

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Output 20.4 mA at 13.5 V DC
- 19 V DC ... 30 V DC input
- Line fault detection (LFD)
- Conformal coating
- Up to SIL3 acc. to IEC 61508

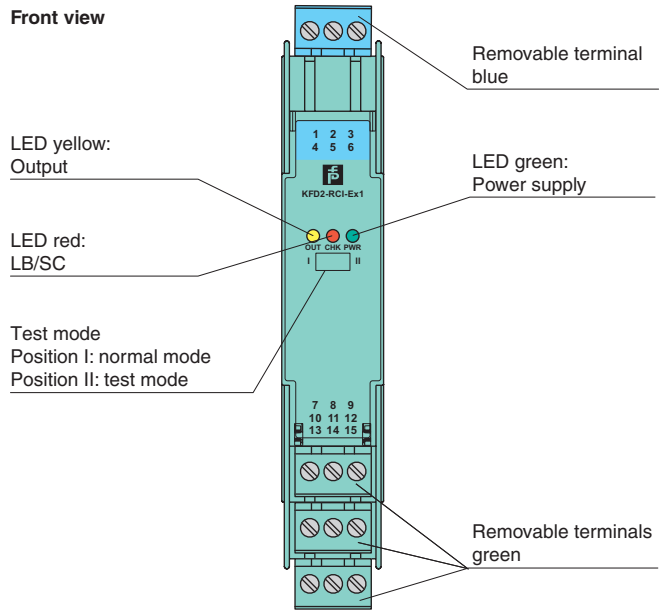
Function

This isolated barrier is used for intrinsic safety applications. The device can be used in shut down applications with HART positioners.

Via the logic input the positioner is energized or de-energized (shut down). Independent of the status, a second input enables HART communication with the positioner. With this the asset management system can request for example diagnostic information or can initiate a partial stroke test. The HART communication also works with de-energized positioner.

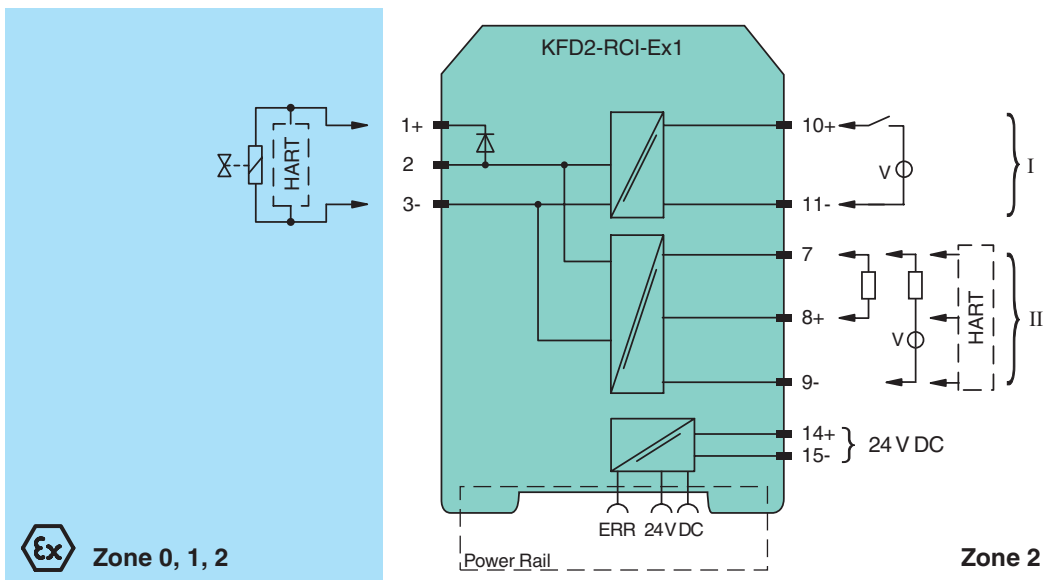
A unique collective error messaging feature is available when used with the Power Rail system.

Assembly



SIL3


Connection



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General specifications		
Signal type		Digital Output
Supply		
Connection		Power Rail or terminals 14+, 15-
Rated voltage		19 ... 30 V DC
Rated current		< 35 mA
Power consumption		< 0.8 W
Input		
Connection		terminals 10+, 11-
Input current		40 mA at 19 ... 30 V DC
Signal level		1-signal: 19 ... 30 V DC 0-signal: 0 ... 5 V DC
Power consumption		< 1.2 W
Operating mode		loop powered
Input I		
Number of channels		1
Connection		terminals 10+, 11-
Input current		40 mA at 19 ... 30 V DC
Power consumption		< 1.2 W
Operating mode		loop powered
Signal level		1-signal: 19 ... 30 V DC 0-signal: 0 ... 5 V DC
Input II		
Connection		terminal 7: source (-) or sink (+), terminal 8: source (+), terminal 9: sink (-)
Input current		fixed at 11 mA , source or sink mode
Input voltage		9 ... 30 V , sink mode from external supply
Load		≤ 600 Ω , source mode , for HART ≥ 230 Ω
Communication		pass-through of HART signal between input and output
Output		
Connection		terminals 1+, 3- (terminals 1+, 2 for test loop)
Current		1-signal: 20.4 mA 0-signal: 4.2 mA
Load		≤ 650 Ω
Output voltage		> 13.5 V at 20,4 mA
Response time		input to output < 40 ms
Line fault detection		short circuit voltage < 1 V , open circuit voltage > 16 V
Electrical isolation		
Input/power supply		functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Output II/power supply		functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Conformity		
Electromagnetic compatibility		NE 21:2006
Protection degree		IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Protection degree		IP20
Mass		approx. 150 g
Dimensions		20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in) , housing type B2
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		CESI 09 ATEX 037 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		Ⓔ II (1)GD [Ex ia] IIC; [Ex iaD] [circuit(s) in zone 0/1/2/20/21/22]
Equipment		terminals 1+, 2 / 3-
Voltage	U _o	25.4 V
Current	I _o	93.6 mA
Power	P _o	595 mW (linear characteristic)
Supply		
Maximum safe voltage	U _m	253 V (Attention! The rated voltage can be lower.)
Input		
Maximum safe voltage	U _m	253 V (Attention! The rated voltage can be lower.)
Collective error message		

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Maximum safe voltage	U_m	253 V (Attention! The rated voltage can be lower.)
Statement of conformity		PF 09 CERT 1438 X
Group, category, type of protection, temperature class		 II 3G Ex nA II T4
Electrical isolation		
Output I/other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0, EN 60079-11, EN 60079-15, EN 60079-26, EN 61241-0, EN 61241-11
International approvals		
IECEX approval		IECEX CES 09.0008
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 module 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 150 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.

Profile Rail K-DUCT with Power Rail

The profile rail K-DUCT is an aluminum profile rail with Power Rail insert and two integral cable ducts for system and field cables. Due to this assembly no additional cable guides are necessary.



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