

Solenoid Driver - KFD2-PT-Ex1



- 1-channel
- Output EEx ia IIB
- Device installation permissible in zone 2
- Current limit: 80 mA
- SIL1 up to SIL3 acc. to IEC 61508

24 V DC

KFD2-SD-Ex1.36

Standard model, replaces model KFD2-SL-Ex1.36

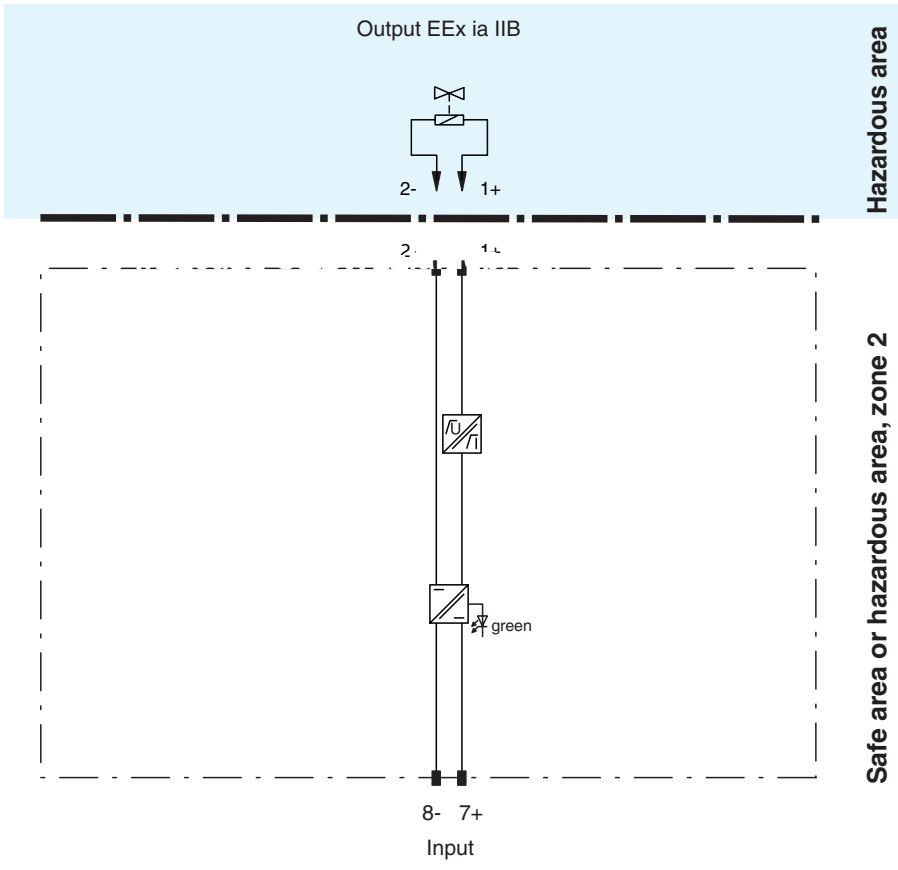
Function

The KFD2-SD-Ex1.36 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. The internal voltage regulator ensures that the output voltage is DC 24 V at no load when the input voltage is between DC 15 V and DC 35 V. The output is limited to 80 mA. In case of a rising output current the output voltage falls due to the ohmic behaviour when there is a load.

Application

- Control/supply for intrinsically safe valves, audible alarms, indicators etc.
- Supply of semiconductor in case of evaluation of lead breakage. If semiconductors (e. g. LED or LCD units) are controlled, a parallel resistance of approx. 10 kΩ directly at the consumer may be necessary.



Composition

Front View

Housing type A3
 (see system description)



Technical data			
Supply			
Rated voltage	loop powered		
Input			
Connection	terminals 7+, 8-		
Rated voltage U_E	20 ... 35 V DC		
Current	approx. 90 mA at 65mA output current at 24 V supply voltage		
Output			
Internal resistor	$\leq 174 \Omega$		
Limit	current I_E : ≥ 80 mA voltage U_E : 9,1 V		
Open loop voltage	≥ 23 V		
Connection	terminals 1+, 2-		
Output rated operating current	≤ 80 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. 110 g		
Dimensions	20 x 107 x 115 mm (0.8 x 4.2 x 4.5 in)		
Data for application in conjunction with hazardous areas			
EC-Type Examination Certificate	BAS 01 ATEX 7251 , for additional certificates see www.pepperl-fuchs.com		
Group, category, type of protection	 II (1) G D [Ex ia] IIB (-20 °C \leq T _a \leq 60 °C) [circuit(s) in zone 0/1/2]		
Output	EEx ia IIB		
Voltage U_0	25,9 V		
Current I_0	184 mA		
Power P_0	1,2 W		
Type of protection [EEx ia]			
Explosion group	IIA IIB		
External capacitance	2,63 μ F 0,77 μ F		Web: www.asp-electro-tech.com
External inductance	9,61 mH 4,78 mH		
Input			
Safety maximum voltage U_m	250 V (Attention! The rated voltage can be lower.)		
Statement of conformity			
Group, category, type of protection, temperature classification	 II 3 G 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}	26,5 V		
Current I_t	173,1 mA		
Explosion group	A&B C&E D, F&G		
Max. external capacitance C_a			0,49 μ F 1,31 μ F
Max. external inductance L_a			5,38 mH 9,95 mH
Safety parameter			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 1, 2		
Input I			

Technical data

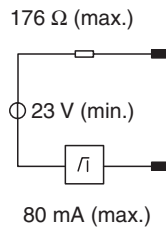
Safety parameter	28 V / 152 Ω		
Voltage	V _{OC}	28 V	
Current	I _{SC}	169 mA	
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C _a		0,42 μF	1,14 μF
Max. external inductance L _a		5,6 mH	10,4 mH

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.

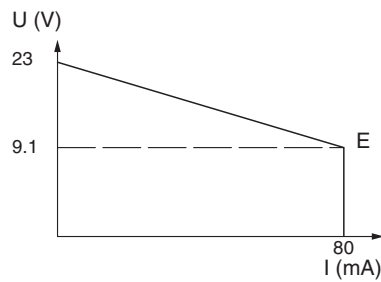
Notes

Output circuit diagram



Output characteristic for input voltage 20 V ... 35 V

E: Curve angle point (U_E, I_E)



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