



# Solenoid Driver

## KCD0-SD3-Ex2.1545-Y1.SP

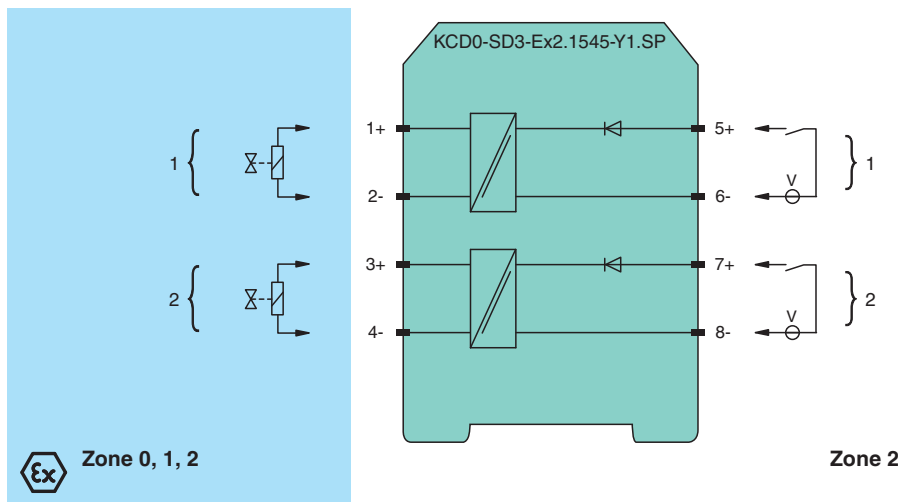
- 2-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 45 mA at 15 V DC
- Test pulse immunity
- Housing width 12.5 mm
- Connection via spring terminals with push-in connection technology



### Function

This isolated barrier is used for intrinsic safety applications. The device supplies power to solenoids, LEDs and audible alarms located in the explosion-hazardous area. The device simulates a minimum load of 20 mA at the input. 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, 15 V at 45 mA is available for the hazardous area application.

### Connection



### Technical Data

General specifications	
Signal type	Digital Output
<b>Supply</b>	
Rated voltage	$U_r$ loop powered
Power dissipation	< 2 W
Power consumption	
<b>Input</b>	
Connection side	control side
Connection	terminals 5+, 6-; 7+, 8- limited electrical values : max. 30 V , max. 5 A
Test pulse length	max. 2 ms from DO card

Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70177399\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com

PEPPERL+FUCHS

## Technical Data

Signal level		1-signal: 18 ... 30 V DC 0-signal: 0 ... 5 V DC
Rated voltage	$U_r$	18 ... 30 V DC
Rated current	$I_r$	0-signal: typ. 1.6 mA at 1.5 V DC; typ. 8 mA at 3 V DC (maximum leakage current DO card) 1-signal: $\geq 20$ mA (minimum load current DO card)
Inrush current		$\leq 200$ mA after 100 $\mu$ s
<b>Output</b>		
Connection side		field side
Connection		terminals 1+, 2-, 3+, 4-
Internal resistor	$R_i$	approx. 167 $\Omega$
Current	$I_e$	typ. 45 mA
Voltage	$U_e$	$\geq 15$ V
Current limit	$I_{max}$	45 mA
Open loop voltage	$U_s$	typ. 23.8 V
Switching frequency	f	max. 10 Hz
Energized/De-energized delay		$\leq 20$ ms / $\leq 20$ ms
<b>Galvanic isolation</b>		
Input/Output		reinforced insulation according to IEC/EN 61010-1, 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 21:2017 , EN IEC 61326-1:2021 (industrial locations) , EN IEC 61326-3-2:2018 For further information see system description.
Degree of protection		IEC 60529:2013
Protection against electrical shock		UL 61010-1:2019
<b>Ambient conditions</b>		
Ambient temperature		-40 ... 70 °C (-40 ... 158 °F)
<b>Mechanical specifications</b>		
Degree of protection		IP20
Connection		spring terminals
Mass		approx. 95 g
Dimensions		12.5 x 124 x 114 mm (0.5 x 4.9 x 4.5 inch) (W x H x D) , housing type A2
Height		124 mm
Width		12.5 mm
Depth		114 mm
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		UL 23 ATEX 3027 X
Marking		⊕ II (1)G [Ex ia Ga] IIC ⊕ II (1)D [Ex ia Da] IIIC ⊕ I (M1) [Ex ia Ma] I
Output		Ex ia Refer to certificate for alternative parameters.
Voltage	$U_o$	25.3 V
Current	$I_o$	52 mA
Power	$P_o$	850 mW (angular characteristic curve)
Internal resistance	$R_i$	167 $\Omega$
<b>Input</b>		
Maximum safe voltage	$U_m$	250 V (Attention! The rated voltage can be lower.)
Certificate		UL 23 ATEX 3065 X
Marking		⊕ II 3G Ex ec IIC T4 Gc

Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70177399\_eng.pdf

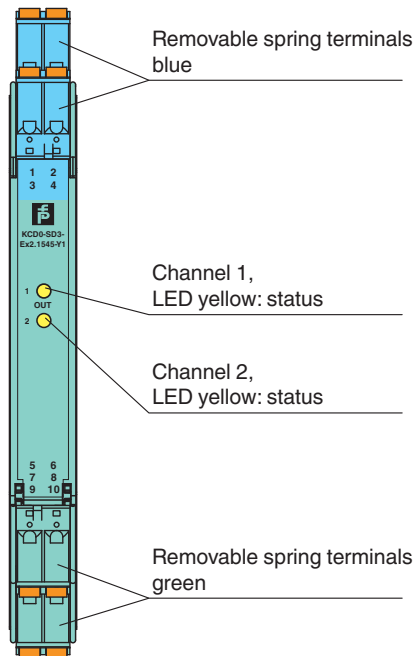
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

## Technical Data

Galvanic isolation	
Input/Output	safe electrical isolation acc. to IEC/EN 60079-11, rated insulation voltage 300 V <sub>rms</sub>
Directive conformity	
Directive 2014/34/EU	EN IEC 60079-0:2018+AC:2020 , EN 60079-7:2015+A1:2018 , EN 60079-11:2012
<b>International approvals</b>	
UL approval	E106378
Control drawing	116-0496 (cULus)
IECEX approval	
IECEX certificate	IECEX ULD 23.0016X
IECEX marking	[Ex ia Ga] IIC , [Ex ia Da] IIIC , [Ex ia Ma] I Ex ec IIC T4 Gc
<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

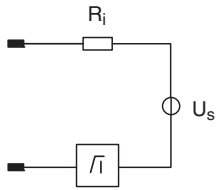


Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70177399\_eng.pdf

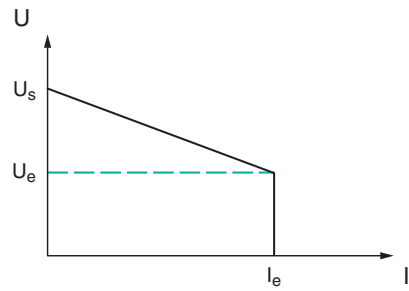
# Characteristic Curve

## Output characteristics

Output circuit diagram



Output characteristic



Release date: 2024-06-20 Date of issue: 2024-06-20 Filename: 70177399\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0002  
pa-info@us.pepperl-fuchs.com

Germany: +49 621 776 2222  
pa-info@de.pepperl-fuchs.com

Singapore: +65 6779 9091  
pa-info@sg.pepperl-fuchs.com