



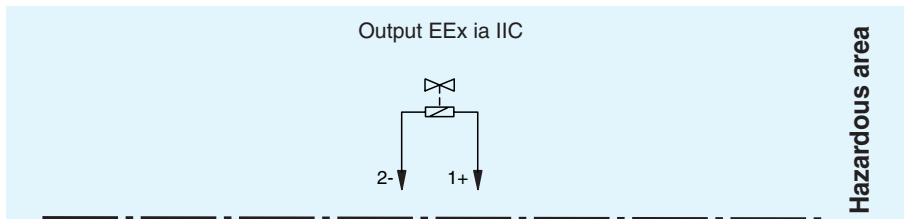
- 1-channel
- Output EEx ia IIC
- 24 V DC nominal supply voltage
- Logic input for connection and disconnection
- Up to SIL3 acc. to IEC 61508

Current limit 35 mA
KFD2-SL-Ex1.48

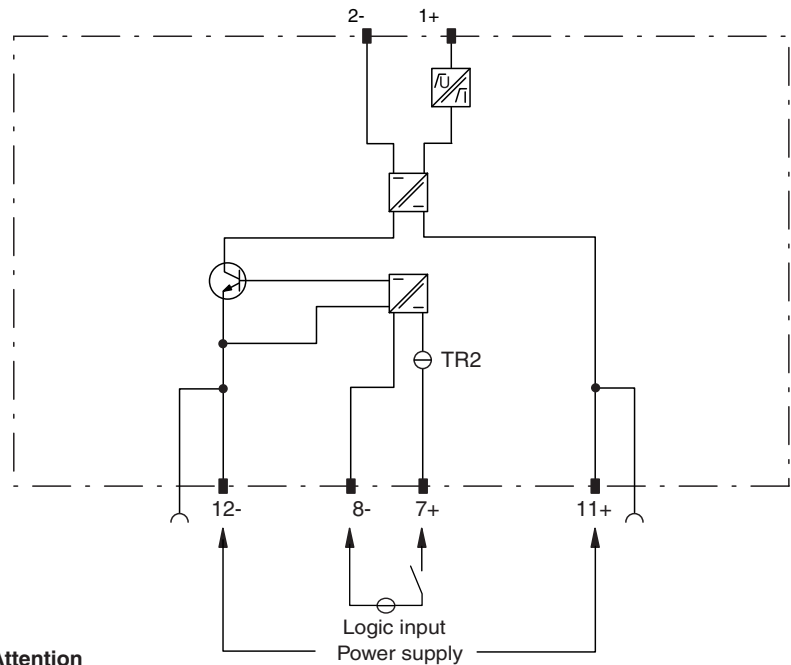
Application

- Control/supply of intrinsically safe valves, audible alarms, indicators etc.
- Control/supply of semiconductors (e. g. LED or LCD units)
In case of controlling semiconductors, a parallel resistor of approx. 10 kΩ, directly connected at the load, may be necessary, if the lead breakage monitoring is activated.

Connection



Hazardous area



Safe area

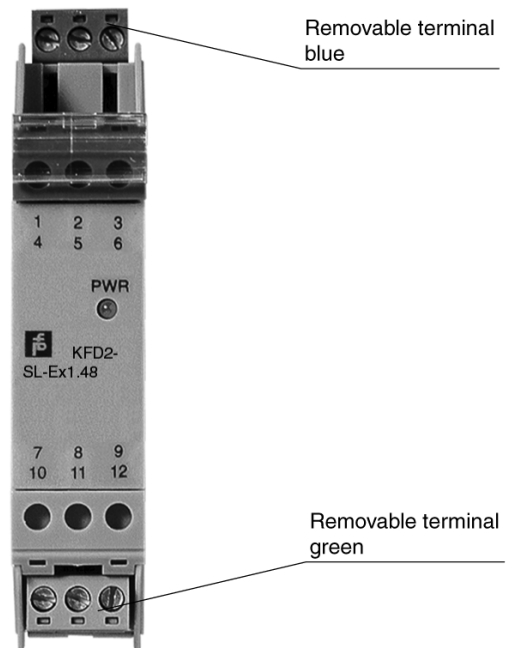
Attention
changed terminal numbers

new	12-	8-	7+	11+
old	8-	10-	9+/11+	7+

Composition

Front View

Housing type A3
(see system description)



Supply	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	5 ... 35 V DC
No-load supply current	7 mA at 19 V nominal supply voltage 70 mA at 35 V nominal supply voltage
Power loss	1.3 W
Input	
Connection	terminals 7+, 8-
Signal level	1-signal: 3 ... 35 V DC 0-signal: 0 ... 2 V DC input current: approx. 5 mA at 24 V DC
Output	
Internal resistor	≤ 303 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 118 x 115 mm (0.8 x 4.6 x 4.5 in)
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	⊕ II (1) G D [EEEx ia] IIC (-20 °C ≤ T _a ≤ 60 °C) [circuit(s) in zone 0/1/2]
Output	EEx ia IIC
Voltage U ₀	25.2 V
Current I ₀	93 mA
Power P ₀	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	
Group, category, type of protection, temperature classification	⊕ II 3 G EEx nA II T4 bzw. EEx nAC IIC T4 [device in zone 2]
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Output/power supply	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

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Safety parameter			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 1, 2		
Input I			
Safety parameter	28 V / 300 Ω		
Voltage V_{OC}	28 V		
Current I_{SC}	93 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.14 μF	0.42 μF	1.14 μF
Max. external inductance L_a	3.1 mH	16.7 mH	34 mH

Function

The KFD2-SL-Ex1.48 and KFD2-SL-Ex1.48.90A each have a logic input which is isolated from the power supply. The field device is controlled across the logic input.

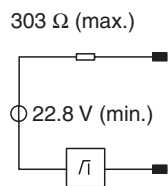
Voltage signals in a range of 5 V DC ... 35 V DC are accepted as Logic-1. Logic-0 must lie in the range of 0 V DC ... 2.2 V DC. The open circuit voltage at the output is dependent on the supply voltage. The relationship is as follows: (supply voltage - 1 V) x 1.3.

The voltage limit at the output is set by a supply voltage of 20 V DC. Therefore, the maximum open circuit voltage at the output is 26 V DC. The output current is limited to 35.3 mA (KFD2-SL-Ex1.48) or 45.3 mA (KFD2-SL-Ex1.48.90A) depending on the model.

The output, logic input and power supply are galvanically isolated from each other.

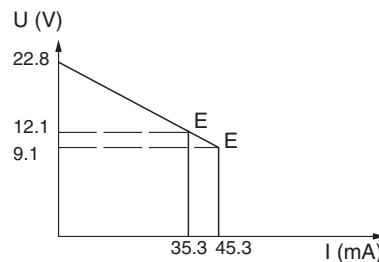
Notes

Output circuit diagramm



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

E: Curve angle point (U_E, I_E)



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.