

Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- Input 2-wire and 3-wire transmitters and 2-wire current sources
- Output 0/4 mA ... 20 mA
- 2 relay contact outputs
- Programmable high/low alarm
- Linearization function (max 20 points)
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508/IEC 61511

Function

This isolated barrier is used for intrinsic safety applications. The device supplies 2-wire and 3-wire transmitters, and can also be used with current sources.

Two relays and an active 0/4 mA ... 20 mA current source are available as outputs. The relay contacts and the current output can be integrated in security-relevant circuits. The current output is easily scaled.

On the display the measured value can be indicated in various physical units.

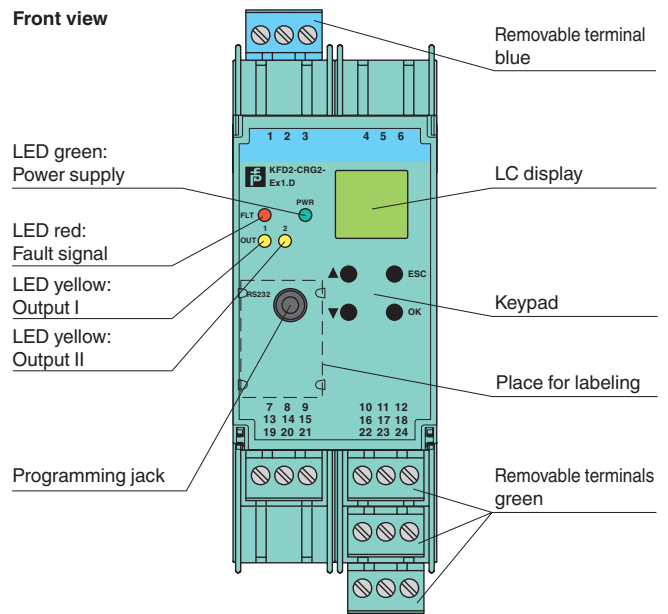
The device is easily configured by the use of keypad or with the PACTware configuration software.

The input has a line fault detection.

A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output.

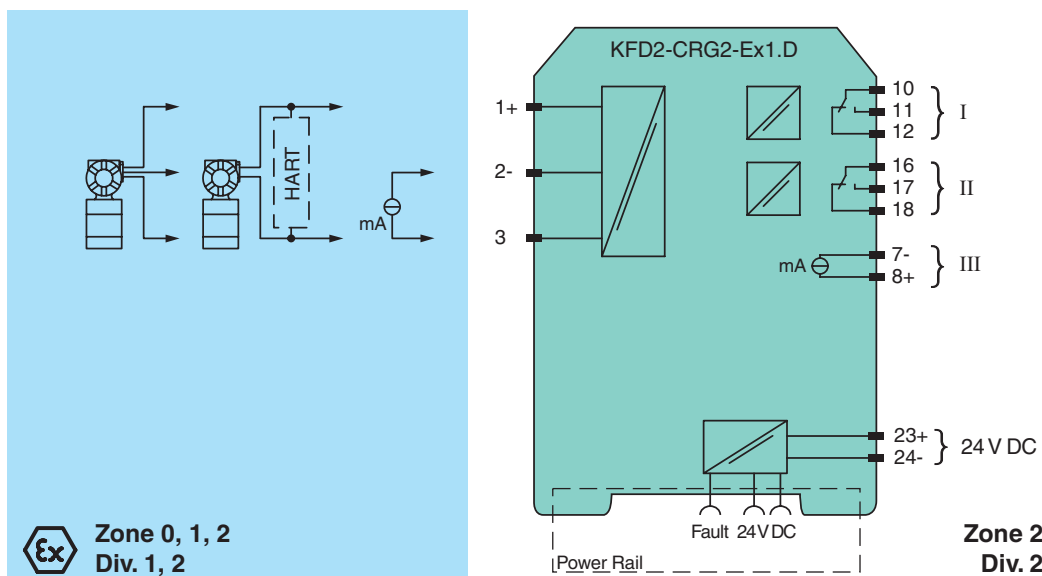
For additional information, refer to the manual and www.pepperl-fuchs.com.

