

Relay Module

KFD0-RO-Ex2

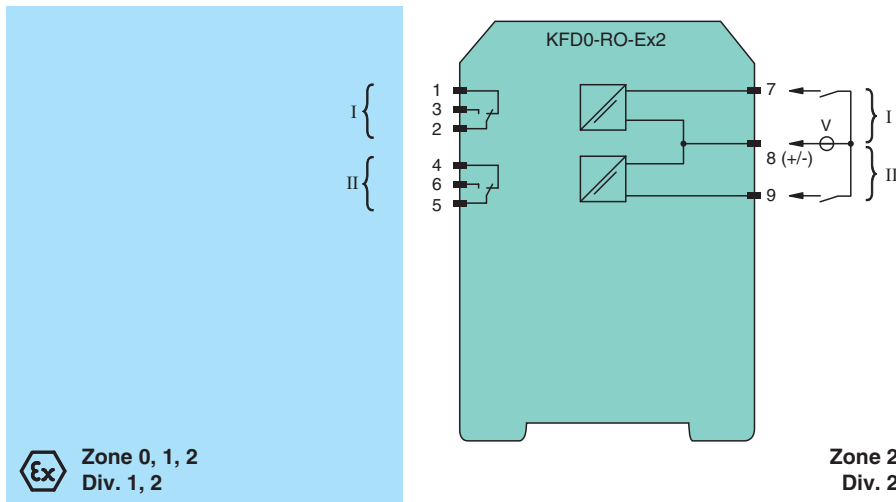
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Logic input 15 V DC ... 30 V DC, non-polarized
- Relay contact output
- Up to SIL 3 acc. to IEC/EN 61508



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

General specifications

Signal type Digital Output

Functional safety related parameters

Safety Integrity Level (SIL) SIL 3

Supply

Rated voltage U_r 15 ... 30 V DC , loop powered

Power dissipation 0.8 W

Input

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".

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Technical Data

Input current	≤ 21 mA per channel	
Output		
Safety note	Attention! Combination of output Ex i with output not Ex i is not 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 ⁶ switching cycles	
Transfer characteristics		
Switching frequency	< 10 Hz	
Galvanic isolation		
Input/Output	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Output/Output	basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}	
Indicators/settings		
Display elements	LEDs	
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	
Conformity		
Electromagnetic compatibility	NE 21:2006	
Degree of protection	IEC 60529:2001	
Ambient conditions		
Ambient temperature	-20 ... 65 °C (-4 ... 149 °F)	
Mechanical specifications		
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	
Data for application in connection with hazardous areas		
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 _i	60 V
Current	I _i	2 A
Input		
Maximum safe voltage	U _m	40 V DC (Attention! U _m is no rated voltage.)
Output		
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	
Galvanic isolation		
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	
Directive conformity		
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010	
International approvals		
FM approval		

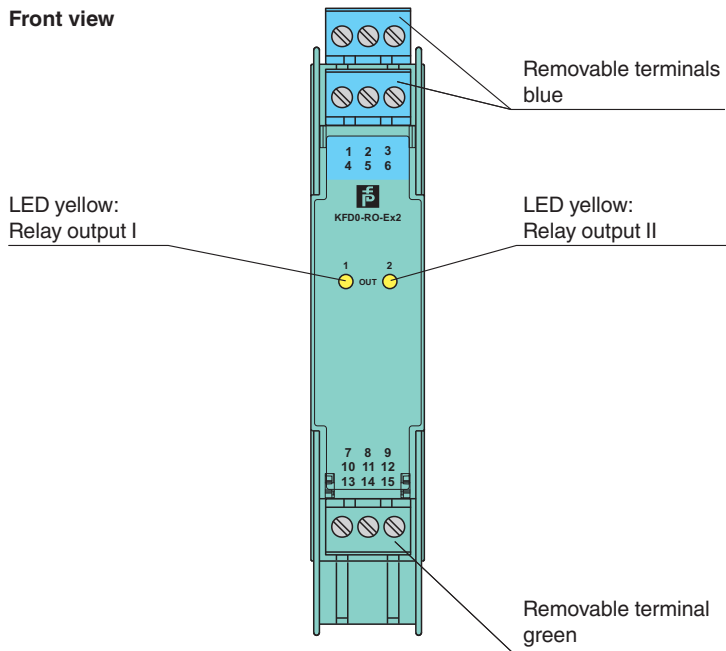
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Technical Data

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

Assembly

Front view

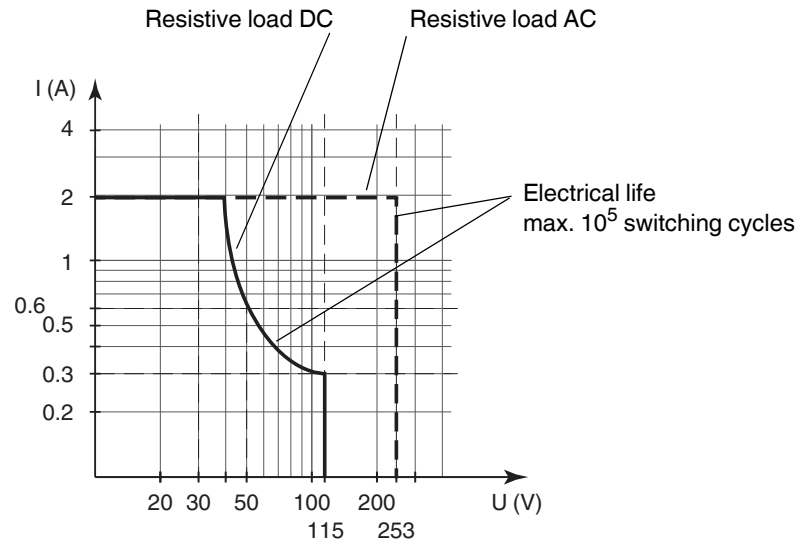


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Characteristic Curve

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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