- 1-channel
- Output EEx ia IIC
- Device installation permissible in zone 2
- Up to SIL3 acc. to IEC 61508

Current limit 35 mA

KFD2-SD-Ex1.48

Function

The solenoid driver KFD2-SD-Ex1.48 receives its power supply from the applied input signal.

The input and output are galvanically isolated from each other.

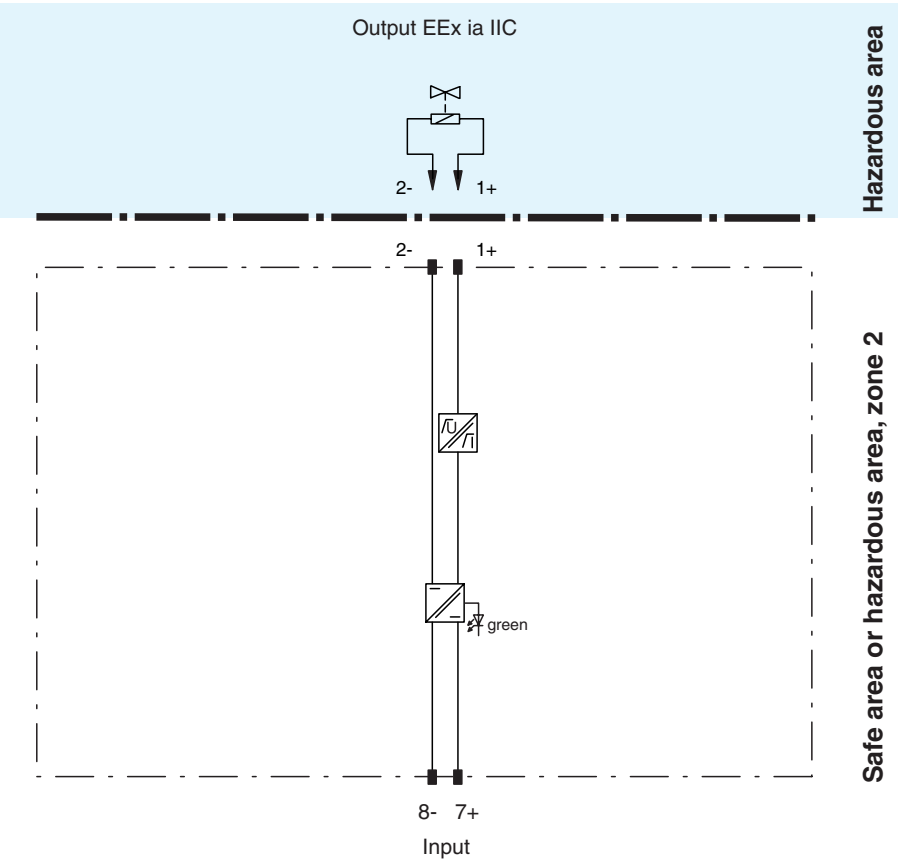
The voltage applied to terminals 7+ and 8- is transferred to the output by means of a DC/DC converter. For supply voltages up to 18 V, the open circuit output voltage is about 1.3 times the supply voltage. The input current is dependent on the load and carries a max. of 70 mA. The output current is limited to 35.3 mA. For an input voltage of above 18 V, the output voltage is limited by the internal Zener diodes. The open circuit voltage for both devices is DC 22.8 V.

The output voltage and the output current are dependent on the load as well as the input voltage.

Application

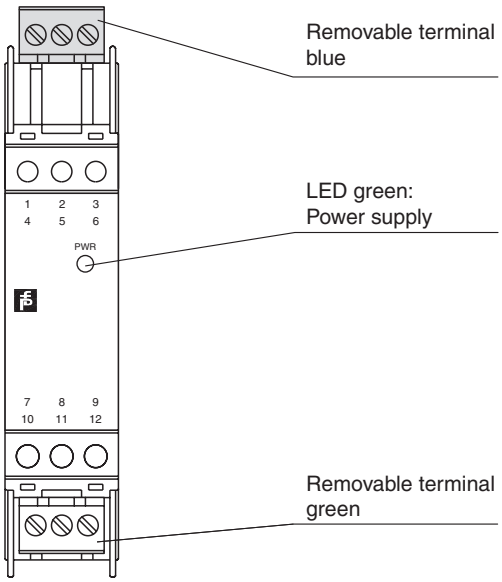
- Control/supply of intrinsically safe valves, audible alarms, indicators etc.
- Control/supply of semiconductors (e. g. LED or LCD units)

