

**Features**

- 1-channel isolated barrier
- 115 V AC supply
- Dry contact or NAMUR inputs
- Relay 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.

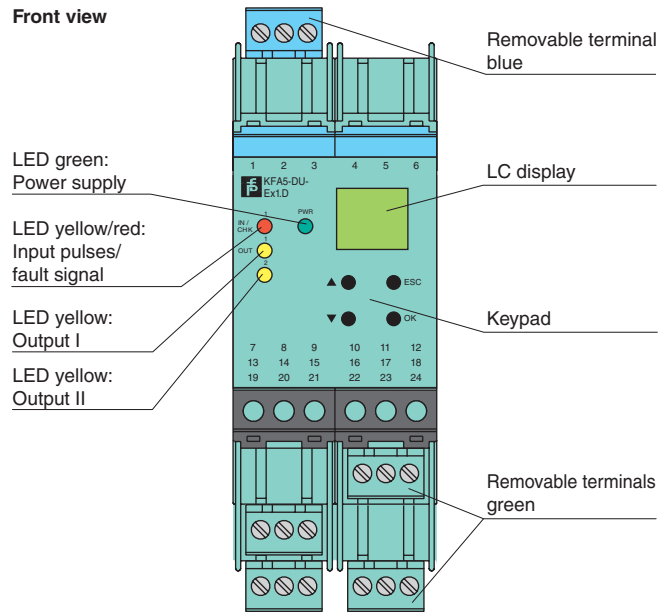
The output relay switch duration is easily adjusted, and a pulse divider function allows step-down ratios from 1:1 to 9999:1.

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

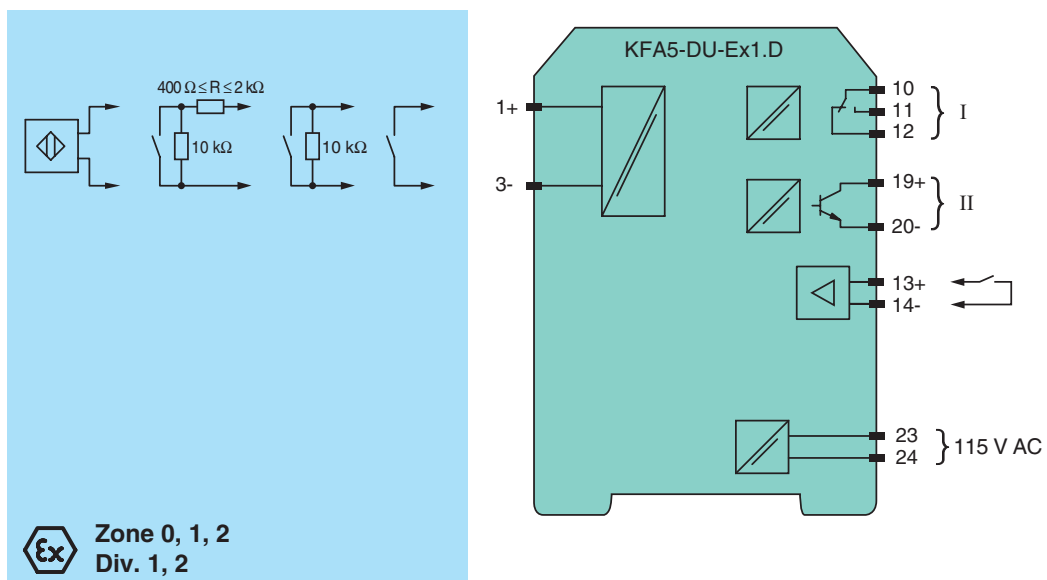
The unit is easily programmed by the use of a keypad located on the front of the unit. Line fault detection of the field circuit is indicated by a red LED.

For additional information, refer to the manual and [www.pepperl-fuchs.com](http://www.pepperl-fuchs.com).

**Assembly**



**Connection**



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<b>General specifications</b>	
Signal type	Digital Input
<b>Supply</b>	
Connection	terminals 23, 24
Rated voltage	115 V AC $\pm$ 10 %
Rated current	35 mA
Power consumption	4 VA
<b>Input</b>	
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 $\mu$ s / 1 ms see instruction manuals; the maximum input frequency has to be observed.
Input frequency	0 ... 80 Hz , pulse divider 0 ... 1 kHz
Lead monitoring	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
<b>Output</b>	
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 x 10 <sup>7</sup> 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 $\mu$ A)
<b>Transfer characteristics</b>	
Input I	
Resolution	< 0.1 % of the set value, min. 10 ms
Accuracy	2 ms
Influence of ambient temperature	0.003 %/K (50 ppm)
<b>Electrical isolation</b>	
Input I/other circuits	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output I/power supply and reset	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output I, II against eachother	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output II/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
Output II/reset	basic insulation according to IEC/EN 61010-1, rated insulation voltage 50 V <sub>eff</sub>
Reset/power supply	reinforced insulation according to IEC/EN 61010-1, rated insulation voltage 300 V <sub>eff</sub>
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Low voltage	
Directive 2006/95/EC	EN 61010-1:2010
<b>Conformity</b>	
Electromagnetic compatibility	NE 21:2006
Protection degree	IEC 60529:2001
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>	
Protection degree	IP20
Mass	approx. 300 g
Dimensions	40 x 119 x 115 mm (1.6 x 4.7 x 4.5 in) , housing type C3
Mounting	on 35 mm DIN mounting rail acc. to EN 60715:2001
<b>Data for application in connection with Ex-areas</b>	
EC-Type Examination Certificate	TÜV 99 ATEX 1408 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⊕ II (1)GD, I (M1) [Ex ia] IIC, [Ex iaD], [Ex ia] I (-20 °C $\leq$ T <sub>amb</sub> $\leq$ 60 °C)
Supply	
Maximum safe voltage U <sub>m</sub>	253 V AC (Attention! The rated voltage can be lower.)

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Input I		terminals 1+, 3- Ex ia IIC, Ex iaD
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.)
Output I		
Contact loading		50 V AC/2 A/cos $\phi > 0.7$ ; 40 V DC/1 A resistive load
Electrical isolation		
Input I/other circuits		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 94/9/EC		EN 60079-0:2009, EN 60079-11:2007, EN 60079-15:2005, EN 60079-26:2007, EN 61241-11:2006
<b>International approvals</b>		
FM approval		
Control drawing		16-538FM-12
<b>General information</b>		
Supplementary information		EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity, Attestation of Conformity and instructions have to be observed where applicable. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .