- 1-channel
- Input EEx ia IIC; U_o = 20V, use standard type KFD2-STC4-Ex1 with U_o = 25.2 V
- 24 V DC supply voltage
- Output: allowable load max. 1 kΩ
- EMC acc. to NAMUR NE 21

Input 0/4 mA ... 20 mA
Output 0/4 mA ... 20 mA

KFD2-CR-Ex1.20300

Function

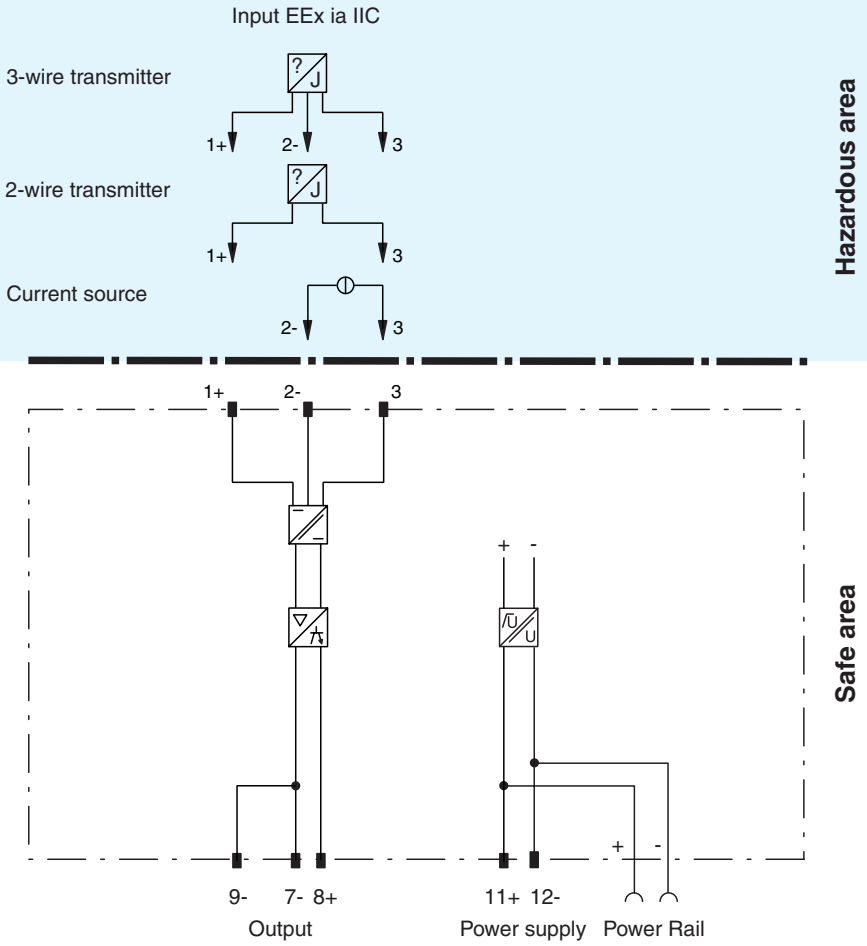
The devices of the KFD2-CR-Ex1.203-series are suited for the connection of 2- and 3-wire transmitters. They may also be used as repeaters for 4 mA ... 20 mA signals (current source).
For a supply voltage that is ≥ DC 20 V, the open circuit voltage at the terminals is DC 18 V and is greater than DC 16.5 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 12 V at 20 mA.

The power is supplied to terminals 1+ and 2- for a 3-wire transmitter. With a 25 mA supply current, the voltage between the terminals is about 16 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.

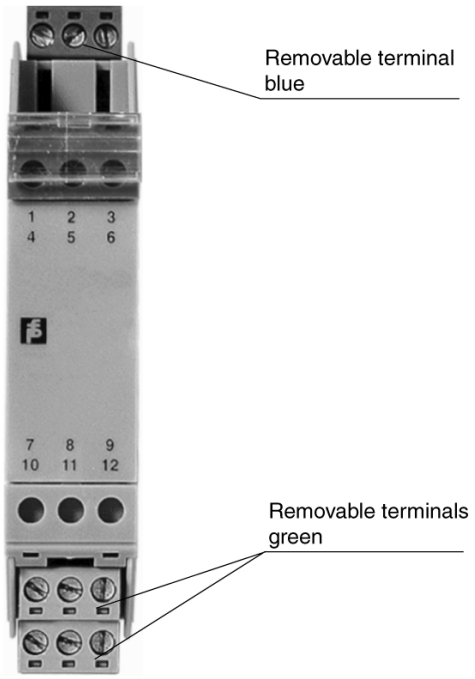
Connection



Composition

Front View

Housing type A4
(see system description)



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General specifications					
Signal type	Analog input				
Supply					
Connection	Power Rail or terminals 11+, 12-				
Rated voltage	20 ... 35 V DC				
Ripple	< 20 μA_{rms}				
Power consumption	approx. 1.8 W				
Input					
Connection	terminals 1+, 2-, 3				
Open circuit voltage	approx. 18 V terminals 1+, 2-				
Input resistance	approx. 220 Ω terminals 2-, 3				
Available voltage	≥ 16 V at 25 mA terminals 1+, 2- ; ≥ 12 V at 20 mA terminals 1+, 3				
Output					
Connection	terminals 7-, 8+, 9-				
Load	≤ 1 kΩ				
Output signal	0 ... 20 mA				
Ripple	≤ 20 μA_{pp}				
Available voltage	20 V DC				
Transfer characteristics					
Deviation					
After calibration	≤ ± 10 µA incl. non-linearity and load fluctuations				
Influence of ambient temperature	≤ ± 0.2 µA / 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	functional insulation acc. to EN 50178, rated insulation voltage 253 V_{eff}				
Directive conformity					
Electromagnetic compatibility					
Directive 2004/108/EC	EN 61326-1:2006				
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)GD [EEx ia] IIC (-20 °C ≤ T_{amb} ≤ 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_o	20 V	20 V	20 V	4.3 V
Current	I_o	115 mA	93 mA	56 mA	22 mA
Power	P_o	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]					
Output					
Safety maximum voltage U_m	250 V_{eff} (Attention! The rated voltage can be lower.)				
Statement of conformity	TÜV 02 ATEX 1797 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				
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				

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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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