- 1-channel
- Input EEx ia IIC; U_o = 25.2 V
- 24 V DC supply voltage
- SMART capable up to 40 kHz (-1dB)
- EMC acc. to NAMUR NE 21

Output 1 V ... 5 V

KFD2-STV3-Ex1-1

Function

SMART transmitter power supplies provide SMART transmitters with power in hazardous areas and transfer the 4 mA ... 20 mA analogue values to output terminals 9+ and 10-.

Digital signals may be superimposed on the analogue values in the hazardous or safe area, which may be transferred bidirectionally.

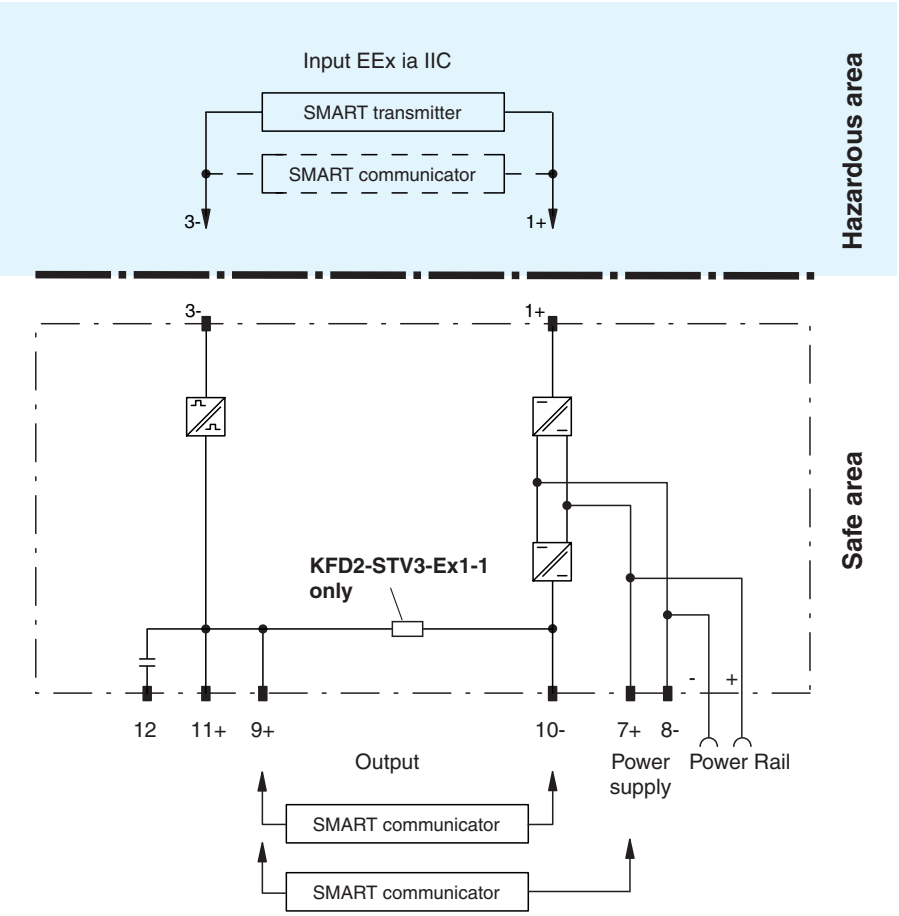
Handheld terminals should be connected as shown in the circuit block diagram. A series circuit, i. e. for the Bailey STT01, is also possible.

SMART transmitter power supplies are delivered standard with terminals KF-STP-BU and KF-STP-GN. Jacks are integrated in these terminals for the connection of the handheld units.

Application

- The supply of power to SMART transmitters and the transfer of the measurement current to the output
- suited for the following SMART systems:
  ABB, Bailey, Chessel, Eckhardt-Foxboro, Endress+Hauser, Fuji, Emerson, Smar, Siemens, VEGA, Yokogawa

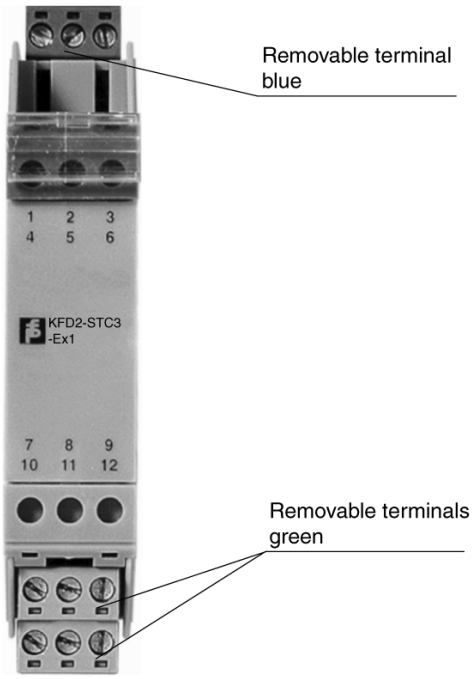
Connection



Composition

Front View

Housing type A4
(see system description)



Release date 2010-02-02 14:14 Date of issue 2010-02-02 116311_ENG.xml

General specifications	
Signal type	Analog input
Supply	
Connection	Power Rail or terminals 7+, 8-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Power loss	1.3 W
Power consumption	≤ 1.7 W
Input	
Connection	terminals 1+, 3-
Input signal	4 ... 20 mA
Available voltage	approx. 16.5 V at 20 mA
Output	
Connection	terminals 9+, 10-, 11+
Output signal	1 ... 5 V , internal resistance approx. 305 Ω
Ripple	≤ 0.05 % of output signal range
Transfer characteristics	
Deviation	≤ 0.03 % of output signal range (voltage output) ≤ 0.05 % of output signal range (current output)
Influence of ambient temperature	≤ 20 ppm/K
Frequency range	hazardous area to safe area: bandwidth with 1 mA_{pp} signal 0 ... 40 kHz (-1 dB); 0 ... 100 kHz (-6 dB) safe area to hazardous area: bandwidth with 1 V_{pp} signal 0 ... 40 kHz (-1 dB); 0 ... 100 kHz (-6 dB)
Rise time	10 µs
De-energized delay	10 µs
Electrical isolation	
Output/power supply	basic insulation acc. to EN 50178, rated insulation voltage of 50 V AC
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326-1:2006
Conformity	
Electromagnetic compatibility	NE 21
Protection degree	IEC 60529
Ambient conditions	
Ambient temperature	-20 ... 65 °C (253 ... 338 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 150 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 01 ATEX 7369 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1)GD [EEx ia] IIC (T_{amb} = -20 °C to +60 °C) [circuit(s) in zone 0/1/2]
Input	EEx ia IIC
Voltage U_o	25.2 V DC
Current I_o	93 mA
Power P_o	587 mW
Supply	
Safety maximum voltage U_m	250 V (Attention! The rated voltage can be lower.)
Type of protection [EEx ia]	
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

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.

Release date 2010-02-02 Date of issue 2010-02-02 116311_ENG.xml

Notes

- Terminal 12 is placed across an internally applied capacitance. Active input cards such as Foxboro FMB 18, can be operated with this.
- For test purposes or for commissioning the input of the transmitter power supply can be short-circuited for a short period.
- The permissible duration of the short-circuit equals a maximum of 6 hours.

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!

Release date 2010-02-02 14:14 Date of issue 2010-02-02 116311_ENG.xml