



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

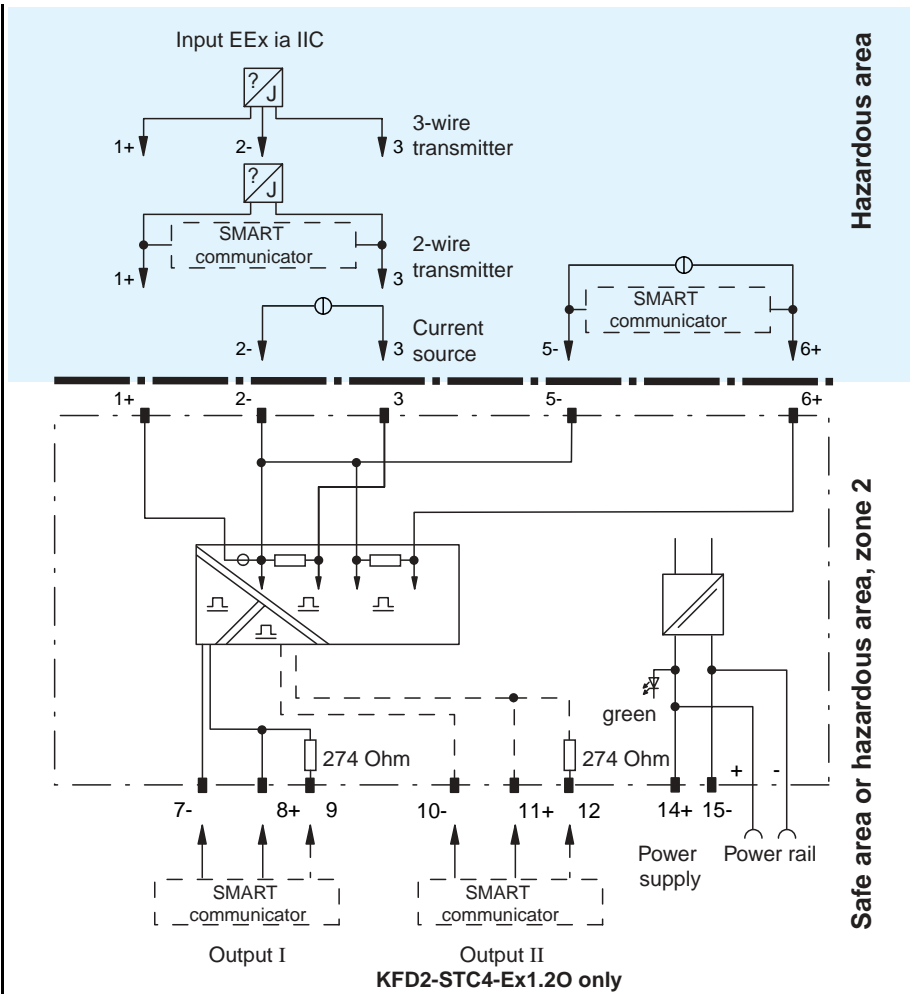
- 1-channel
- Device installation permissible in zone 2
- Input EEx ia IIC; $U_0 = 25.4\text{ V}$
- 2 galvanically isolated outputs
- 24 V DC nominal supply voltage
- SMART-compatible up to 7.5 kHz (-3 dB)
- EMC acc. to NAMUR NE 21

Function

SMART transmitter power supplies provide 2 or 3 wire SMART transmitters with power in hazardous areas and transfer the analog values from the hazardous to 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. In case of a too low loop resistance, an internal resistance of approx. 274 Ohm between terminals 8 and 9 is available, which can be used as HART resistor. 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

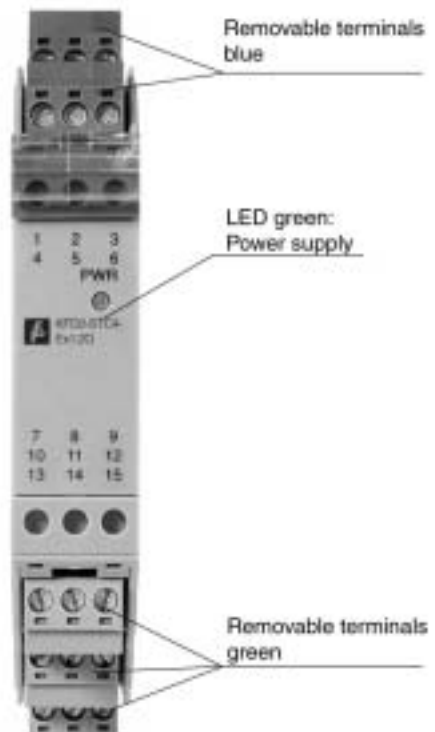
- The supply of power to the SMART transmitters and the transfer of the measurement current to the output
- for the transfer of a current source to the safe area
- suited for the following SMART systems:
 ABB Endress+Hauser
 Fisher-Rosemount Fuji
 Smar Yokogawa