Connection



Composition

Front view



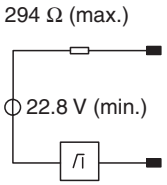
Release date 2007-10-05 13:51 Date of issue 2007-10-05 072044_ENG.xml

Supply			
Rated voltage		loop powered	
Power loss		1.3 W	
Input			
Connection		terminals 7+, 8-	
Rated voltage U_i		5 ... 35 V DC	
Current		6 mA at 18.5 V nominal supply voltage, 70 mA at 35 V nominal supply voltage	
Output			
Internal resistor		≤ 294 Ω	
Limit		current I_e: ≥ 35.3 mA voltage U_e: 12.1 V	
Open loop voltage		≥ 22.8 V	
Connection		terminals 1+, 2-	
Output rated operating current		35 mA	
Output signal		these values are valid for the rated operational voltage 20 ... 35 V DC	
Directive conformity			
Electromagnetic compatibility			
Directive 89/336/EC		EN 61326, EN 50081-2	
Conformity			
Electromagnetic compatibility		NE 21	
Protection degree		IEC 60529	
Ambient conditions			
Ambient temperature		-20 ... 60 °C (253 ... 333 K)	
Mechanical specifications			
Protection degree		IP20	
Mass		approx. 100 g	
Dimensions		20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in) , housing type B1	
Data for application in conjunction with hazardous areas			
EC-Type Examination Certificate		BAS 00 ATEX 7216 , for additional certificates see www.pepperl-fuchs.com	
Group, category, type of protection		⟨Ex⟩ II (1)GD [EEx ia] IIC (-20 °C ≤ T_a ≤ 60 °C) [circuit(s) in zone 0/1/2]	
Output		EEx ia IIC	
Voltage	U_o	25.2 V	
Current	I_o	93 mA	
Power	P_o	590 mW	
Type of protection [EEx ia]			
Explosion group		IIA	IIB	IIC
External capacitance		2.9 µF	0.82 µF	0.107 µF
External inductance		36.02 mH	17.72 mH	4.3 mH
Input			
Safety maximum voltage U_m		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 protection, temperature classification		⟨Ex⟩ II 3G EEx nA II T4 [device in zone 2]	
Electrical isolation			
Input/output		safe electrical isolation acc. to EN 50020, voltage peak value 375 V	
Directive conformity			
Directive 94/9 EC		EN 50014, EN 50020, EN 50021	
Entity parameter			
Certification number		4Z6A5.AX	
FM control drawing		No. 116-0129	
Suitable for installation in division 2		yes	
Connection		terminals 1, 2	
Input I			
Voltage	V_{OC}	28 V	
Current	I_t	93 mA	
Explosion group		A&B	C&E	D, F&G
Max. external capacitance C_a		0.14 µF	0.43 µF	1.14 µF
Max. external inductance L_a		4.18 mH	5.83 mH	34.21 mH
General information			
Supplementary information		EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.	

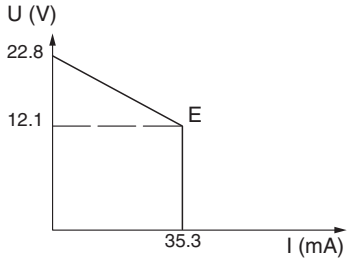
Release date 2007-10-05 13:51 Date of issue 2007-10-05 072044_ENG.xml

Notes

Output circuit diagramm



Output characteristic for input voltage 20 V ... 35 V
E: Curve angle point (U_E, I_E)



Accessories

Power feed modules KFD2-EB2...

The power feed module is used to supply the devices with 24 V DC via the Power Rail. The fuse-protected power feed module can supply up to 100 individual devices depending on the power consumption of the devices. A galvanically isolated mechanical contact uses the Power Rail to transmit collective error messages.

Power Rail UPR-03

The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm. To make electrical contact, the devices are simply engaged.

The Power Rail must not be fed via the device terminals of the individual devices!

Release date 2007-10-05 13:51 Date of issue 2007-10-05 072044_ENG.xml