



Transmitter Power Supply KFU8-CRG2-Ex1.D

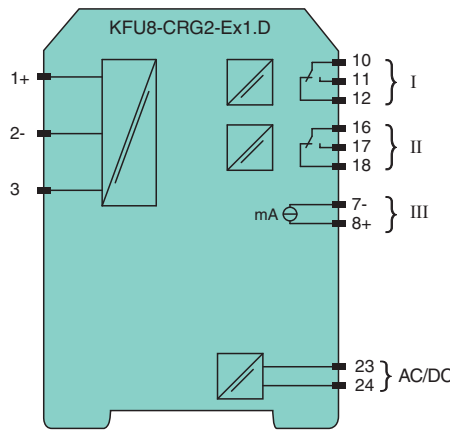
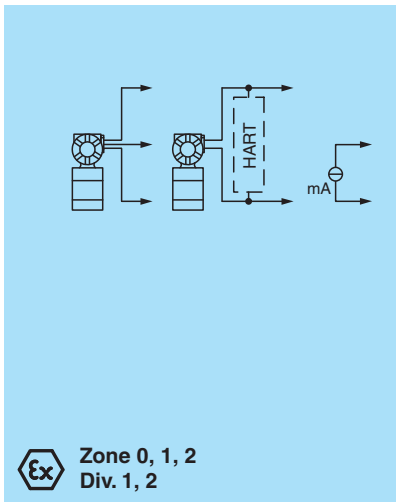
- 1-channel isolated barrier
- Universal usage at different power supplies
- Input 2-wire and 3-wire transmitters and 2-wire current sources
- Output 0/4 mA ... 20 mA
- 2 relay contact outputs
- Adjustable energized/de-energized delay
- Programmable high/low alarm
- Linearization function (max 20 points)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

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

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

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Technical Data

Power consumption	2.2 W / 4 VA
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	

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Directive 2014/35/EU	EN 61010-1:2010
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	RS 232
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	

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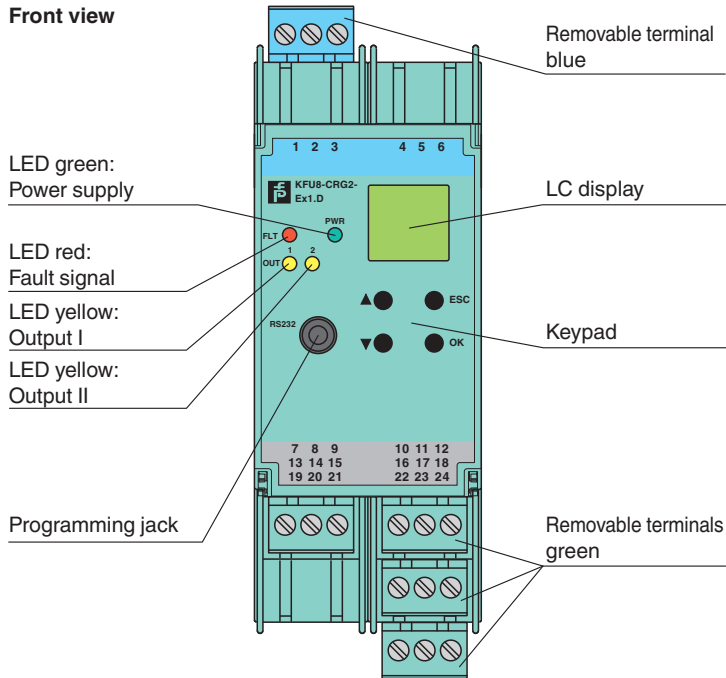
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
Technical Data

Supplementary information Observe the certificates, declarations of conformity, instruction manuals, and manuals where applicable. For information see www.pepperl-fuchs.com.





Assembly



Matching System Components


	DTM Interface Technology	Device type manager (DTM) for interface technology
	PACTware 5.X	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

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Accessories

	KF-CP	Red coding pins, packaging unit: 20 x 6
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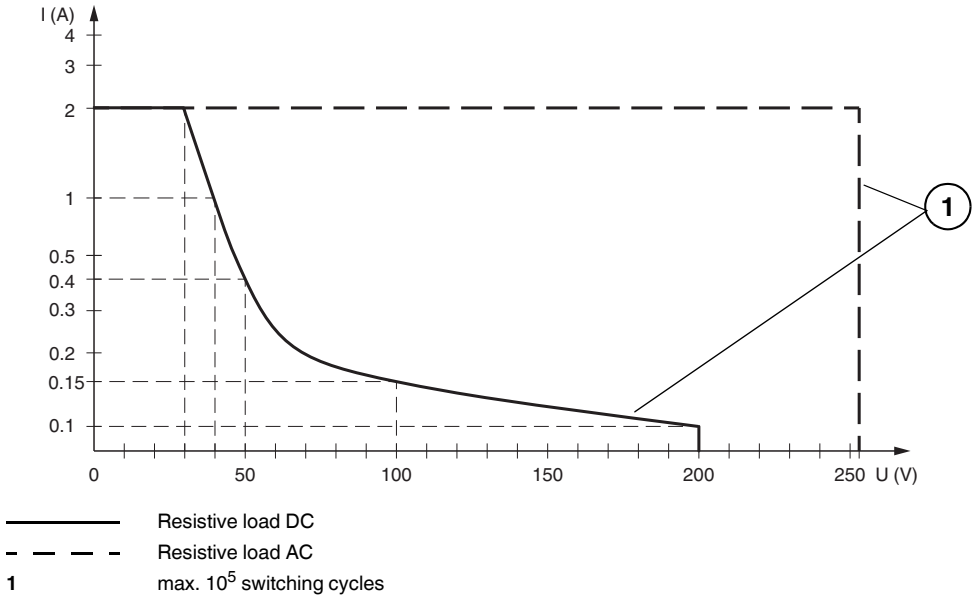
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Characteristic Curve

Maximum Switching Power of Output Contacts



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