Features

- 1-channel isolated barrier
- 24 V DC supply (Power Rail)
- 2-wire transmitters or current sources
- Output 0/4 mA ... 20 mA
- 2 relay contact outputs
- Programmable high/low alarm
- Configurable by **PACT***ware*™ or ke ypad
- Line fault detection (LFD)
- Up to SIL2 acc. to IEC 61508

Function

This isolated barrier is used for intrinsic safety applications. It is suitable for a variety of measuring tasks.

Active power supplies as well as 2-wire transmitters can be connected. Two relays and an active 0/4 mA ... 20 mA current source are available as outputs.

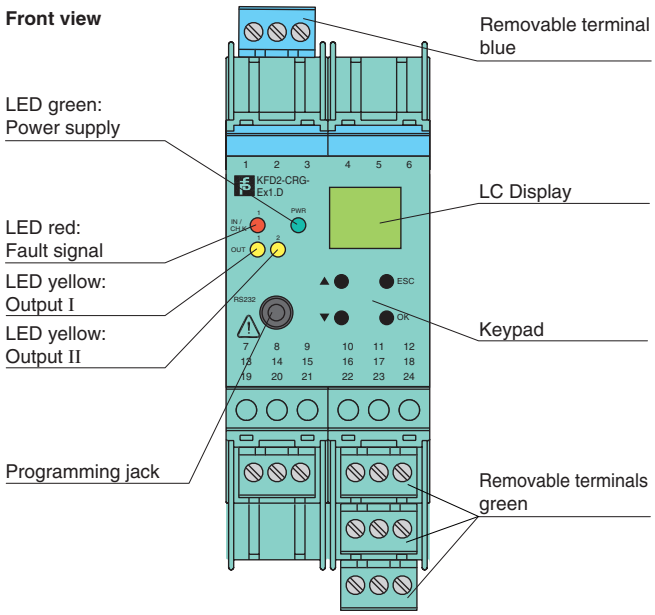
The relay contacts and the current output can be integrated in security-relevant circuits. The trip values of the relays are derived from the transmitter signal or the signal of a connected power source. The current output is easily scaled. The input has lead breakage and short circuit monitoring.

The unit is easily programmed by the use of a keypad located on the front of the unit or with the **PACT***ware*™ configuration software.

A unique collective error messaging feature is available when used with the Power Rail system.

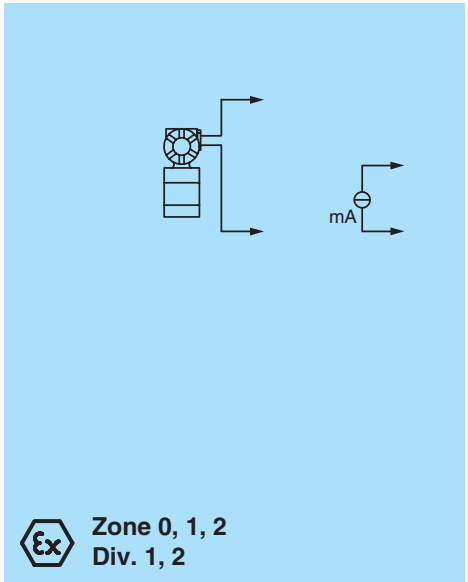
For additional information, refer to the manual and www.pepperl-fuchs.com.

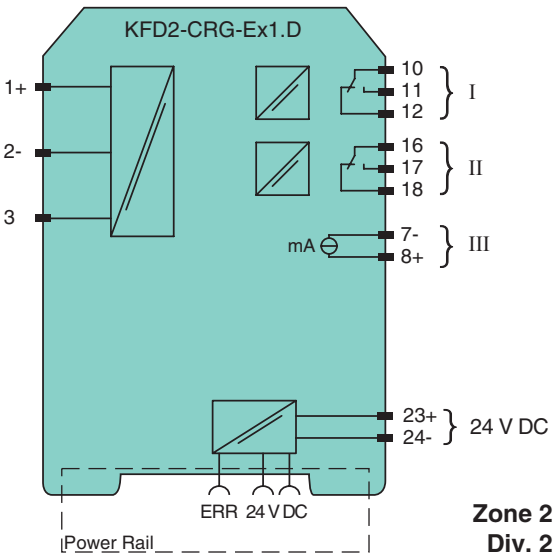
Assembly



SIL2

Connection





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Supply	
Connection	Power Rail or terminals 23+, 24-
Rated voltage	20 ... 30 V DC
Rated current	approx. 130 mA
Power loss	2 W
Power consumption	2.5 W
Input	
Connection	terminals 1, 2, 3
Input I	
Input signal	0 ... 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 acc. to NAMUR NE43
Output	
Connection	output I: terminals 10, 11, 12 output II: terminals 16, 17, 18 output III: terminals 8+, 7-
Output signal	0 ... 20 mA
Output I, II	signal, relay
Contact loading	250 V AC / 2 A / cos ϕ ≥ 0.7 ; 40 V DC / 2 A
Mechanical life	5 x 10^7 switching cycles
Energized/de-energized delay	approx. 20 ms / approx. 20 ms
Output III	signal, analogue
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)
Transfer characteristics	
Input I	
Accuracy	< 30 µA
Measuring time	< 100 ms
Influence of ambient temperature	0.003 %/°C (30 ppm)
Output I, II	
Response delay	≤ 200 ms
Output III	
Resolution	≤ 10 µA
Accuracy	< 20 µA
Influence of ambient temperature	0.005 %/°C (50 ppm)
Electrical isolation	
Output I, II/other circuits	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Mutual output I, II, III	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Output III/power supply and collective error	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Interface/power supply and collective error	reinforced insulation acc. to IEC 61140, rated insulation voltage 300 V_{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2
Low voltage	
Directive 73/23/EEC	EN 50178
Conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50178
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Protection against electric shock	IEC 61140
Input	EN 60947-5-6
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	300 g
Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3

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Data for application in conjunction with hazardous 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)GD [EEx ia] IIC [circuit(s) in zone 0/1/2]
Input		EEx ia IIC
Supply		
Safety maximum 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
Safety maximum 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) 50 V AC/2 A/cos ϕ > 0.7; 40 V DC/2 A resistive load (TÜV 02 ATEX 1885 X)
Output III		terminals 8+, 7- non-intrinsically safe
Safety maximum voltageU_m U_m		40 V (Attention! The rated voltage can be lower.)
Interface		RS 232
Safety maximum 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 classification		⟨Ex⟩ II 3G EEx nAC IIC T4 [device in zone 2]
Electrical isolation		
Input/other circuits		safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity		
Directive 94/9 EC		EN 50014, EN 50020, EN 50021
International approvals		
CSA approval		
Control drawing		116-0202
General information		
Supplementary information		EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com.

Accessories

Power feed modules 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 100 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.

The Power Rail must not be fed via the device terminals of the individual devices!

PACT*ware*™

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.

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Adapter K-ADP-USB

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

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