Construction

Front View

Housing type C
(see system description)




Power supply

Connection type	Power Rail or terminals 14+, 15-
Rated operational voltage	20 ... 35 V DC
Safety maximum voltage U_m	250 V
Ripple	within the supply tolerance
Power consumption	2.5 W

Input (intrinsically safe)

Connection type	Terminals 1+, 2-, 3 or 5-, 6+
Input signal	0 ... 20 mA
Available voltage	≥ 16 V at 20 mA terminals 1+, 3
Input resistance	≤ 64 Ohm terminals 2-, 3

Details of certificate of conformity

Certification number	BAS 99 ATEX 7060 ; Other certifications see www.pepperl-fuchs.com
Group, category, ignition protection method	 II (1) G [EEx ia] IIC ($-20^{\circ}\text{C} \leq T_{\text{amb}} \leq 60^{\circ}\text{C}$)

Apparatus

	terminals 1+, 3-
Voltage U_i	30 V
Voltage U_o	25.4 V
Current I_i	115 mA
Current I_o	86.8 mA
Power P_o	551 mW
Internal capacitance C_i	12 nF
Internal inductance L_i	0

Permissible connection values [EEx ia]

Explosion group	IIA	IIB	IIC
External capacitance	2.808 μF	0.798 μF	0.093 μF
External inductance	22 mH	11 mH	2.7 mH

Apparatus

	terminals 2-, 3
Voltage U_o	3.5 V
Current I_i	115 mA
Current I_o	74 mA
Power P_o	64 mW

Permissible connection values [EEx ia]

Explosion group	IIA	IIB	IIC
External capacitance	< 100 μF	< 100 μF	< 100 μF
External inductance	50 mH	25 mH	6.4 mH

Apparatus

	terminals 1+, 3 / 2-
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 μF	0.798 μF	0.093 μF
External inductance	22 mH	11 mH	2.7 mH

Apparatus

	terminals 5-, 6+
Voltage U_i	30 V
Current I_i	115 mA
Voltage U_o	8.7 V
Current I_o	terminals 6: 0 mA terminals 5: 33 mA

Approved for zone 2

TÜV 99 ATEX 1499 X (observe conformity statement)  II 3 G EEx n A II T4

Output (not intrinsically safe)

Connection type	terminals 7-, 8+; 10-, 11+
Safety maximum voltage U_m	250 V
Output signal	0 ... 20 mA ; Load 0 ... 550 Ohm
Ripple	≤ 50 μA_{rms}

Transfer characteristics

Deviation	at 20 °C / 4 ... 20 mA ≤ 20 μA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Temperature	≤ 20 ppm / K

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Frequency range	hazardous area into the safe area: band width with 0.5 V _{SS} -signal 0 ... 7.5 kHz (-3 dB) Safe area into the hazardous area: Band width with 0.5 V _{SS} -Signal 0.3 ... 7.5 kHz (-3 dB)
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Galvanic isolation

Input/Output	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
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Input/Power supply	safe galvanic isolation acc. to EN 50020, voltage peak value 375 V
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Output/Power supply	Basic insulation according to DIN EN 50178, design isolation voltage of AC 50 V
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Ambient conditions

Ambient temperature	-20 ... 60 °C (253 ... 333 K)
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Mechanical specifications

Mass	approx. 200 g
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Accessories:**Power Rail PR 02****Power Rail UPR 02****Power feed module KFD2-EB2**

The devices are supplied with 24 V DC due to the power feed module KFD2-EB2 and via the Power Rail PR 02 or UPR 02.

Each power feed module serves the fusing and monitoring of groups with up to 100 single devices. The PR 02 Power Rail is an inset component for the DIN rail. The UPR 02 Power Rail is a complete unit consisting of the electrical insert and an aluminum 35 x 15 x 2000 mm DIN rail.

Devices are simply snapped onto it for an electrical connection.

Without the use of a Power Rail, the power supply to the device is directly through the device terminals.

