



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

**Current limit 45 mA**  
**KFD2-SL-Ex1.48.90A**

**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.

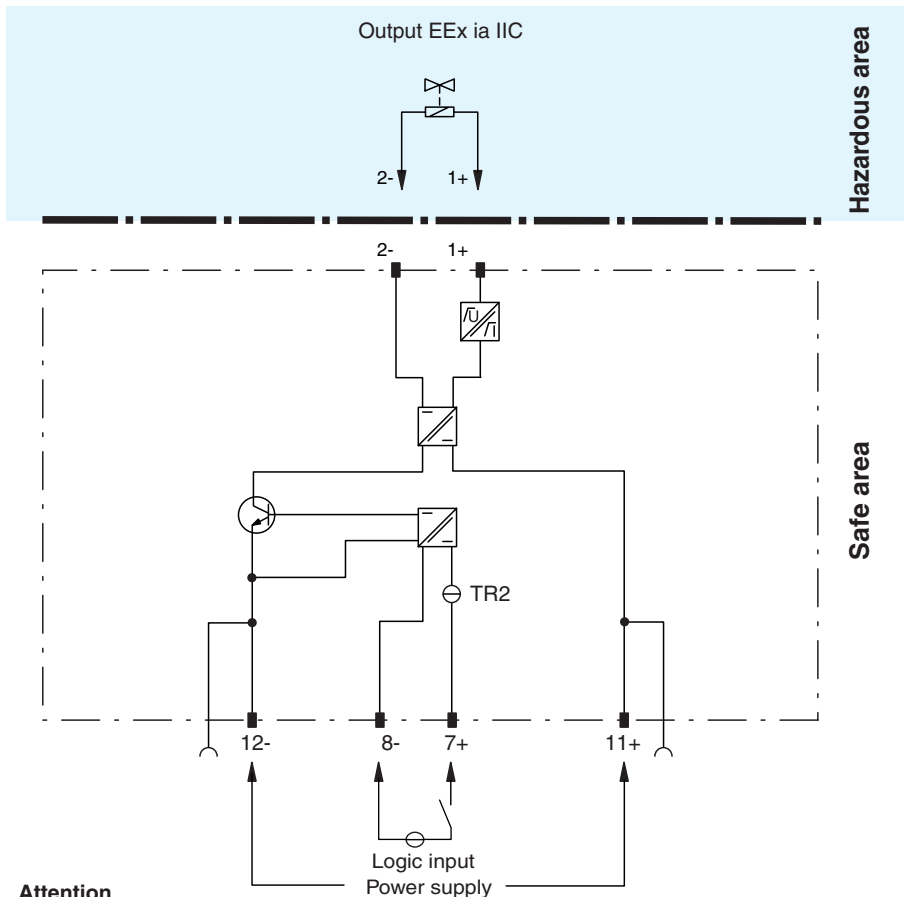
The output current is limited to 35.3 mA (KFD2-SL-Ex1.48) or 45.3 mA (KFD2-SL-Ex1.48.90A) depending on the model.

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

**Application**

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

**Connection**

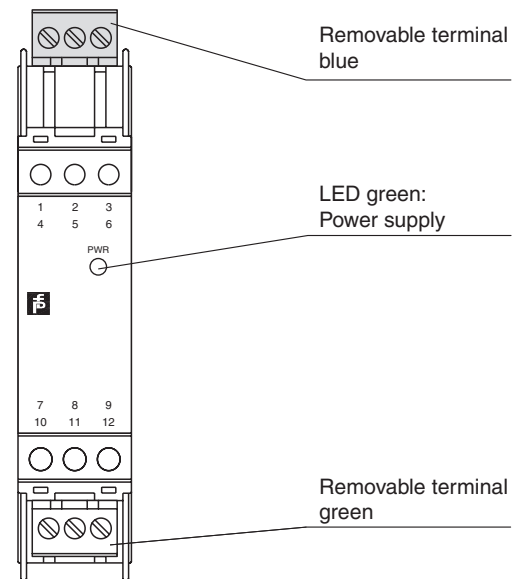


**Attention**  
 changed terminal numbers

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

**Composition**

Front view



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<b>Supply</b>	
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 85 mA at 35 V nominal supply voltage
Power loss	1.3 W
<b>Input</b>	
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
<b>Output</b>	
Internal resistor	≤ 303 Ω
Limit	current I <sub>o</sub> : ≥ 45.3 mA voltage U <sub>e</sub> : 9.1 V
Open loop voltage	≥ 22.8 V
Connection	terminals 1+, 2-
Output rated operating current	45 mA
Output signal	these values are valid for the rated operational voltage 20 ... 35 V DC
<b>Directive conformity</b>	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2
<b>Conformity</b>	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
<b>Ambient conditions</b>	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
<b>Mechanical specifications</b>	
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
<b>Data for application in conjunction with hazardous areas</b>	
EC-Type Examination Certificate	BAS 00 ATEX 7216 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)GD [EEx ia] IIC (-20 °C ≤ T <sub>a</sub> ≤ 60 °C) [circuit(s) in zone 0/1/2]
Output	EEx ia IIC
Voltage U <sub>o</sub>	25.2 V
Current I <sub>o</sub>	93 mA
Power P <sub>o</sub>	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 <sub>m</sub>	250 V (Attention! The rated voltage can be lower.)
Statement of conformity	
Group, category, type of protection, temperature classification	⊕ II 3G 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
<b>Entity parameter</b>	
Certification number	4Z6A5.AX
FM control drawing	No. 116-0129
Suitable for installation in division 2	yes
Connection	
Input I	terminals 1, 2
Voltage V <sub>OC</sub>	28 V
Current I <sub>t</sub>	93 mA
Explosion group	A&B      C&E      D, F&G
Max. external capacitance C <sub>a</sub>	0.14 μF    0.43 μF    1.14 μF
Max. external inductance L <sub>a</sub>	4.18 mH    5.83 mH    34.21 mH

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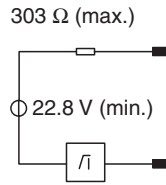
General information

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](http://www.pepperl-fuchs.com).

Notes

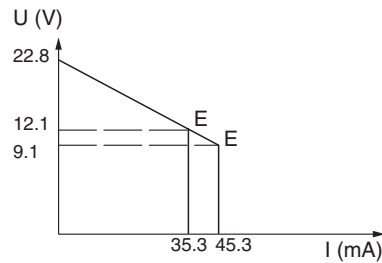
Output circuit diagram



Output characteristic for input voltage

20 V ... 35 V

E: Curve angle point ( $U_E, I_E$ )



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!**