- 1-channel
- Input EEx ia IIC; U_0 = 20V, use standard type KFD2-STC4-Ex1 with U_0 = 25.2 V
- 24 V DC supply voltage
- Output: allowable load max. 1 kΩ
- EMC acc. to NAMUR NE 21

KFD2-CR-Ex1.20200

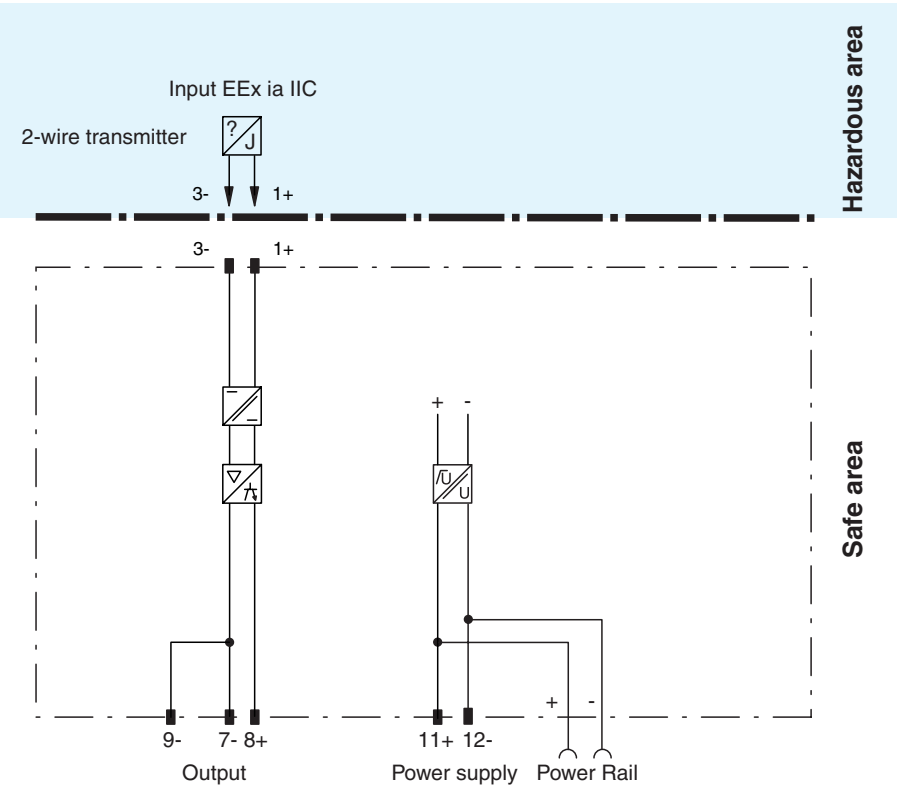
Function

The KFD2-CR-Ex1.20200 supplies a 2-wire transmitter in the hazardous area with power. 2-wire transmitters function exclusively with a 4 mA ... 20 mA signal. At least 16 V are available to the transmitter with a measurement current of 20 mA. The open circuit voltage is 18 V.
The input circuit's current is transferred to the safe area. The maximum load that may be applied to the output is 1 kΩ.

Application

The supply of power to 2-wire transmitters and the transfer of the measurement current to the output.

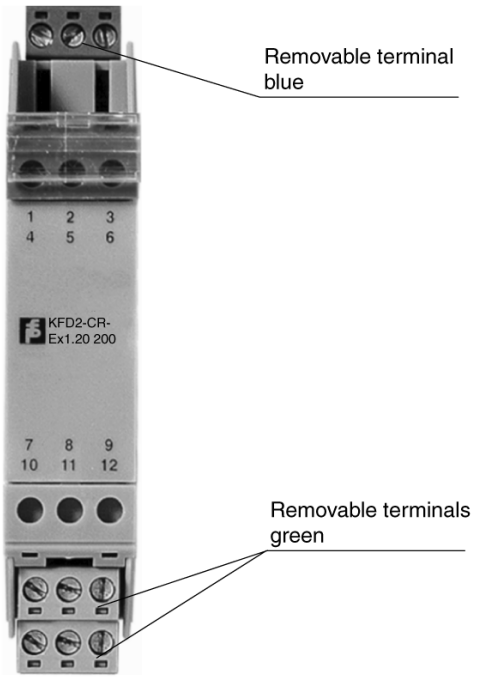
Connection



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		1.1 W
Power consumption		≤ 1.6 W
Input		
Connection		terminals 1+, 3-
Available voltage		≥ 16 V DC at 20 mA
Output		
Open loop voltage		20 V DC
Connection		terminals 7-, 8+, 9-
Load		≤ 1 kΩ
Output signal		4 ... 20 mA
Ripple		≤ 20 μA_{ss}
Transfer characteristics		
Deviation		
After calibration		at 293 K (20 °C): < ± 10 µA incl. non-linearity and load fluctuations
Influence of ambient temperature		< ± 0.2 µA / K at 273 ... 333 K; < ± 1.0 µA/K at 253 ... 273 K
Rise time		approx. 50 µs
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)GD [EEx ia] IIC (-20 °C ≤ T_a ≤ 60 °C) [circuit(s) in zone 0/1/2]
Input		EEx ia IIC
Voltage	U_o	20 V
Current	I_o	93 mA
Power	P_o	600 mW
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		5.5 µF 1.41 µF 0.22 µF
External inductance		36.02 mH 17.72 mH 4.3 mH
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
Entity parameter		
Certification number		4Z6A5.AX
FM control drawing		No. 116-0129
Suitable for installation in division 2		yes
Connection		terminals 1, 3
Input I		
Voltage	V_{OC}	20 V

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Current	I_t	93 mA		
Explosion group		A&B	C&E	D, F&G
Max. external capacitance C_a		0.34 µF	1.01 µF	2.7 µF
Max. external inductance L_a		4.18 mH	16.84 mH	34.23 mH
Safety parameter				
CSA control drawing		LR 65756-13		
Control drawing		No. 116-0132		
Connection		terminals 1, 3		
Input I				
Safety parameter		20 V / I_{SC} = 91 mA		
Voltage	V_{OC}	91 V		
Current	I_{SC}	20 mA		
Explosion group		A&B	C&E	D, F&G
Max. external capacitance C_a		0.33 µF	1 µF	2.6 µF
Max. external inductance L_a		4.3 mH	17.5 mH	35 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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