



- 1-channel
- Device installation permissible in zone 2
- Input EEx ia IIC;  $U_o = 25.4\text{ V}$
- Galvanically isolated output
- 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**

**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.

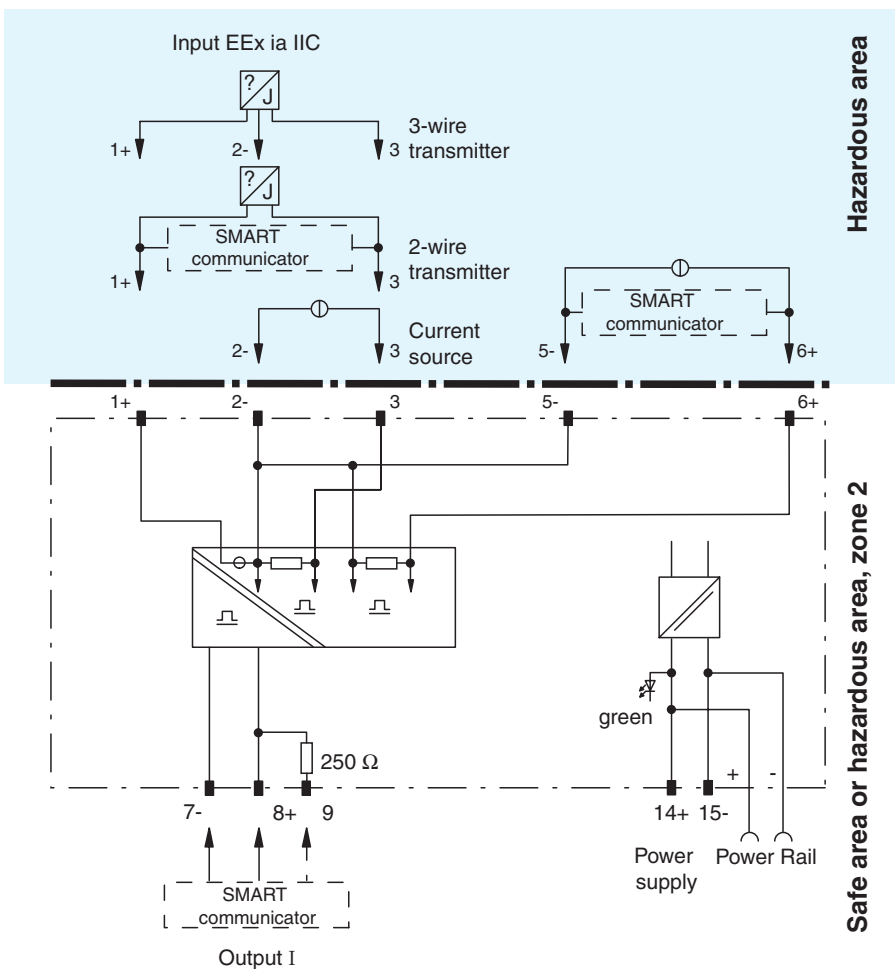
An internal resistor at terminal 9 is available, which may be used to increase the AC impedance for the HART signal.

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

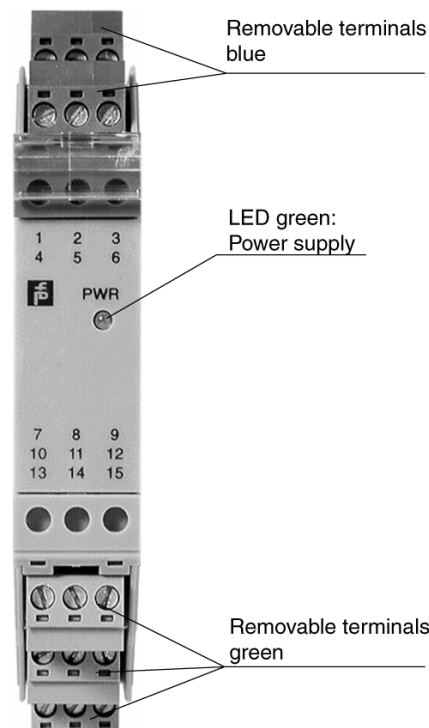
**Connection**



**Composition**

**Front view**

Housing type B2  
 (see system description)



