



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

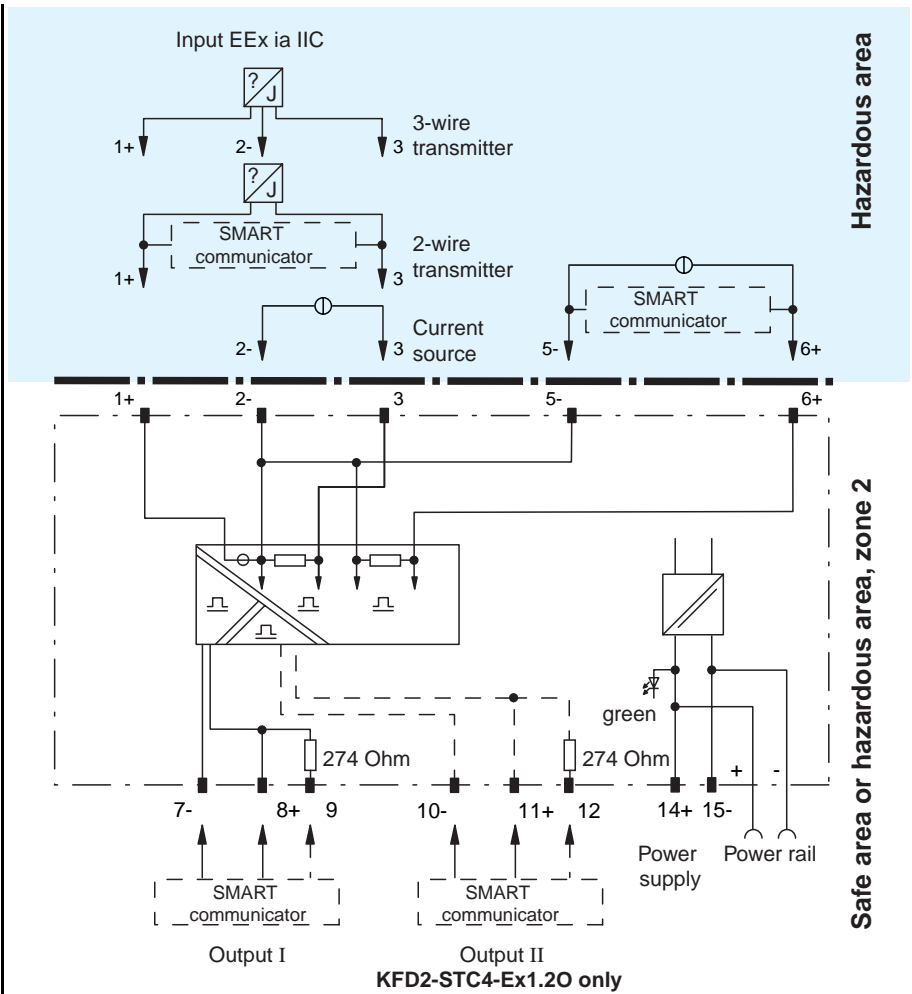
- 1-channel
- Device installation permissible in zone 2
- Input EEx ia IIC;  $U_0 = 25.4\text{ V}$
- Galvanically isolated output
- 24 V DC nominal supply voltage
- SMART-compatible up to 7.5 kHz (-3 dB)
- EMC acc. to NAMUR NE 21

**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**

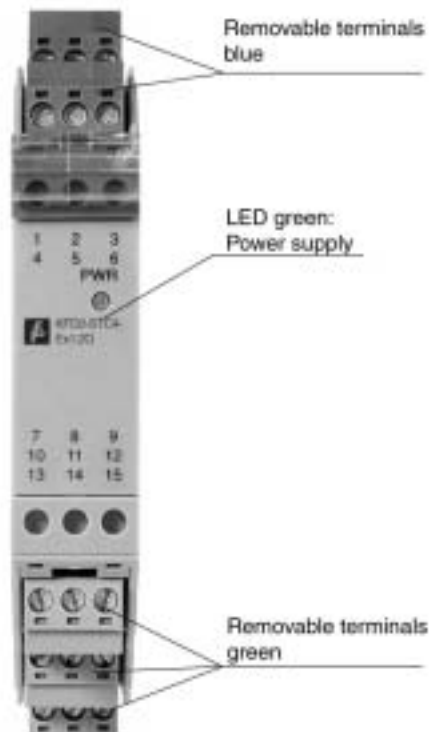
- The supply of power to the SMART transmitters and the transfer of the measurement current to the output
- for the transfer of a current source to the safe area
- suited for the following SMART systems:  
 ABB                      Endress+Hauser  
 Fisher-Rosemount    Fuji  
 Smar                      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	1.9 W

**Input (intrinsically safe)**

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

**Details of certificate of conformity**

Certification number	BAS 99 ATEX 7060 ; Other certifications see <a href="http://www.pepperl-fuchs.com">www.pepperl-fuchs.com</a>
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 $\mu\text{F}$	0.798 $\mu\text{F}$	0.093 $\mu\text{F}$
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	$< 100$ $\mu\text{F}$	$< 100$ $\mu\text{F}$	$< 100$ $\mu\text{F}$
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
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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+; 9
Safety maximum voltage $U_m$	250 V
Output signal	0 ... 20 mA ; Load 0 ... 550 Ohm
Ripple	$\leq 50$ $\mu\text{A}_{\text{rms}}$

**Transfer characteristics**

Deviation	at 20 °C / 4 ... 20 mA $\leq 20$ $\mu\text{A}$ incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage
Temperature	$\leq 20$ ppm / K

06.03.2002  
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Frequency range	hazardous area into the safe area: band width with 0.5 V <sub>SS</sub> -signal 0 ... 7.5 kHz (-3 dB) Safe area into the hazardous area: Band width with 0.5 V <sub>SS</sub> -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.

