4 X
Directive conformity	
Directive 94/9/EC	EN 50014, EN 50020, pr EN 61241-11, EN 50284, EN 60079-15
International approvals	
FM approval	
Control drawing	16-533FM-12 (cFMus)

UL approval	
Control drawing	16-533FM-12 (cULus)
IECEX approval	IECEX CES 06.0001
Approved for	[Ex ia] IIC
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 .

Accessories

Power feed modules KFD2-EB2...

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

The Power Rail must not be fed via the device terminals of the individual devices!