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<b>Supply</b>	
Connection	Power Rail or terminals 14+, 15-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Power consumption	1.9 W
<b>Input</b>	
Connection	terminals 1+, 2-, 3 or 5-, 6+
Input signal	0/4 ... 20 mA
Input resistance	≤ 64 Ω terminals 2-, 3 ; ≤ 500 Ω terminals 1+, 3 (250 Ω load)
Available voltage	≥ 16 V at 20 mA terminals 1+, 3
<b>Output</b>	
Connection	terminals 7-, 8+, 9
Load	0 ... 800 Ω
Output signal	0/4 ... 20 mA (overload > 25mA)
Ripple	≤ 50 μA <sub>rms</sub>
<b>Transfer characteristics</b>	
Deviation	at 20 °C (293 K), 4 ... 20 mA ≤ 10 μA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Influence of ambient temperature	0.25 μA/°C
Frequency range	hazardous area into the safe area: bandwidth with 0.5 V <sub>pp</sub> -signal 0 ... 7.5 kHz (-3 dB) safe area into the hazardous area: bandwidth with 0.5 V <sub>pp</sub> -signal 0.3 ... 7.5 kHz (-3 dB)
Rise time	20 μs
Settling time	200 μs
<b>Electrical isolation</b>	
Output/power supply	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
<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. 200 g
Dimensions	20 x 119 x 115 mm (0.8 x 4.6 x 4.5 in)
<b>Data for application in conjunction with hazardous areas</b>	
EC-Type Examination Certificate	BAS 99 ATEX 7060 , for additional certificates see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
Group, category, type of protection	⊕ II (1)GD [EEEx ia] IIC (-20 °C ≤ T <sub>amb</sub> ≤ 60 °C) [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
<b>Supply</b>	
Safety maximum voltage U <sub>m</sub>	250 V (Attention! The rated voltage can be lower.)
Equipment	terminals 1+, 3-
Voltage U <sub>i</sub>	30 V
Current I <sub>i</sub>	115 mA
Voltage U <sub>o</sub>	25.4 V
Current I <sub>o</sub>	86.8 mA
Power P <sub>o</sub>	551 mW
Internal capacitance C <sub>i</sub>	12 nF
Internal inductance L <sub>i</sub>	0 mH
Permissible connection values [EEEx ia]	
Internal capacitance C <sub>i</sub> /Inductance L <sub>i</sub>	12 nF / 0 H
Explosion group	IIA      IIB      IIC
External capacitance	2.808 μF    0.798 μF    0.093 μF
External inductance	36 mH    18 mH    4.6 mH
Equipment	
Current I <sub>o</sub> /Current I <sub>i</sub>	74 mA / 115 mA
Current I <sub>i</sub>	115 mA
Voltage U <sub>o</sub>	3.5 V
Current I <sub>o</sub>	74 mA
Power P <sub>o</sub>	64 mW
Permissible connection values [EEEx ia]	
Explosion group	IIA      IIB      IIC

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External capacitance	> 100 $\mu$ F	> 100 $\mu$ F	> 100 $\mu$ F
External inductance	50 mH	25 mH	6.4 mH
Equipment	terminals 1+, 2 / 3-		
Voltage $U_o$	25.4 V		
Current $I_o$	115 mA		
Power $P_o$	584 mW		
Permissible connection values [EEx ia]			
Explosion group	IIA	IIB	IIC
External capacitance	2.808 $\mu$ F	0.798 $\mu$ F	0.093 $\mu$ F
External inductance	22 mH	11 mH	2.7 mH
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		
Group, category, type of protection, temperature classification	⊕ 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		
<b>General information</b>			
Supplementary information	EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a> .		

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!**