



# Solenoid Driver

## KCD0-SD-Ex1.1245.SP

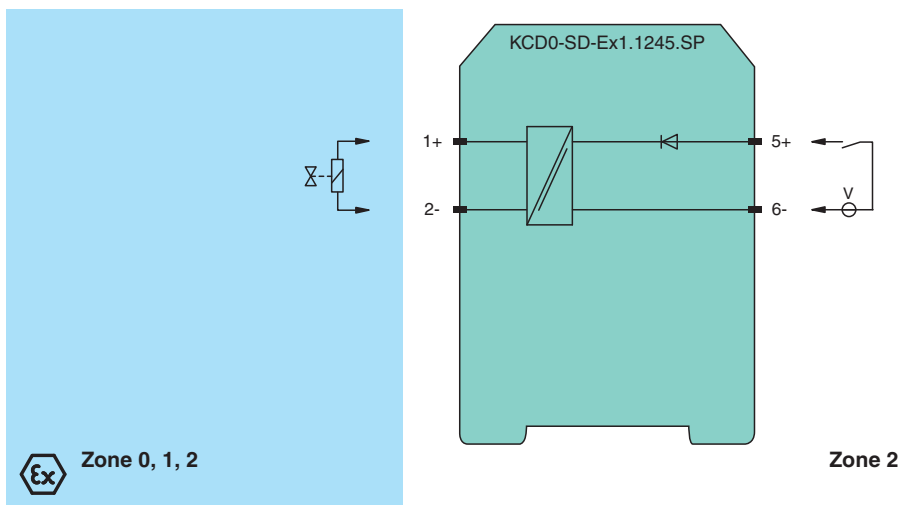
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 45 mA at 12 V DC
- Housing width 12.5 mm
- Connection via spring terminals with push-in connection technology
- Up to SIL 3 acc. to IEC/EN 61508



### Function

This isolated barrier is used for intrinsic safety applications. The device supplies power to solenoids, LEDs and audible alarms located in a hazardous area. The device 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, 12 V at 45 mA is available for the hazardous area application.

### Connection



### Technical Data

#### General specifications

Signal type Digital Output

#### Functional safety related parameters

Safety Integrity Level (SIL) SIL 3

#### Supply

Rated voltage  $U_r$  loop powered

Power dissipation < 1 W

#### Input

Connection side control side

Connection terminals 5, 6

Rated voltage  $U_r$  19 ... 30 V DC

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

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## Technical Data

Current		≤ 72 mA at $U_i = 19\text{ V}$ , ≤ 50 mA at $U_i = 30\text{ V}$ with 265 Ω output load ≤ 45 mA at $U_i = 19\text{ V}$ , ≤ 31 mA at $U_i = 30\text{ V}$ with shorted output ≤ 14 mA at $U_i = 19\text{ V}$ , ≤ 11 mA at $U_i = 30\text{ V}$ no load at output
Inrush current		≤ 200 mA after 100 μs
<b>Output</b>		
Connection side		field side
Connection		terminals 1+, 2-
Internal resistor	$R_i$	max. 238 Ω
Current	$I_e$	≤ 45 mA
Voltage	$U_e$	≥ 12 V
Open loop voltage	$U_s$	min. 22.7 V
Output rated operating current		45 mA
Output signal		These values are valid for the rated operating voltage 19 ... 30 V DC.
Energized/De-energized delay		single operation: typ. 1.7 ms/50 μs; periodical: typ. 5 μs/50 μs
<b>Galvanic isolation</b>		
Input/Output		reinforced insulation acc. to EN 50178, rated insulation voltage 300 V <sub>eff</sub>
<b>Indicators/settings</b>		
Display elements		LED
Labeling		space for labeling at the front
<b>Directive conformity</b>		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
<b>Conformity</b>		
Electromagnetic compatibility		NE 21
Degree of protection		IEC 60529
Protection against electrical shock		UL 61010-1
<b>Ambient conditions</b>		
Ambient temperature		-20 ... 60 °C (-4 ... 140 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		spring terminals
Mass		approx. 100 g
Dimensions		12.5 x 119 x 114 mm (0.5 x 4.7 x 4.5 inch) (W x H x D) , housing type A2
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		BASEEFA 06 ATEX 0170
Marking		⊕ II (1)G [Ex ia Ga] IIC , ⊕ II (1)D [Ex ia Da] IIIC , ⊕ I (M1) [Ex ia Ma] I
Output		[Ex ia Ga] IIC, [Ex ia Da] IIIC, [Ex ia Ma] I
Voltage	$U_o$	25.2 V
Current	$I_o$	110 mA
Power	$P_o$	693 mW
Input		
Maximum safe voltage	$U_m$	250 V (Attention! The rated voltage can be lower.)
Certificate		PF 06 CERT 0971 X
Marking		⊕ II 3G Ex nA IIC T4 Gc
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		
Directive 2014/34/EU		EN IEC 60079-0:2018+AC:2020 , EN 60079-11:2012 , EN 60079-15:2010
<b>International approvals</b>		
FM approval		
Control drawing		116-0419 (cFMus)
UL approval		
Control drawing		116-0420 (cULus)

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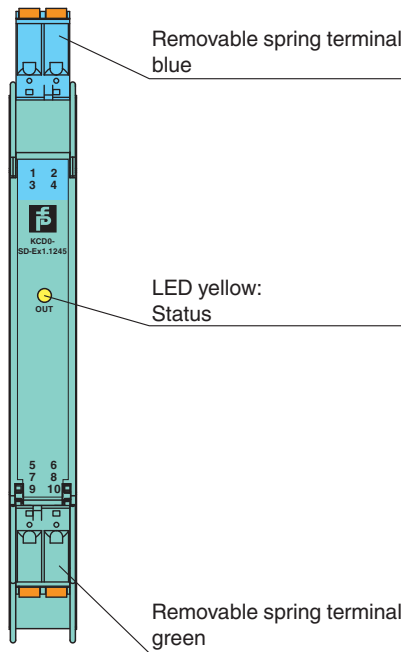
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## Technical Data


IECEX approval	
IECEX certificate	IECEX BAS 06.0032
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

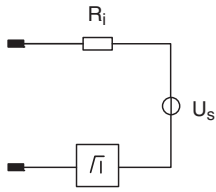
	<b>KC-CTT-3GN2BU</b>	Terminal block for KC modules, 2-pin spring terminal, with test sockets
	<b>KC-CTT-5BU</b>	Terminal block for KC modules, 2-pin spring terminal, with test sockets, blue
	<b>KC-CTT-5GN</b>	Terminal block for KC modules, 2-pin spring terminal, with test sockets, green

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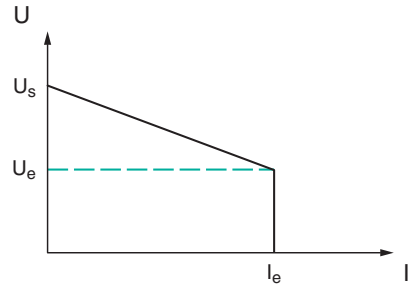
# Characteristic Curve

## Output characteristics

Output circuit diagram



Output characteristic



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