- 1-channel
- Device installation in Zone 2
- Input EEx ia IIC; U_o = 25.4 V
- 2 galvanically isolated outputs
- 24 V DC supply voltage
- SMART capable up to 7.5 kHz (-3 dB)
- EMC acc. to NAMUR NE 21
- Up to SIL2 acc. to IEC 61508

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

KFD2-STC4-Ex1.2O

Function

SMART transmitter power supplies provide a 2- or 3-wire SMART transmitter and transfer the analogue values.

Digital signals may be superimposed on the analogue values, which will transferred bidirectionally. Handheld terminals should be connected as shown in the block diagram.

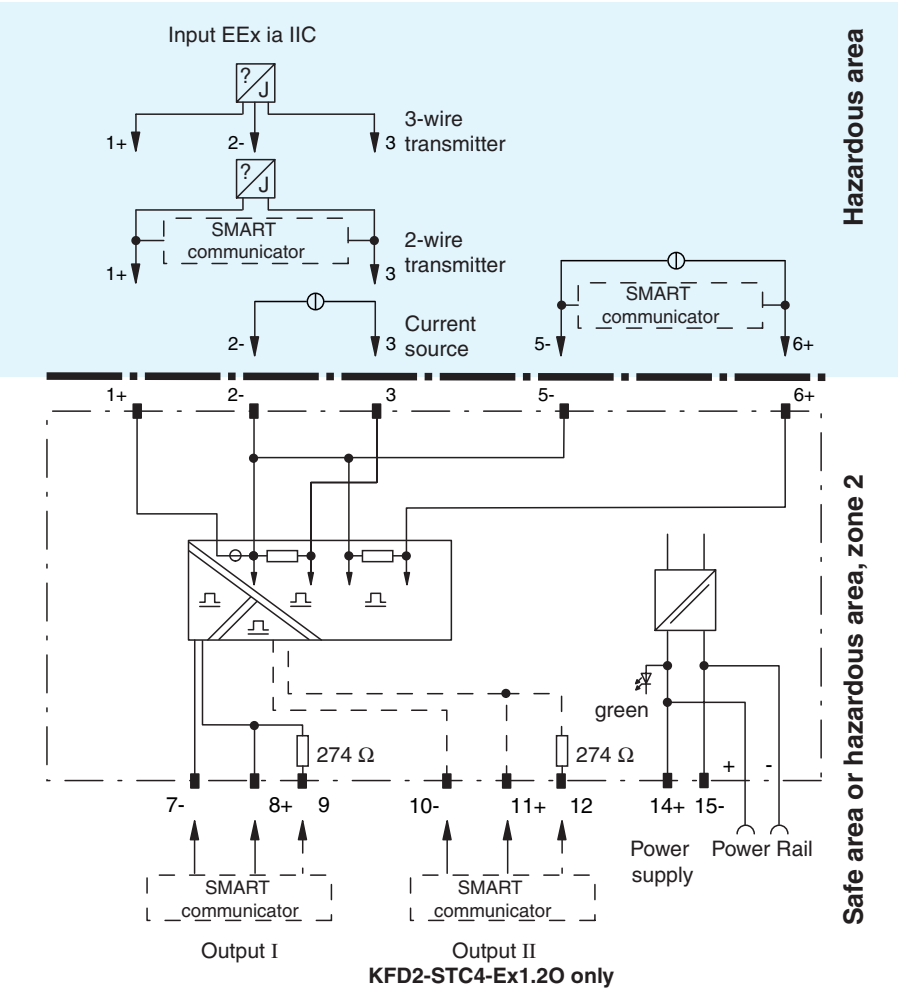
An internal resistor at terminal 9 (at terminals 9 and 12 with version 2O) is available, which may be used to increase the AC impedance for the HART signal.

SMART transmitter power supplies are delivered with terminal type KF-STP-**. Jacks are integrated in these terminals for the connection of the handheld units.

