Solenoid Driver

KFD0-SD2-Ex1.1180

Features

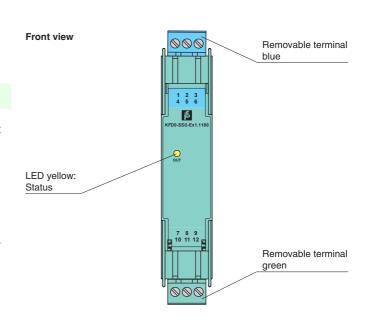
- 1-channel isolated barrier
- 24 V DC supply (loop powered)
- Current limit 80 mA at 11 V DC
- Up to SIL3 acc. to IEC 61508

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, 11 V at 80 mA is available for the hazardous area application.

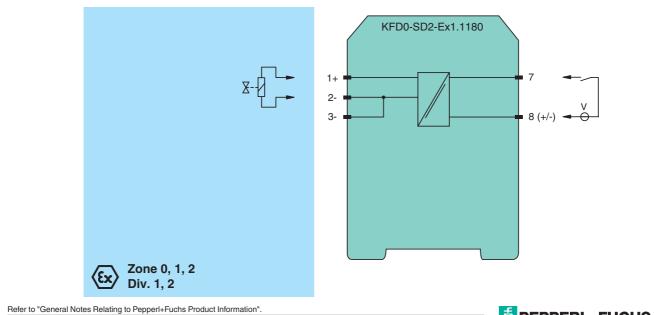


CE (Ex) S

Assembly

SIL3

Connection



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



1

General specifications		
Signal type		Digital Output
Supply		
Rated voltage	Un	loop powered
Power loss	Un	
		< 1 W (≤ 30 V)
Input		
Connection		terminals 7, 8
Rated voltage	Un	20 35 V DC
Current		140 mA at 20 V input voltage, load = 140 Ω 100 mA at 35 V input voltage, load = 140 Ω
Output		
Connection		terminals 1+, 2-
Internal resistor	Ri	\leq 150 Ω
Current	l _e	≤ 80 mA
Voltage	U _e	≥ 11 V
Open loop voltage	Us	≥ 22.7 V
Output rated operating current		80 mA
Output signal		These values are valid for the rated operating voltage 20 35 V DC.
Energized/De-energized delay		single operation: 300 μs/50 μs; periodical: 5 μs / 50 μs
Directive conformity		
Electromagnetic compatibility		
Directive 2004/108/EC		EN 61326-1:2006
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		⟨x⟩ II (1)G [Ex ia Ga] IIB, II (1)D [Ex ia Da] IIIB, I (M1) [Ex ia Ma] I (-20 °C ≤ T _{amb} ≤ 60 °C)
Voltage	Uo	25.2 V
Current	I _o	184 mA
Power	Po	1.159 W
Type of protection [EEx ia]	0	
Input		
Maximum safe voltage	U _m	250 V (Attention! The rated voltage can be lower.)
Statement of conformity	∽m	TÜV 99 ATEX 1499 X, observe statement of conformity
Group, category, type of protection, temperature class		⟨Ex⟩ II 3G Ex nA II T4 [device in zone 2]
Electrical isolation		
Input/Output		safe electrical isolation acc. to IEC/EN 60079-11, voltage peak value 375 V
Directive conformity		Sale destrival issialion act. to it or the out of the voltage peak value 3/3 V
Ş		EN 60070 0:0012 EN 60070 11:0012 EN 60070 15:0010
Directive 94/9/EC		EN 60079-0:2012, EN 60079-11:2012, EN 60079-15:2010
International approvals		
FM approval		
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.

Pepperl+Fuchs Group www.pepperl-fuchs.com

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

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

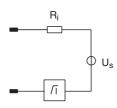
Singapore: +65 6779 9091 pa-info@sg.pepperl-fuchs.com



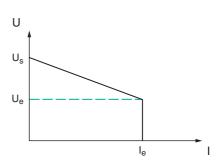
2

Output characteristics

Output circuit diagram



Output characteristic



Pepperl+Fuchs Group www.pepperl-fuchs.com

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

