



Transmitter Power Supply KFU8-CRG2-Ex1.D

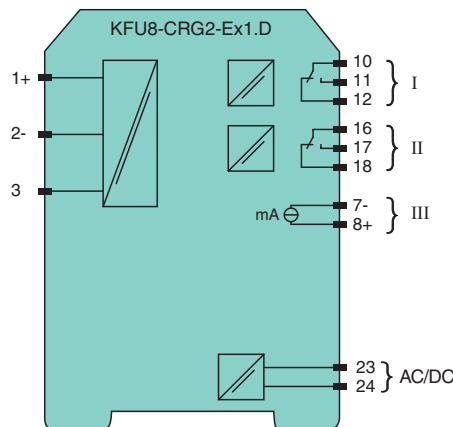
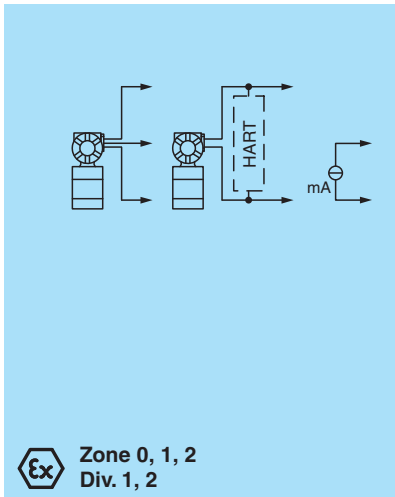
- 1-channel isolated barrier
- Universal usage at different power supplies
- Input 2-wire and 3-wire transmitters and 2-wire current sources
- Output 0/4 mA ... 20 mA
- 2 relay contact outputs
- Adjustable energized/de-energized delay
- Programmable high/low alarm
- Linearization function (max 20 points)
- Line fault detection (LFD)
- Up to SIL 2 acc. to IEC/EN 61508 / IEC/EN 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.

Connection



Technical Data

General specifications	
Signal type	Analog input
Functional safety related parameters	
Safety Integrity Level (SIL)	SIL 2
Supply	
Connection	terminals 23, 24
Rated voltage	U_r 20 ... 90 V DC or 48 ... 253 V AC
Power dissipation	2 W / 3 VA
Power consumption	2.2 W / 4 VA

Release date: 2023-01-03 Date of issue: 2023-01-03 Filename: 255622_eng.pdf

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

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Technical Data

Interface	
Programming interface	programming socket
Input	
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
Output	
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 x 10 ⁷ switching cycles
Output III	Signal, analog
Current range	0 ... 20 mA or 4 ... 20 mA
Open loop voltage	max. 24 V DC
Load	max. 650 Ω
Fault signal	downscale I \leq 3.6 mA, upscale I \geq 21.5 mA (acc. NAMUR NE43)
Energized/De-energized delay	0 ... 250 s , adjustable
Transfer characteristics	
Input I	
Accuracy	< 30 μ 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 μ 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
Galvanic 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	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Interface/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Indicators/settings	
Display elements	LEDs , display
Control elements	Control panel
Configuration	via operating buttons via PACTware
Labeling	space for labeling at the front
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)
Low voltage	
Directive 2014/35/EU	EN 61010-1:2010

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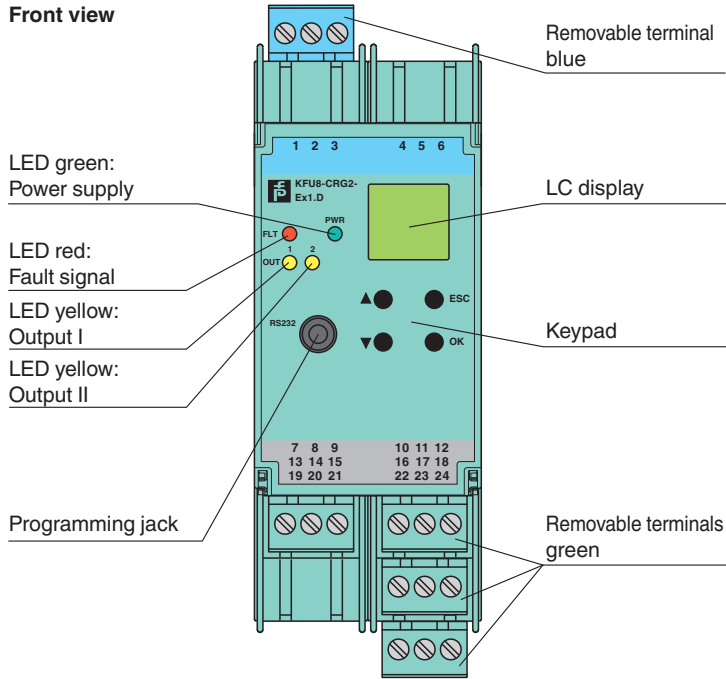
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Technical Data

