



- 2-channel
- Input EEx ia IIC; $U_0 = 25.2\text{ V}$
- Device installation permissible in zone 2
- 24 V DC supply voltage
- EMC acc. to NAMUR NE 21
- Output as current sink
- Up to SIL2 acc. to IEC 61508

KFD2-STC4-Ex2-Y72195

Function

SMART transmitter power supplies provide a 2- or 3-wire SMART transmitter in the hazardous area and transfer the analogue 4 mA ... 20 mA value from the hazardous area in the safe area.

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 block diagram.

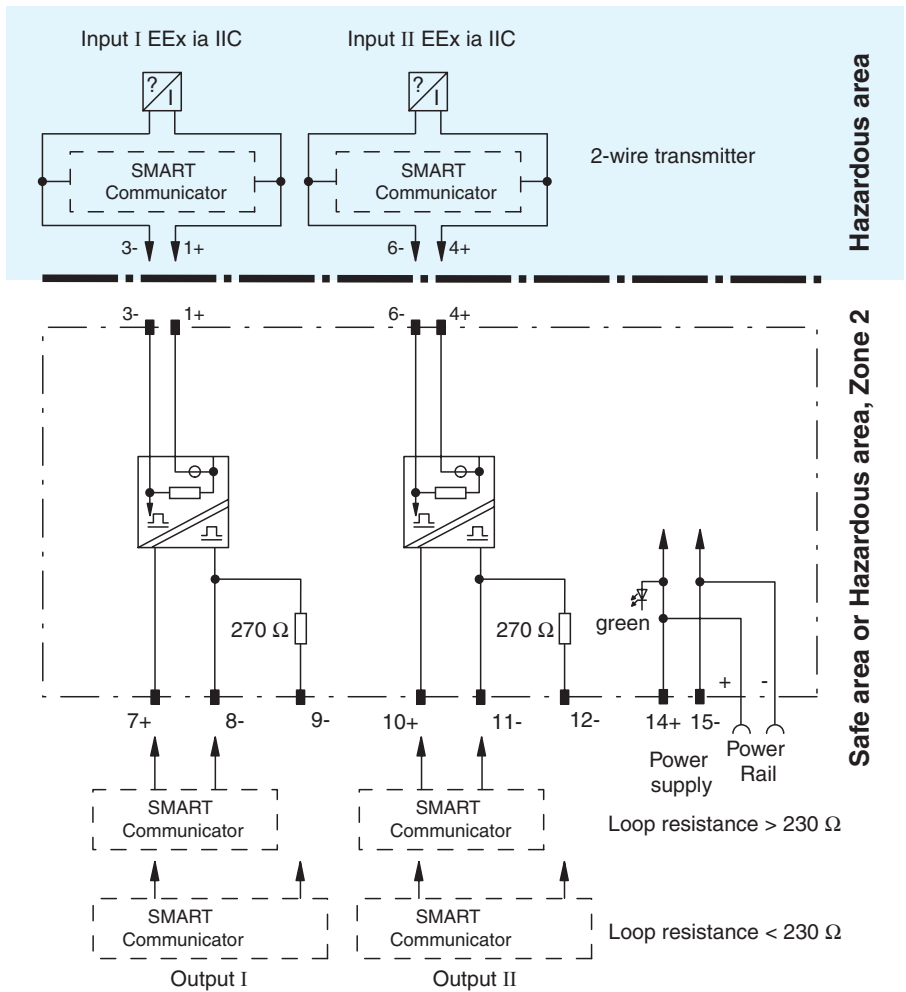
SMART transmitter power supplies are delivered standard with terminals KF-STP-BU and KF-STP-GN. Jacks are integrated in these terminals for the connection of the handheld units.

If the loop resistance $< 230\ \Omega$ (e.g. for the HART protocol), the connection have to occur via the terminals 7+, 9- (output I) or 10+, 12- (output II).

Application

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

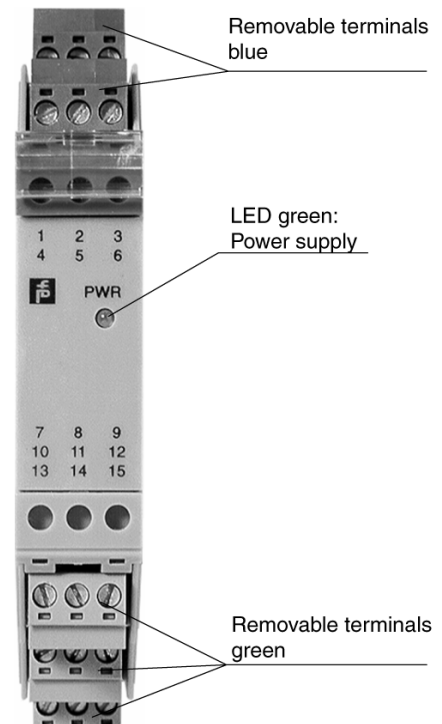
Connection



Composition

Front View

Housing type C
(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	≤ 2.8 W
Input	
Connection	terminals 1+, 3-; 4+, 6-
Input signal	0/4 ... 20 mA
Available voltage	≥ 16 V at 20 mA
Output	
Connection	terminals 7+, 8-, (9-), 10+, 11-, (12-)
Output signal	0/4 ... 20 mA (overload > 25mA)
Ripple	≤ 50 μA _{rms}
Transfer characteristics	
Deviation	± 0.1 % incl. calibration, linearity, hysteresis, loads and supply voltage fluctuations at 20 °C (293 K)
Influence of ambient temperature	≤ 20 p.p.m / K
Frequency range	hazardous area into the safe area: bandwidth with 1 V _{SS} -signal 0 ... 7.5 kHz (-3 dB) safe area to hazardous area: bandwidth with 1 V _{SS} -signal 0.3 ... 7.5 kHz (-3 dB)
Rise time	20 μs
De-energized delay	20 μs
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
Output/power supply	function insulation acc. to EN 50178, rated insulation voltage 253 V _{eff}
Output/output	function insulation acc. to EN 50178, rated insulation voltage 253 V _{eff}
Directive conformity	
Electromagnetic compatibility	
Directive 89/336/EC	EN 50081-2, EN 50082-2
Conformity	
Insulation coordination	EN 50178
Electrical isolation	EN 50178
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 118 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 7025 , for additional certificates see www.pepperl-fuchs.com
Voltage U ₀	25.2 V
Current I ₀	93 mA
Power P ₀	0.586 W
Type of protection [Ex ia]	
Explosion group	IIA IIB IIC
External capacitance	2.888 μF 0.808 μF 0.095 μF
External inductance	33 mH 17 mH 4.2 mH
Statement of conformity	TÜV 99 ATEX 1499 X , observe statement of conformity
Group, category, type of protection, temperature classification	⊕ II 3 G 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!