



- 1-channel
- Input EEx ia IIC; $U_0 = 26\text{ V}$
- 24 V DC supply voltage
- Output: allowable load max. 1 k Ω
- EMC acc. to NAMUR NE 21

Input 4 mA ... 20 mA
 Output 0 mA ... 20 mA
KFD2-CR-Ex1.30340

Function

The devices are suited for the connection of 2- and 3-wire transmitters. They may also be used as repeaters for 0/4 mA ... 20 mA signals (current source).

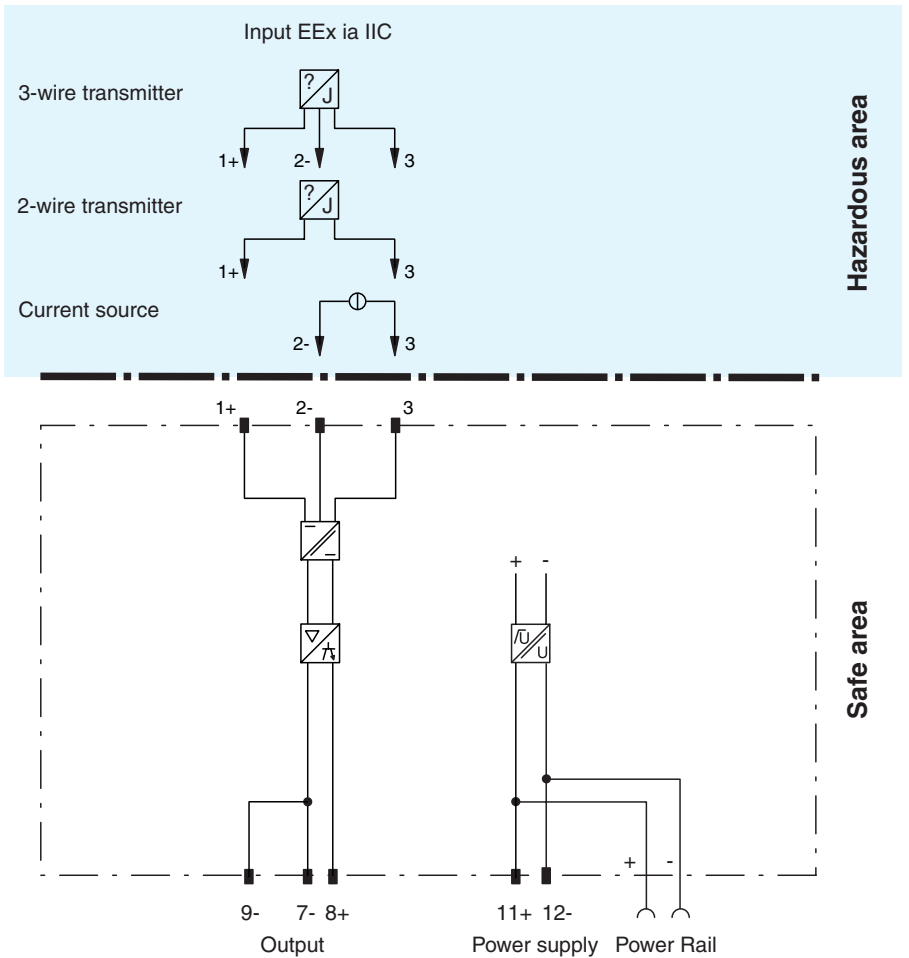
For a supply voltage that is > DC 20 V , the open circuit voltage at the terminals is DC 25 V and is greater than DC 18 V with a current of 20 mA .

2-wire transmitters are connected to terminals 1 and 3. The input for the signal current is terminal 3. The minimum available voltage is 13.6 V at 20 mA.

The power supply is provided to terminals 1+ and 2- for 3-wire transmitters. With a 25 mA supply current, the voltage between the terminals is about 16.5 V.

Power supplies, whose currents do not have to be transferred to the hazardous area, are connected to terminals 2 and 3. Terminal 1+ remains free and the sources are not supplied with power.

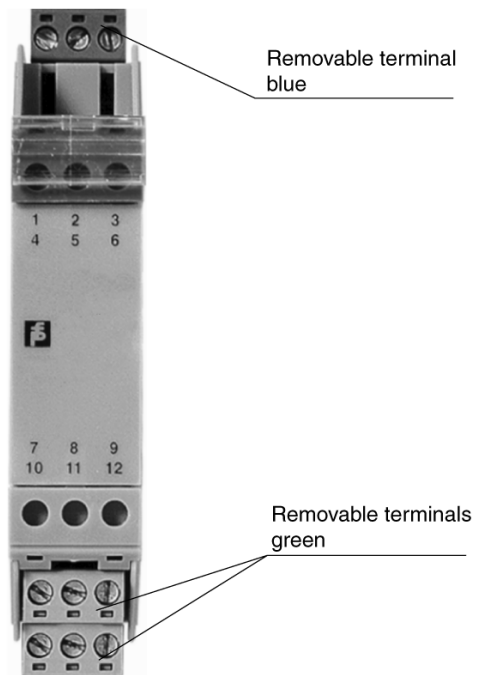
Connection



Composition

Front View

Housing type A4
 (see system description)



