

Solenoid Driver

KCD0-SD3-Ex1.1045

- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 45 mA at 10 V DC
- Test pulse immunity
- Housing width 12.5 mm
- Up to SIL 3 acc. to IEC/EN 61508

MOFLASH SIGNALLING

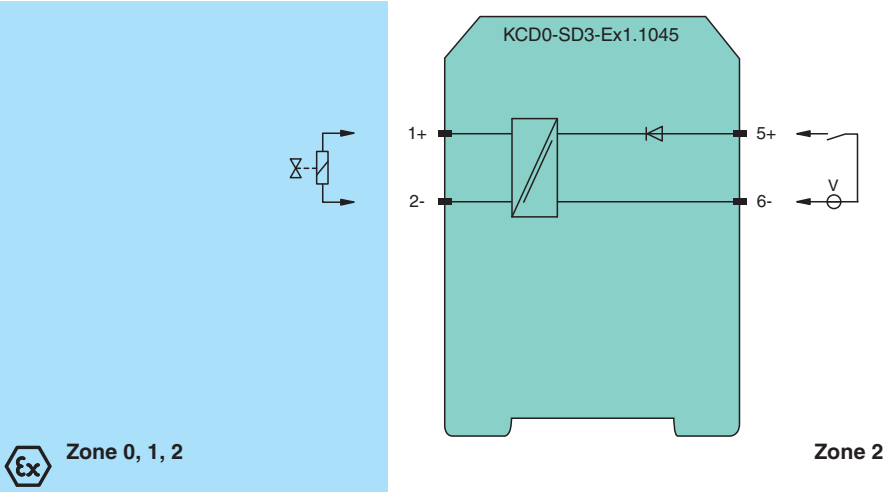
Moflash Part No. 304983

SIL 3

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, 10 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
Systematic capability (SC)		SC 3
Supply		
Rated voltage	U_r	loop powered
Power dissipation		< 1.3 W
Input		
Connection side		control side
Connection		terminals 5+, 6-

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

Technical Data

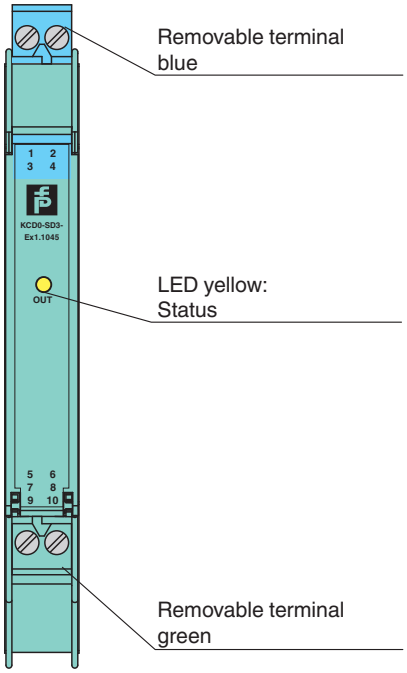
Test pulse length		max. 2 ms from DO card
Signal level		1-signal: 19 ... 30 V DC 0-signal: 0 ... 5 V DC
Rated voltage	U_r	19 ... 30 V DC
Rated current	I_r	0-signal: typ. 1.6 mA at 1.5 V DC; typ. 8 mA at 3 V DC (maximum leakage current DO card) 1-signal: ≥ 36 mA (minimum load current DO card)
Inrush current		≤ 200 mA after 100 µs
Output		
Connection side		field side
Connection		terminals 1+, 2-
Internal resistor	R_i	approx. 285 Ω
Current	I_e	typ. 45 mA
Voltage	U_e	≥ 10 V
Current limit	I_{max}	45 mA
Open loop voltage	U_s	typ. 24.6 V
Switching frequency	f	max. 10 Hz
Energized/De-energized delay		28 ms / 10 ms
Galvanic isolation		
Output/other circuits		basic insulation according to IEC/EN 61010-1, rated insulation voltage 300 V_{eff}
Indicators/settings		
Display elements		LED
Labeling		space for labeling at the front
Directive conformity		
Electromagnetic compatibility		
Directive 2014/30/EU		EN 61326-1:2013 (industrial locations)
Conformity		
Electromagnetic compatibility		NE 21:2012 , EN 61326-3-2:2008 For further information see system description.
Degree of protection		IEC 60529:2013
Protection against electrical shock		EN 61010-1:2010
Ambient conditions		
Ambient temperature		-20 ... 70 °C (-4 ... 158 °F)
Mechanical specifications		
Degree of protection		IP20
Connection		screw terminals
Mass		approx. 150 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
Data for application in connection with hazardous areas		
EU-type examination certificate		EXA 17 ATEX 0002 X
Marking		⟨Ex⟩ II 3(1)G Ex ec [ia Ga] IIC T4 Gc ⟨Ex⟩ II (1)D [Ex ia Da] IIIC ⟨Ex⟩ I (M1) [Ex ia Ma] I
Output		Ex ia
Voltage	U_o	26 V
Current	I_o	93 mA
Power	P_o	605 mW
Input		
Maximum safe voltage	U_m	60 V (Attention! The rated voltage can be lower.)
Galvanic isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, rated insulation voltage 300 V_{rms}
Directive conformity		
Directive 2014/34/EU		EN 60079-0:2012+A11:2013 , EN 60079-7:2015 , EN 60079-11:2012 , EN 60079-15:2010
International approvals		

Technical Data

UL approval		E106378
Control drawing		116-0448 (cULus)
IECEx approval		
IECEx certificate		IECEx EXA 17.0001X
IECEx marking		Ex ec [ia Ga] IIC T4 Gc [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.

Assembly

Front view



Matching System Components

	**K-DUCT-BU**	Profile rail, wiring comb field side, blue

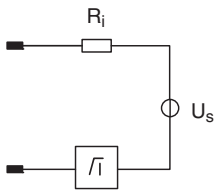
Accessories

	**KC-ST-5GN**	Terminal block for KC modules, 2-pin screw terminal, green
	**KC-ST-5BU**	Terminal block for KC modules, 2-pin screw terminal, blue
	**KF-CP**	Red coding pins, packaging unit: 20 x 6

Characteristic Curve

Output characteristics

Output circuit diagram



Output characteristic

