

**Features**

- 1-channel isolated barrier
- Universal usage at different power supplies
- 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.

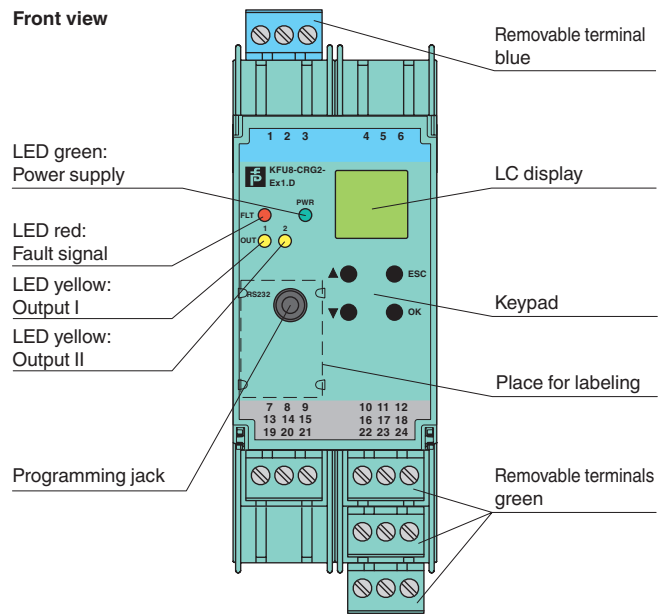
The device is easily configured by the use of keypad or with the PACTware configuration software.

The input has a line fault detection.

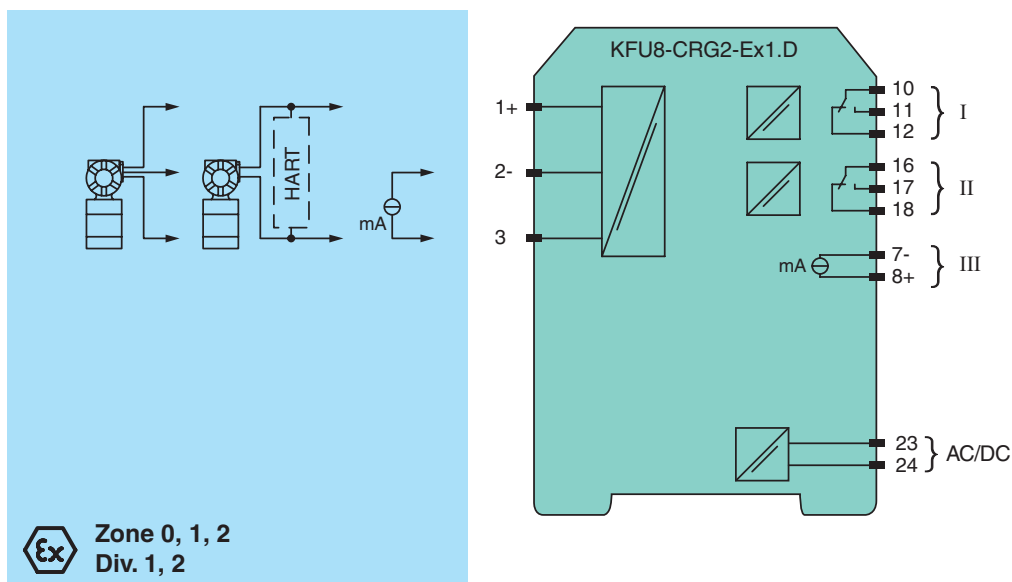
A fault is signaled by LEDs acc. to NAMUR NE44.

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>Supply</b>	
Connection	terminals 23, 24
Rated voltage $U_n$	20 ... 90 V DC or 48 ... 253 V AC
Power loss	2 W / 3 VA
Power consumption	2.2 W / 4 VA
<b>Input</b>	
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 $\Omega$ (terminals 2, 3)
Lead monitoring	breakage I < 0.2 mA; short-circuit I > 22 mA
<b>Output</b>	
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	$\leq 24$ V DC
Load	$\leq 650 \Omega$
Fault signal	downscale I $\leq 3.6$ mA, upscale I $\geq 21.5$ mA (acc. NAMUR NE43)
<b>Transfer characteristics</b>	
Input I	
Accuracy	< 30 $\mu$ A
Influence of ambient temperature	0.003 %/K (30 ppm)
Output I, II	
Response delay	$\leq 200$ ms at bounce from 0 ... 20 mA
Output III	
Resolution	$\leq 10 \mu$ A
Accuracy	< 20 $\mu$ 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
<b>Electrical 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	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Interface/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	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
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
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	TÜV 01 ATEX 1701 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>

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

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Group, category, type of protection	$\text{Ex}$ II (1)G [Ex ia Ga] IIC $\text{Ex}$ II (1)D [Ex ia Da] IIIC $\text{Ex}$ I (M1) [Ex ia Ma] I	
Input	Ex ia	
Supply		
Maximum safe voltage	$U_m$	253 V AC (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 $\phi$ > 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
Electrical isolation		
Input/Other circuits	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V	
Directive conformity		
Directive 94/9/EC	EN 60079-0:2012, EN 60079-11:2012, EN 60079-26:2007	
<b>International approvals</b>		
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	
<b>General information</b>		
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 <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .	

## Accessories

### PACT<sub>ware</sub>™

Device-specific drivers (DTM)

### Adapter K-ADP1

Programming adapter for parameterisation via the serial RS 232 interface of a PC/Notebook

For programming, please use the new version of adapter K-ADP1 (part no. 181953, connector length 14mm). When using the previous version K-ADP1 (connector length 18 mm) the plug is exposed by approx. 3 mm. The function is not affected.

### Adapter K-ADP-USB

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

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