

**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
- Adjustable energized/de-energized delay
- Programmable high/low alarm
- Linearization function (max 20 points)
- Line fault detection (LFD)
- Up to SIL 2 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.

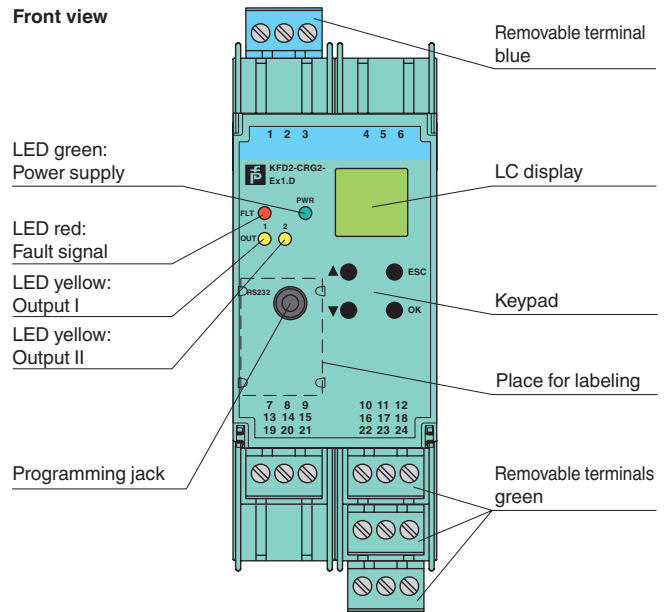
The device is easily configured by the use of keypad or with the PACTware configuration software.

The input has a line fault detection.

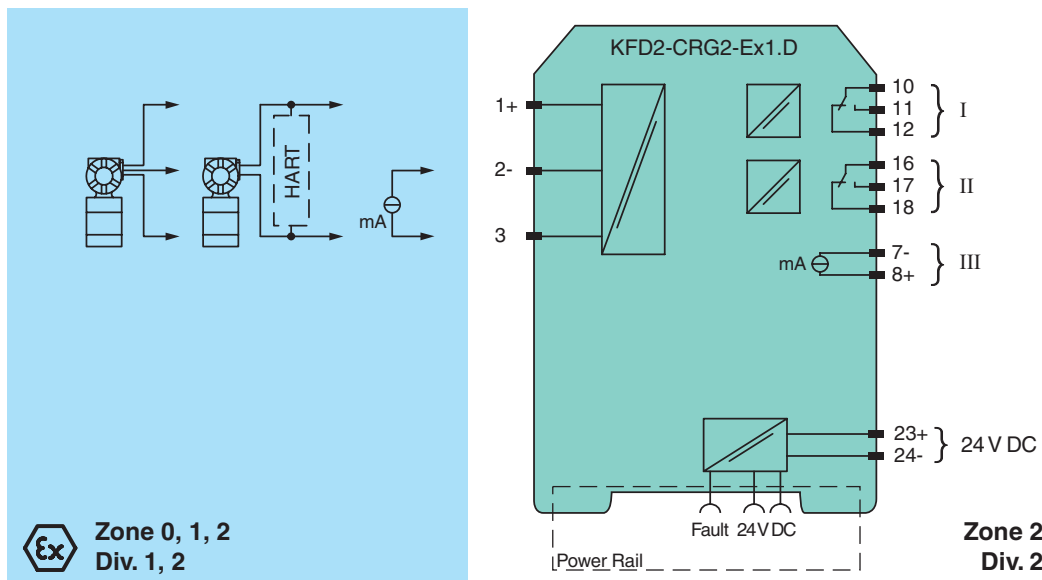
A fault is signaled by LEDs acc. to NAMUR NE44 and a separate collective error message output.

For additional information, refer to the manual and [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

**Assembly**



**Connection**



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

<b>General specifications</b>		
Signal type		Analog input
<b>Functional safety related parameters</b>		
Safety Integrity Level (SIL)		SIL 2
<b>Supply</b>		
Connection		Power Rail or terminals 23+, 24-
Rated voltage	$U_r$	20 ... 30 V DC
Rated current	$I_r$	approx. 130 mA
Power dissipation		2 W
Power consumption		2.5 W
<b>Interface</b>		
Programming interface		programming socket
<b>Input</b>		
Connection side		field side
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)
Line fault detection		breakage I < 0.2 mA; short-circuit I > 22 mA
<b>Output</b>		
Connection side		control side
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		signal, relay
Contact loading		250 V AC / 2 A / $\cos \phi \geq 0.7$ ; 40 DC / 2 A
Mechanical life		$5 \times 10^7$ switching cycles
Output III		Signal, analog
Current range		0 ... 20 mA or 4 ... 20 mA
Open loop voltage		≤ 24 V DC
Load		≤ 650 Ω
Fault signal		downscale I ≤ 3.6 mA, upscale I ≥ 21 mA (acc. NAMUR NE43)
Energized/De-energized delay		0 ... 250 s , adjustable
<b>Transfer characteristics</b>		
Input I		
Accuracy		< 30 μA
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		≤ 10 μA
Accuracy		< 20 μA
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
<b>Galvanic isolation</b>		
Input/Other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output I, II/other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Mutual output I, II, III		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output III/power supply and collective error		functional insulation acc. to IEC 62103, rated insulation voltage 50 V <sub>eff</sub>
Interface/power supply and collective error		functional insulation acc. to IEC 62103, rated insulation voltage 50 V <sub>eff</sub>
<b>Indicators/settings</b>		
Display elements		LEDs , display
Control elements		Control panel
Configuration		via operating buttons via PACTware
Labeling		space for labeling at the front
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)

