

Features

- 1-channel isolated barrier
- 115 V AC supply
- Dry contact or NAMUR inputs
- Relay contact and transistor output
- Adjustable output timer functions from 10 ms ... 60 min
- Input frequency up to 80 Hz; pulse divider up to 1 kHz
- Reset function
- Configurable by keypad
- Line fault detection (LFD)

Function

This isolated barrier is used for intrinsic safety applications. It is a highly configurable timer that accepts a digital signal (NAMUR sensor/mechanical contact) from a hazardous area and is commonly used in applications requiring on-delay, off-delay, one-shot, or pulse lengthening.

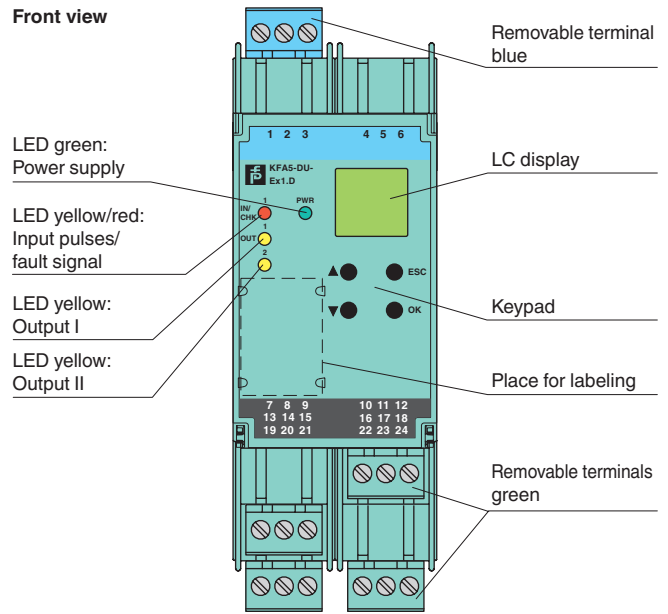
The output relay switch duration is easily adjusted, and a pulse divider function allows step-down ratios from 1:1 to 9999:1.

A reset can be activated via dry contact switch and used to terminate a particular time function.

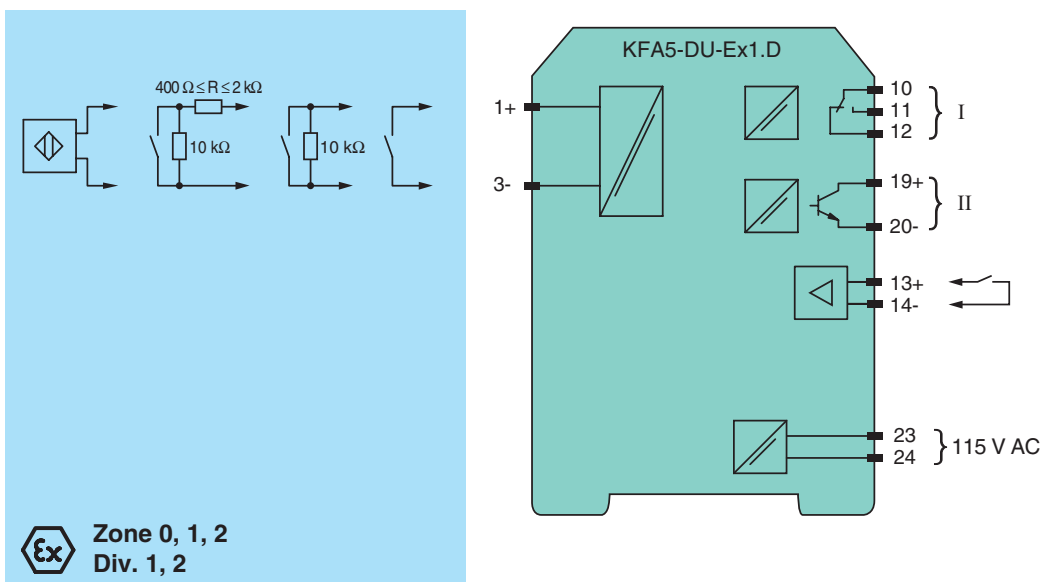
The unit is easily programmed by the use of a keypad located on the front of the unit. Line fault detection of the field circuit is indicated by a red LED.

