



- 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 be transferred bidirectionally. Handheld terminals should be connected as shown in the block diagram.

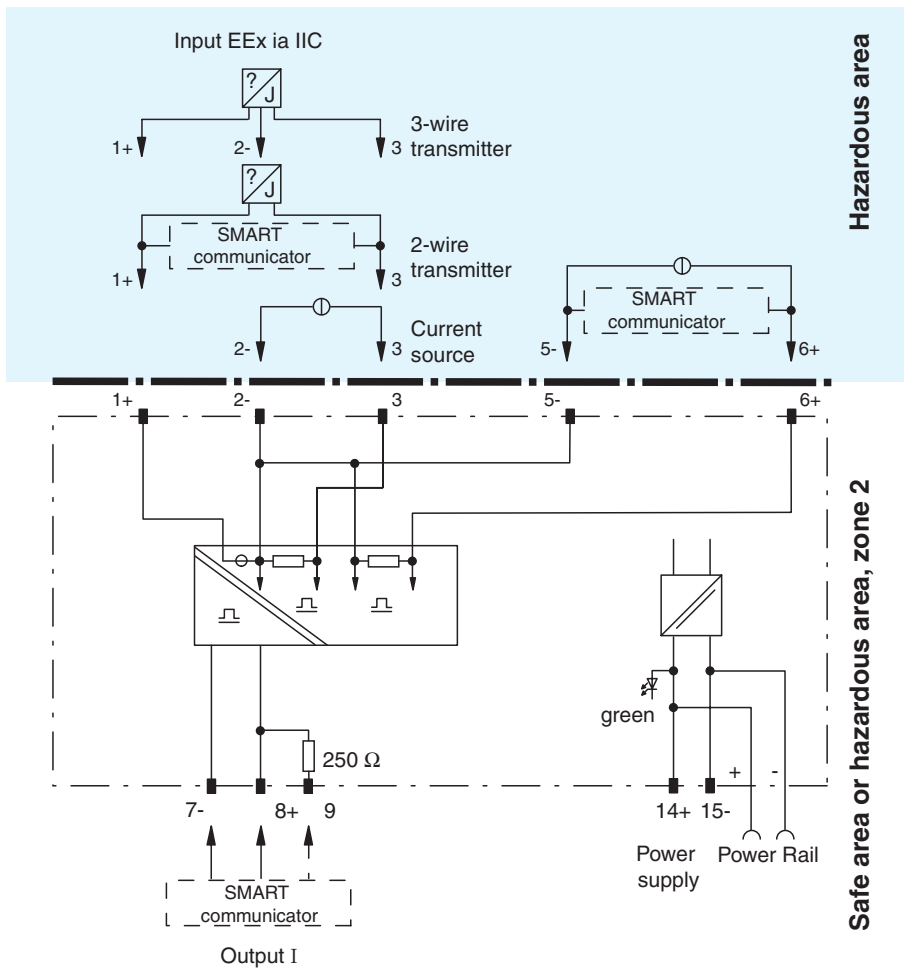
An internal resistor at terminal 9 is available, which may be used to increase the AC impedance for the HART signal.

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

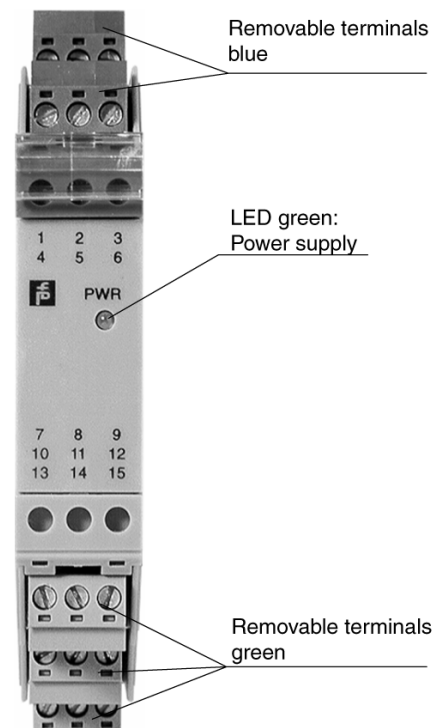
Connection



Composition

Front view


Housing type B2
 (see system description)



Release date 2007-09-19 15:41 Date of issue 2007-09-19 122580_ENG.xml

Supply	
Connection	Power Rail or terminals 14+, 15-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Power loss	1.5 W
Power consumption	1.9 W
Input	
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
Output	
Connection	terminals 7-, 8+, 9
Load	0 ... 800 Ω
Output signal	0/4 ... 20 mA (overload > 25mA)
Ripple	≤ 50 μA _{rms}
Transfer characteristics	
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 _{pp} -signal 0 ... 7.5 kHz (-3 dB) safe area into the hazardous area: bandwidth with 0.5 V _{pp} -signal 0.3 ... 7.5 kHz (-3 dB)
Rise time	20 μs
Settling time	200 μs
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/EC	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 4.6 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	⊕ II (1)GD [EEEx ia] IIC (-20 °C ≤ T _{amb} ≤ 60 °C) [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Supply	
Safety maximum voltage U _m	250 V (Attention! The rated voltage can be lower.)
Equipment	
Voltage U _i	30 V
Current I _i	115 mA
Voltage U _o	25.4 V
Current I _o	86.8 mA
Power P _o	551 mW
Internal capacitance C _i	12 nF
Internal inductance L _i	0 mH
Equipment	
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
Permissible connection values [EEx ia]	
Equipment	
Voltage U _o	25.4 V
Current I _o	115 mA
Power P _o	584 mW
Permissible connection values [EEx ia]	

Release date 2007-09-19 15:41 Date of issue 2007-09-19 12:580_ENG.xml

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
General information		
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!