### **Solenoid Driver**

## KFD0-SD2-Ex1.1045

## Features

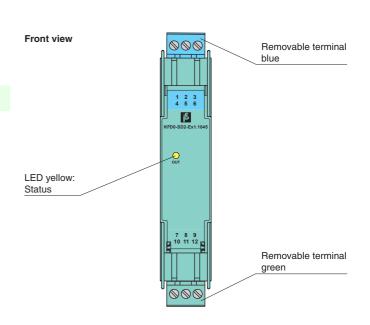
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 45 mA at 10 V DC
- Up to SIL3 acc. to IEC 61508

#### Function

This isolated barrier is used for intrinsic safety applications. It supplies power to solenoids, LEDs, and audible alarms located in a hazardous area.

It is loop powered, so the available energy at the output is received from the input signal. The output signal has a resistive characteristic. As a result the output voltage and current are dependent on the load and the input voltage.

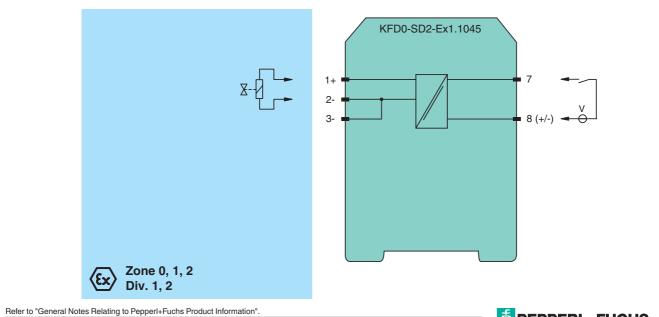
At full load, 10 V at 45 mA is available for the hazardous area application.



Assembly

CE Ex SIL3

# Connection



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General specifications		Divited Output
Signal type		Digital Output
Supply		
Rated voltage	Un	loop powered
Power dissipation		< 1.05 W (≤ 30 V)
Input		
Connection		terminals 7, 8
Rated voltage	Un	20 35 V DC
Current		72 mA at 20 V input voltage, load = 220 $\Omega$ 50 mA at 35 V input voltage, load = 220 $\Omega$
Inrush current		$\leq$ 200 mA after 100 $\mu$ s
Output		
Connection		terminals 1+, 2-
Internal resistor	Ri	$\leq$ 282 $\Omega$
Current	l <sub>e</sub>	≤ 45 mA
Voltage	U <sub>e</sub>	≥ 10 V
Open loop voltage	Us	≥ 22.7 V
Output rated operating currer		45 mA
Output signal		These values are valid for the rated operating voltage 20 35 V DC.
Energized/De-energized delay		single operation: typ. 1.7 ms/50 $\mu$ s; periodical: typ. 5 $\mu$ s/50 $\mu$ s
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility	/	NE 21:2006
Degree of protection		IEC 60529:2001
Protection against electrical shock		UL 61010-1:2004
Ambient conditions		
Ambient temperature		-20 60 °C (-4 140 °F)
Mechanical specifications		
Degree of protection		IP20
Mass		approx. 100 g
Dimensions		20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1
Mounting		on 35 mm DIN mounting rail acc. to EN 60715:2001
Data for application in connection with Ex-areas		
EC-Type Examination Certificate		BASEEFA 06 ATEX 0252 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection		⟨ $isin Ma$ II (1)G [Ex ia Ga] IIC, II (1)D [Ex ia Da] IIIC, I (M1) [Ex ia Ma] I (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C)
Voltage	Uo	25.2 V
Current	I <sub>o</sub>	93 mA
Power	Po	590 mW
Input		
Maximum safe voltage	U <sub>m</sub>	250 V (Attention! The rated voltage can be lower.)
Statement of conformity		TÜV 99 ATEX 1499 X, observe statement of conformity
Group, category, type of pr temperature class Electrical isolation	rotection,	€ II 3G Ex nA II T4 [device in zone 2]
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		Sale distribution and the contraction of the voltage peak value of o v
Directive conformity Directive 94/9/EC		EN 60070-0-2012 A11-2013 EN 60070 11-2012 EN 60070 15-2010
		EN 60079-0:2012+A11:2013, EN 60079-11:2012, EN 60079-15:2010
International approvals		
FM approval		266 021EM 12 (2EM/10)
Control drawing		266-031FM-12 (cFMus)
UL approval		
Control drawing		116-0316 (cULus)
IECEx approval		IECEx BAS 06.0058
General information		
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 www.pepperl-fuchs.com.

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information". USA: +1 330 486 0002 pa-info@us.pepperl-fuchs.com

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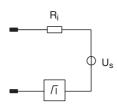
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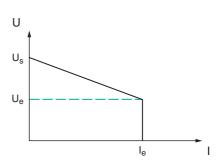
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# **Output characteristics**

## Output circuit diagram



## **Output characteristic**



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