

# Relay Module KFD0-RO-Ex2

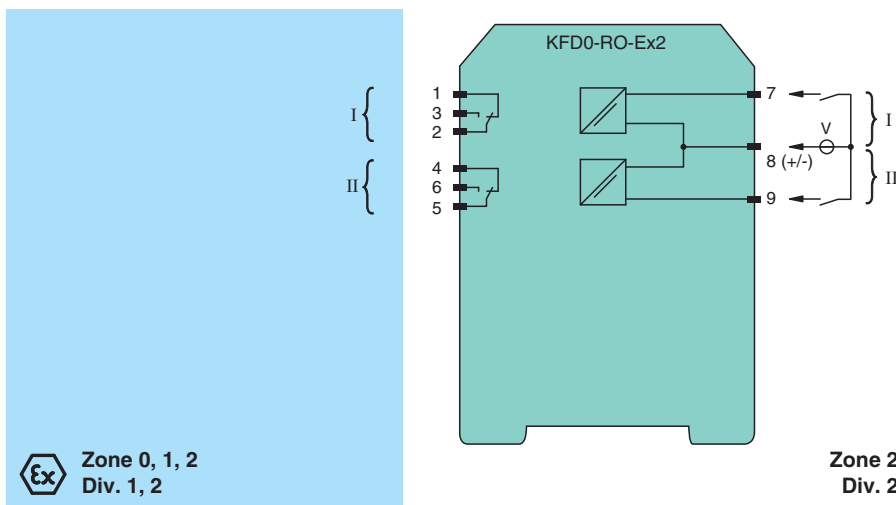
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Logic input 15 V DC ... 30 V DC, non-polarized
- Relay contact output
- Up to SIL 3 acc. to IEC/EN 61508



## Function

This isolated barrier is used for intrinsic safety applications. The device switches intrinsically safe circuits on the field side. Typical applications for the use of the device are remote reset, fire alarm testing or remote calibration of strain gauges. The outputs are galvanically isolated to the inputs. The inputs are not polarized and share a common reference potential. Each input of the device is protected by a fuse and an electronic current limiting.

## Connection



## Technical Data

<b>General specifications</b>	
Signal type	Digital Output
<b>Functional safety related parameters</b>	
Safety Integrity Level (SIL)	SIL 3
<b>Supply</b>	
Rated voltage	$U_r$ loop powered
Power dissipation	0.8 W
<b>Input</b>	
Connection side	control side
Connection	terminals 7, 8, 9
Input voltage	15 ... 30 V DC

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

## Technical Data

Input current	≤ 21 mA per channel	
<b>Output</b>		
Safety note	Attention! Combination of output Ex i with output <b>not</b> Ex i is <b>not</b> permitted. If load voltage > 50 V, de-energize before removing the terminals.	
Connection side	field side	
Connection	terminals 1, 2, 3; 4, 5, 6	
Contact loading	230 V AC/2 A/cos φ > 0.7; 40 V DC/2 A resistive load	
Energized/De-energized delay	approx. 10 ms / approx. 5 ms	
Mechanical life	5 x 10 <sup>6</sup> switching cycles	
<b>Transfer characteristics</b>		
Switching frequency	< 10 Hz	
<b>Galvanic isolation</b>		
Input/Output	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>	
Output/Output	basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>	
<b>Indicators/settings</b>		
Display elements	LEDs	
Labeling	space for labeling at the front	
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations)	
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 ... 65 °C (-4 ... 149 °F)	
<b>Mechanical specifications</b>		
Degree of protection	IP20	
Connection	screw terminals	
Mass	approx. 100 g	
Dimensions	20 x 119 x 115 mm (0.8 x 4.7 x 4.5 inch) (W x H x D) , housing type B2	
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	DMT 00 ATEX E 016	
Marking	Ⓢ II (1)G [Ex ia Ga] IIC Ⓢ II (1)D [Ex ia Da] IIIC Ⓢ I (M1) [Ex ia Ma] I	
Output	Ex ia	
Voltage	U <sub>i</sub>	60 V
Current	I <sub>i</sub>	2 A
<b>Input</b>		
Maximum safe voltage	U <sub>m</sub>	40 V DC (Attention! U <sub>m</sub> is no rated voltage.)
<b>Output</b>		
Contact loading	50 V AC/2 A ; 40 V DC/2 A (TÜV 00 ATEX 1621 X)	
Certificate	TÜV 00 ATEX 1621 X	
Marking	Ⓢ II 3G Ex nA nC IIC T4	
<b>Galvanic isolation</b>		
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Output/Output	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 60 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>		
FM approval		

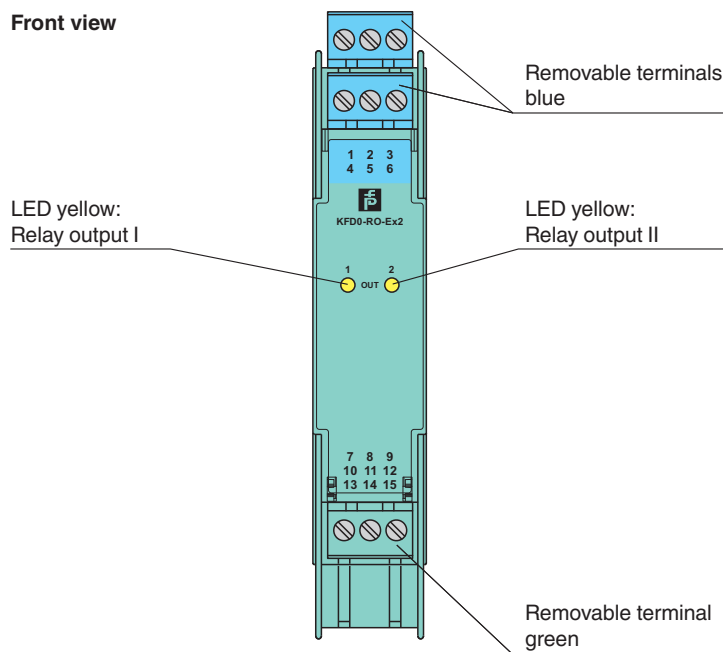
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## Technical Data

Control drawing	116-0261
CSA approval	
Control drawing	116-0156
IECEX approval	
IECEX certificate	IECEX BVS 10.0025
IECEX marking	[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> .

## Assembly



### Front view



## Matching System Components

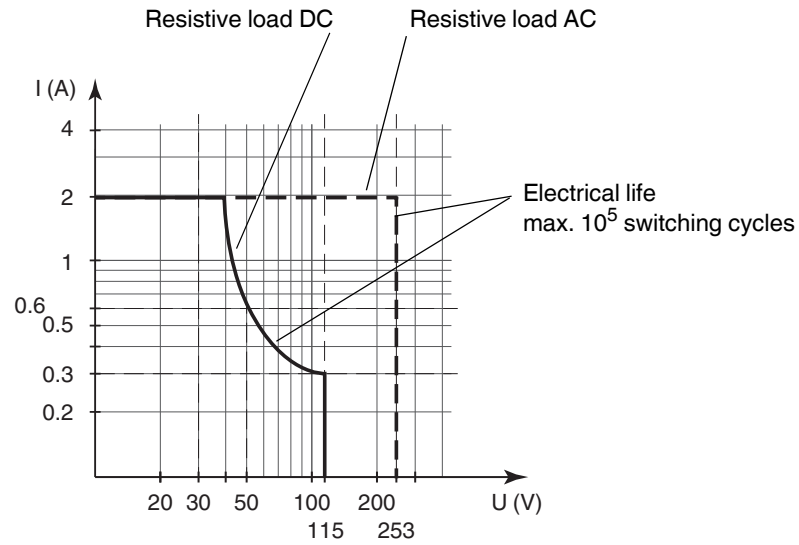
	<b>K-DUCT-BU</b>	Profile rail, wiring comb field side, blue
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## Accessories

	<b>KF-ST-5GN</b>	Terminal block for KF modules, 3-pin screw terminal, green
	<b>KF-CP</b>	Red coding pins, packaging unit: 20 x 6

**Characteristic Curve**

**Maximum switching power of output contacts**



The maximum number of switching cycles is depending on the electrical load and may be higher when reduced currents and voltages are applied.

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