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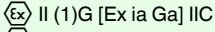
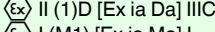
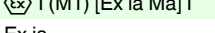
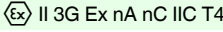
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

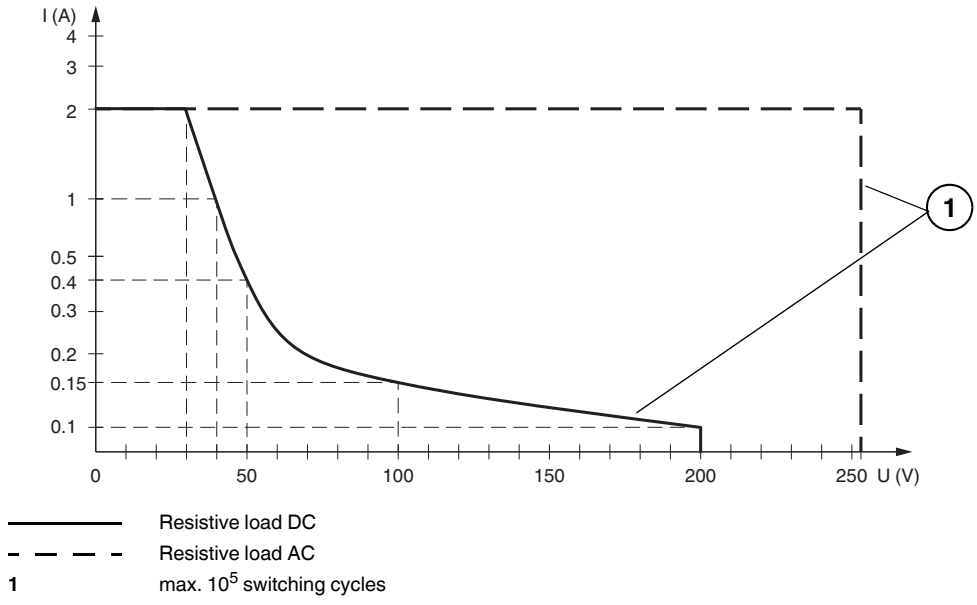
Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

Low voltage		
Directive 2014/35/EU		EN 61010-1:2010
<b>Conformity</b>		
Electromagnetic compatibility		NE 21:2006
Degree of protection		IEC 60529:2001
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		screw terminals
Mass		300 g
Dimensions		40 x 119 x 115 mm (1.6 x 4.7 x 4.5 inch) , housing type C3
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with hazardous areas</b>		
EU-Type Examination Certificate		TÜV 01 ATEX 1701
Marking		 II (1)G [Ex ia Ga] IIC  II (1)D [Ex ia Da] IIIC  I (M1) [Ex ia Ma] I
Input		Ex ia
<b>Supply</b>		
Maximum safe voltage	$U_m$	40 V DC (Attention! The rated voltage can be lower.)
<b>Equipment</b>		
		terminals 1+, 3-
Voltage	$U_o$	25.8 V
Current	$I_o$	93 mA
Power	$P_o$	0.603 W
<b>Equipment</b>		
		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
<b>Equipment</b>		
		terminals 1+, 2 / 3-
Voltage	$U_o$	25.8 V
Current	$I_o$	112 mA
Power	$P_o$	720 mW
<b>Output I, II</b>		
		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 $\phi$ > 0.7; 40 V DC/2 A resistive load (TÜV 01 ATEX 1701)
<b>Output III</b>		
		terminals 8+, 7- non-intrinsically safe
Maximum safe voltage	$U_m U_m$	40 V (Attention! The rated voltage can be lower.)
<b>Interface</b>		
		RS 232
Maximum safe voltage	$U_m$	40 V (Attention! The rated voltage can be lower.) , RS 232
<b>Certificate</b>		
		TÜV 02 ATEX 1885 X
Marking		 II 3G Ex nA nC IIC T4
<b>Output I, II</b>		
Contact loading		50 V AC/2 A/cos $\phi$ > 0.7; 40 V DC/1 A resistive load
<b>Galvanic isolation</b>		
Input/Other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
<b>Directive conformity</b>		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
<b>FM approval</b>		
Control drawing		16-554FM-12 (cFMus)
<b>UL approval</b>		
		E223772
<b>IECEX approval</b>		
		IECEX TUN 09.0007
Approved for		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
<b>General information</b>		
Supplementary information		Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .
<b>Accessories</b>		

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Optional accessories	<ul style="list-style-type: none"> <li>- power feed module KFD2-EB2(.R4A.B)(.SP)</li> <li>- universal power rail UPR-03(-M)(-S)</li> <li>- profile rail K-DUCT-BU(-UPR-03)</li> <li>- FDT framework PACTware 4.1</li> <li>- device type manager DTM Interface Technology</li> <li>- adapter K-ADP-USB</li> </ul>
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### Maximum Switching Power of Output Contacts



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USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com