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Supply	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	20 ... 35 V DC
Ripple	< 20 μA_{rms}
Power loss	1.3 W
Power consumption	approx. 1.8 W
Input	
Connection	terminals 1+, 2+, 3-
Input resistance	approx. 220 Ω terminals 2-, 3
Available voltage	approx. 16.5 V at 25 mA terminals 1+, 2- ≥ 13.6 V at 20 mA terminals 1+, 3-
Output	
Connection	terminals 7-, 8+, 9-
Load	≤ 1 k Ω
Output signal	0 ... 20 mA
Ripple	≤ 20 μA_{ss}
Available voltage	20 V DC
Transfer characteristics	
Deviation	
After calibration	≤ ± 10 μA incl. non-linearity and load fluctuations
Influence of ambient temperature	≤ ± 0.5 $\mu\text{A} / \text{K}$ in the range of 273 K ... 333 K; ± 1.0 μA in the range of 253 K ... 273 K
Rise time	approx. 50 μs ; load = 250 Ω
De-energized delay	approx. 50 μs ; load = 250 Ω
Electrical isolation	
Output/power supply	function insulation acc. to EN 50178, rated insulation voltage 253 V _{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 61326, EN 50081-2
Conformity	
Electromagnetic compatibility	EN 50081-2, EN 50082-2, NE 21, IEC 801-4, 801-5 and 801-6, intensity level 3
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)
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	BAS 00 ATEX 7164 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	Ex II (1) G D [EEx ia] IIC (-20 °C ≤ T _a ≤ 60 °C) [circuit(s) in zone 0/1/2]
Equipment	terminals 1, 2, 3 terminals 1, 2 terminals 1, 3 terminals 3, 2
Input	EEx ia IIC
Voltage U ₀	26 V 26 V 26 V 4.3 V
Current I ₀	115 mA 93 mA 56 mA 22 mA
Power P ₀	0.624 W 0.6 W 0.36 W 0.024 W
Supply	
Safety maximum voltage U _m	250 V _{eff} (Attention! The rated voltage can be lower.)
Type of protection [EEx ia]	
Explosion group	IIA IIB IIC
External capacitance	2.6 μF 0.77 μF 0.099 μF
External inductance	23.98 mH 12 mH 2.82 mH
Output	
Safety maximum voltage U _m	250 V _{eff} (Attention! The rated voltage can be lower.)
Statement of conformity	
Group, category, type of protection, temperature classification	Ex 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
Input/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

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FM control drawing	No. 116-0129		
Suitable for installation in division 2	yes		
Input I	terminals 1, 3	terminals 1, 2	
Voltage V_{OC}	26 V	26 V	
Current I_t	56 mA	93 mA	
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.099 μ F	0.77 μ F	2.6 μ F
Max. external inductance L_a	2.82 mH	12 mH	23.98 mH
Input II	terminals 2, 3		
Voltage V_{OC}	4.3 V		
Current I_{SC}	22 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.099 μ F	0.77 μ F	2.6 μ F
Max. external inductance L_a	2.82 mH	12 mH	23.98 mH
Input III	terminals 1, 2, 3		
Voltage V_t	26 V		
Current I_t	115 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.099 μ F	0.77 μ F	2.6 μ F
Max. external inductance L_a	2.82 mH	12 mH	23.98 mH
Input IV	terminals 1, 2, 3		
Voltage V_{OC}	26 V		
Current I_{SC}	115 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.099 μ F	0.77 μ F	2.6 μ F
Max. external inductance L_a	2.82 mH	12 mH	23.98 mH
Safety parameter			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Input I	terminals 1, 2		
Safety parameter	26 V / 279 Ω		
Voltage V_{OC}	26 V		
Current I_{SC}	93 mA		
Input II	terminals 1, 3		
Safety parameter	26 V / 464 Ω		
Voltage V_{OC}	26 V		
Current I_{SC}	56 mA		
Input III	terminals 3, 2		
Safety parameter	4.3 V/195 Ω		
Voltage V_{OC}	4.3 V		
Current I_{SC}	22 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.099 μ F	0.77 μ F	2.6 μ F
Max. external inductance L_a	2.82 mH	12 mH	23.98 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.

Accessories

Power Rail PR-03

Power Rail UPR-03

Power feed module KFD2-EB2...

Using Power Rail PR-03 or UPR-03 the devices are supplied with 24 V DC by means of the power feed modules. If no Power Rails are used, power supply of the individual devices is possible directly via their device terminals.

Each power feed module is used for fusing and monitoring groups with up to 100 individual devices. The Power Rail PR-03 is an inset component for the DIN rail. The Power Rail UPR-03 is a complete unit consisting of the electrical inset and an aluminium profile rail 35 mm x 15 mm x 2000 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!

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