Application

- Power supply for SMART transmitters and transfer of the measurement signal to the output
- for the transfer of a current source to the safe area
- suitable for the following SMART systems:
  ABB, Endress+Hauser, Emerson, Fuji, Smar, VEGA, Yokogawa

Connection

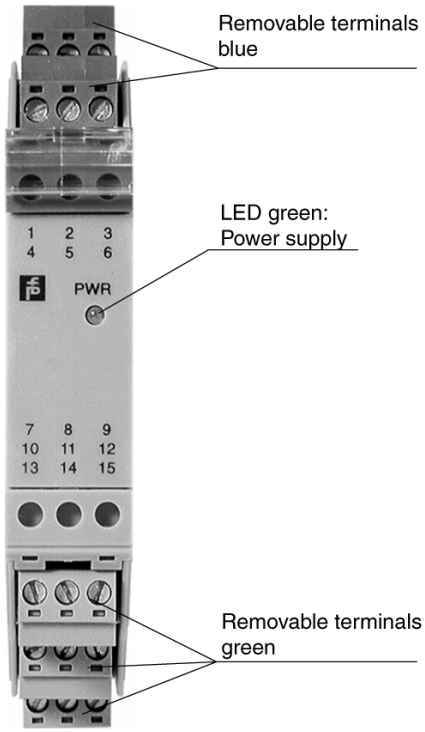


KFD2-STC4-Ex1.2O only

Composition

Front view

Housing type B2
(see system description)



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Supply		
Connection		Power Rail or terminals 14+, 15-
Rated voltage		20 ... 35 V DC
Ripple		within the supply tolerance
Power consumption		2.5 W
Input		
Connection		terminals 1+, 2-, 3 or 5-, 6+
Input signal		0/4 ... 20 mA
Input resistance		≤ 64 Ω terminals 2-, 3
Available voltage		≥ 15.7 V at 20 mA terminals 1+, 3
Output		
Connection		terminals 7-, 8+,9; 10-, 11+,12
Load		0 ... 550 Ω
Output signal		0/4 ... 20 mA (overload > 25 mA)
Ripple		≤ 50 µA $_{rms}$
Transfer characteristics		
Deviation		at 20 °C (293 K), 4 ... 20 mA ≤ 20 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature		≤ 20 ppm/K
Frequency range		hazardous area to safe area: bandwidth with 0.5 V_{pp} signal 0 ... 7.5 kHz (-3 dB) safe area to hazardous area: bandwidth with 0.5 V_{pp} signal 0.3 ... 7.5 kHz (-3 dB)
Electrical isolation		
Output/power supply		basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
Directive conformity		
Electromagnetic compatibility		
Directive 89/336/EEC		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. 200 g
Dimensions		20 x 119 x 115 mm (0.8 x 4.7 x 4.5 in)
Data for application in conjunction with hazardous areas		
EC-Type Examination Certificate		BAS 99 ATEX 7060 , 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)
Input		EEx ia IIC
Supply		
Safety maximum voltage U_m		250 V (Attention! The rated voltage can be lower.)
Equipment		terminals 1+, 3-
Voltage	U_o	25.4 V
Current	I_o	86.8 mA
Power	P_o	551 mW
Equipment		terminals 2-, 3
Current I_o/Current I_i		74 mA / 115 mA
Current	I_i	115 mA
Voltage	U_o	3.5 V
Current	I_o	74 mA
Power	P_o	64 mW
Equipment		terminals 1+, 2 / 3-
Voltage	U_o	25.4 V
Current	I_o	115 mA
Power	P_o	584 mW
Equipment		terminals 5-, 6+
Voltage	U_i	30 V
Current	I_i	115 mA
Voltage	U_o	8.7 V
Current	I_o	0 mA
Output		
Safety maximum voltage U_m		250 V (Attention! The rated voltage can be lower.)
Statement of conformity		TÜV 99 ATEX 1499 X , observe statement of conformity

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Group, category, type of protection, temperature classification	II 3G EEx nA II T4
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

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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