Conformity			
Electromagnetic compatibility			NE 21:2006
Degree of protection			IEC 60529:2001
Ambient conditions			
Ambient temperature			-20 ... 60 °C (-4 ... 140 °F)
Mechanical specifications			
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) (W x H x D) , housing type C2
Mounting			on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with hazardous areas			
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
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 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			
Maximum safe voltage	U_m		40 V (Attention! The rated voltage can be lower.) , RS 232
Galvanic isolation			
Input/Other circuits			safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity			
Directive 2014/34/EU			EN 60079-0:2012+A11:2013 , EN 60079-11:2012
International approvals			
FM approval			
Control drawing			16-554FM-12 (cFMus)
IECEx approval			
IECEx certificate			IECEx TUN 09.0007
IECEx marking			[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
General information			
Supplementary information			Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com .

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Assembly



Matching System Components

	DTM Interface Technology	Device type manager (DTM) for interface technology
	PACTware 5.0	FDT Framework
	K-ADP-USB	Programming adapter with USB interface
	K-DUCT-BU	Profile rail, wiring comb field side, blue

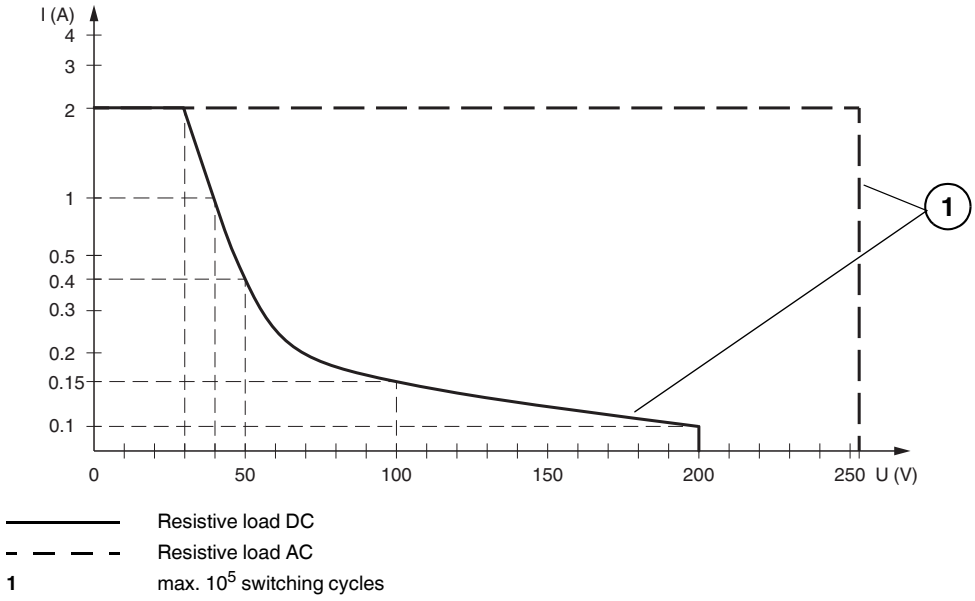
Accessories

	K-250R	Measuring resistor
	K-500R0%1	Measuring resistor
	KF-ST-5GN	Terminal block for KF modules, 3-pin screw terminal, green
	KF-ST-5BU	Terminal block for KF modules, 3-pin screw terminal, blue
	KF-CP	Red coding pins, packaging unit: 20 x 6

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Characteristic Curve

Maximum Switching Power of Output Contacts



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