Assembly



SIL2

Connection



Ex Zone 0, 1, 2 Div. 1, 2

Zone 2
Div. 2

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

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General specifications		
Signal type		Analog input
Supply		
Connection		Power Rail or terminals 23+, 24-
Rated voltage	U_n	20 ... 30 V DC
Rated current	I_n	approx. 130 mA
Power loss		2 W
Power consumption		2.5 W
Input		
Connection		terminals 1, 2, 3
Input I		
Input signal		0/4 ... 20 mA
Available voltage		≥ 15 V at 20 mA
Open circuit voltage/short-circuit current		24 V / 33 mA
Input resistance		45 Ω (terminals 2, 3)
Lead monitoring		breakage I < 0.2 mA; short-circuit I > 22 mA
Output		
Connection		output I: terminals 10, 11, 12 output II: terminals 16, 17, 18 output III: terminals 8+, 7-
Output signal		0 ... 20 mA or 4 ... 20 mA
Output I, II		
Contact loading		250 V AC / 2 A / $\cos \phi \geq 0.7$; 40 DC / 2 A
Mechanical life		5×10^7 switching cycles
Output III		
Current range		0 ... 20 mA or 4 ... 20 mA
Open loop voltage		≤ 24 V DC
Load		$\leq 650 \Omega$
Fault signal		downscale I ≤ 3.6 mA, upscale I ≥ 21 mA (acc. NAMUR NE43)
Transfer characteristics		
Input I		
Accuracy		< 30 μ A
Influence of ambient temperature		0.003 %/K (30 ppm)
Output I, II		
Response delay		≤ 200 ms at bounce from 0 ... 20 mA
Output III		
Resolution		$\leq 10 \mu$ A
Accuracy		< 20 μ A
Influence of ambient temperature		0.005 %/K (50 ppm)
Reaction time		< 650 ms at bounce from 0 ... 20 mA at the input, 90 % of output full-scale value
Electrical isolation		
Input/Other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output I, II/other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Mutual output I, II, III		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output III/power supply and collective error		functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Interface/power supply and collective error		functional insulation acc. to IEC 62103, rated insulation voltage 50 V _{eff}
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
Low voltage		
Directive 2006/95/EC		EN 61010-1:2010
Conformity		
Electromagnetic compatibility		
Degree of protection		NE 21:2006 IEC 60529:2001
Ambient conditions		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		300 g
Dimensions		40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001

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Data for application in connection with Ex-areas		
EC-Type Examination Certificate		TÜV 01 ATEX 1701 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		(Ex) II (1)G [Ex ia Ga] IIC (Ex) II (1)D [Ex ia Da] IIIC (Ex) I (M1) [Ex ia Ma] I
Input		Ex ia
Supply		
Maximum safe voltage	U_m	40 V DC (Attention! The rated voltage can be lower.)
Equipment		terminals 1+, 3-
Voltage	U_o	25.8 V
Current	I_o	93 mA
Power	P_o	0.603 W
Equipment		terminals 2-, 3
Voltage	U_i	< 30 V
Current	I_i	115 mA
Voltage	U_o	5 V
Current	I_o	0.3 mA
Power	P_o	0.3 mW
Equipment		terminals 1+, 2 / 3-
Voltage	U_o	25.8 V
Current	I_o	112 mA
Power	P_o	720 mW
Output I, II		terminals 10, 11, 12; 16, 17, 18 non-intrinsically safe
Maximum safe voltage	U_m	253 V AC / 40 V DC (Attention! U_m is no rated voltage.)
Contact loading		253 V AC/2 A/cos ϕ > 0.7; 40 V DC/2 A resistive load (TÜV 01 ATEX 1701)
Output III		terminals 8+, 7- non-intrinsically safe
Maximum safe voltage	U_m U_m	40 V (Attention! The rated voltage can be lower.)
Interface		RS 232
Maximum safe voltage	U_m	40 V (Attention! The rated voltage can be lower.) , RS 232
Statement of conformity		TÜV 02 ATEX 1885 X , observe statement of conformity
Group, category, type of protection, temperature class		(Ex) II 3G Ex nA nC IIC T4
Output I, II		
Contact loading		50 V AC/2 A/cos ϕ > 0.7; 40 V DC/1 A resistive load
Electrical isolation		
Input/Other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2012 , EN 60079-11:2012 , EN 60079-15:2010 , EN 60079-26:2007
International approvals		
FM approval		
Control drawing		16-554FM-12 (cFMus)
IECEX approval		IECEX TUN 09.0007
Approved for		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
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 .

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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!

PACT_{ware}™

Device-specific drivers (DTM)

Adapter K-ADP-USB

Programming adapter for parameterisation via the serial USB interface of a PC/Notebook