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

Assembly



Connection



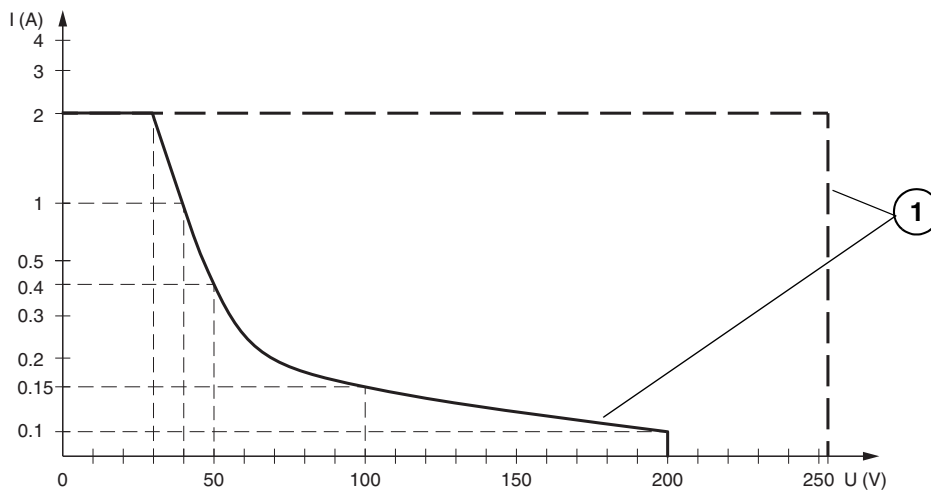
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General specifications		
Signal type		Digital Input
Supply		
Connection		terminals 23, 24
Rated voltage	U_r	115 V AC \pm 10 %
Rated current	I_r	35 mA
Power consumption		4 VA
Input		
Connection side		field side
Connection		Input I: terminals 1+, 3- ; input II: terminals 13+, 14-
Input I		acc. to EN 60947-5-6 (NAMUR), see system description for electrical data
Open circuit voltage/short-circuit current		8.2 V / 10 mA
Switching point/switching hysteresis		1.2 ... 2.1 mA / approx. 0.2 mA
Pulse duration		\geq 75 μ s / 1 ms see instruction manuals; the maximum input frequency has to be observed.
Input frequency		0 ... 80 Hz , pulse divider 0 ... 1 kHz
Line fault detection		breakage I \leq 0.15 mA; short-circuit I $>$ 6.5 mA
Input II		reset
Active/Passive		I $>$ 3 mA / I $<$ 1.5 mA
Open circuit voltage/short-circuit current		12 V / 3.5 mA
Pulse duration		\geq 10 ms
Output		
Connection side		control side
Connection		output I: terminals 10, 11, 12 ; output II: terminals 19+, 20-
Output I		signal , Relay output
Contact loading		253 V AC/ 2 A / $\cos \phi \geq 0.7$; 40 V DC/ 2 A
Mechanical life		5×10^7 switching cycles
Energized/De-energized delay		approx. 20 ms / approx. 20 ms
Output II		signal , electronic unit, isolated
Contact loading		40 V / 50 mA
Energized/De-energized delay		after rising input flank 3 ms ; after falling input flank 2 ms
Signal level		1-signal: (L+) -2.5 V (50 mA, short-circuit/overload proof) 0-signal: blocked output (off-state current \leq 10 μ A)
Transfer characteristics		
Input I		
Resolution		$<$ 0.1 % of the set value, min. 10 ms
Accuracy		2 ms
Influence of ambient temperature		0.003 %/K (50 ppm)
Galvanic isolation		
Input I/other circuits		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output I/power supply and reset		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output I, II against each other		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output II/power supply		reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V _{eff}
Output II/reset		basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V _{eff}
Reset/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
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		
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		approx. 300 g

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Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 inch) , housing type C3	
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 99 ATEX 1408	
Marking	Ex II (1)G [Ex ia Ga] IIC Ex II (1)D [Ex ia Da] IIIC Ex I (M1) [Ex ia Ma] I	
Supply		
Maximum safe voltage	U_m	253 V AC (Attention! The rated voltage can be lower.)
Input I	terminals 1+, 3-: Ex ia	
Voltage	U_o	10.1 V
Current	I_o	13.5 mA
Power	P_o	34 mW (linear characteristic)
Input II	terminals 13+, 14- non-intrinsically safe	
Maximum safe voltage	U_m	40 V (Attention! The rated voltage can be lower.)
Output I	terminals 10, 11, 12 non-intrinsically safe	
Contact loading	253 V AC/2 A/cos $\phi > 0.7$; 40 V DC/2 A resistive load (TÜV 99 ATEX 1408) 50 V AC/2 A/cos $\phi > 0.7$; 40 V DC/2 A resistive load (TÜV 02 ATEX 1885 X)	
Maximum safe voltage	U_m	253 V (Attention! The rated voltage can be lower.)
Output II	terminals 19+, 20- non-intrinsically safe	
Maximum safe voltage	U_m	40 V (Attention! The rated voltage can be lower.)
Certificate	TÜV 02 ATEX 1885 X	
Marking	Ex II 3G Ex nA nC IIC T4 Gc	
Output I		
Contact loading	50 V AC/2 A/cos $\phi > 0.7$; 40 V DC/1 A resistive load	
Galvanic isolation		
Input I/other circuits	safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V	
Directive conformity		
Directive 2014/34/EU	EN 60079-0:2012+A11:2013 , EN 60079-11:2012 , EN 60079-15:2010	
International approvals		
FM approval		
Control drawing	116-0305	
UL approval	E223772	
IECEX approval	IECEX TUN 03.0000	
Approved for	[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.	

Maximum Switching Power of Output Contacts



- Resistive load DC
- - - Resistive load AC
- 1 max. 10⁵ switching cycles

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

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