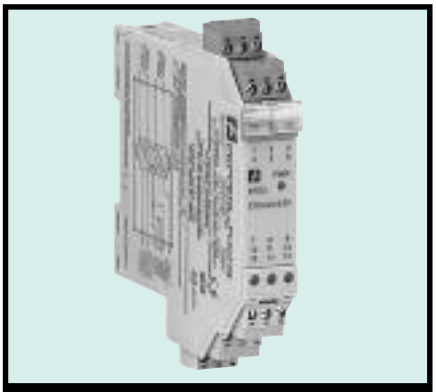
HART Transmitter Power Supply



Model Number
KFD2-STC4-Ex1.20

- Single-channel
- Dual outputs
- HART compatible
- 4-20mA current source outputs
- 3-way isolation

SMART transmitter power supplies supply a 2-wire SMART transmitter within a hazardous area and transfer the analog 4-20 mA signal from the hazardous area to the safe area as two current sources.

Digital signals which can be modulated onto the analog signal, can also be transmitted bidirectionally on the hazardous or safe side. Handheld terminals can be connected as shown in the block diagram.

The SMART transmitters are normally delivered with the KF-STP-BU and KF-STP-GN terminals. Connector jacks are integrated in these terminals for the connection of the handheld terminals.

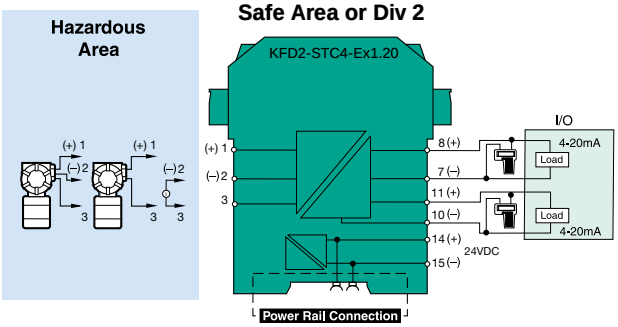
If the communicator is connected in the safe area, the load resistance must not be less than 230 Ω.

Technical Data

Power Supply	Power Rail or terminals 14+, 15-		
Nominal voltage	20-35 VDC		
Power consumption	≤ 2.5 W		
Input (intrinsically safe)	Terminals 1+, 2-, 3		
Input signal	4-20 mA		
Available voltage (term. 1, 3)	≥16 V at 20 mA		
Output (not intrinsically safe)	Terminals 7-, 8+, 10-, 11+		
Output signal	4-20 mA		
Load resistance*	0-550 Ω		
Ripple	≤ 75 μA_{pp}		
Transfer Characteristics			
Calibrated accuracy	≤ 20 µA		
Temperature drift	≤ 1 µA/°C		
Freq. range (250 Ω load)	(Hazardous area into safe area)		
Band width at 0.5 V_{pp} Signal	0 Hz to 7.5 kHz (-3 dB)		
	(Safe area into hazardous area)		
Band width at 0.5 V_{pp} Signal	300 Hz to 7.5 kHz (-3 dB)		
Interference rejection	Unaffected by 260 V, 50 Hz common mode input signal with any safe side terminal grounded, and 27 MHz walkie-talkies		
Entity Parameters	Terminals 1+, 3-		
UL control drawing no.	116-0173		
Voltage V_{oc}	25.4 V		
Current I_{sc}	88.2 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance (C_a)	0.01 µF	0.081 µF	2.89 µF
Max. external inductance (L_a)	4.2 mH	17 mH	33 mH
Mechanical			
Housing	Type A4 (see page 387)		
Dimensions (mm)	107 x 20 x 115 mm		
Weight	100 g (3.5 oz.)		
Ambient Temperature	-20°C to +60°C (-4°F to +140°F)		

Connection Diagram

Class I, Div 1, Group A-G,
Zone 0, IIC



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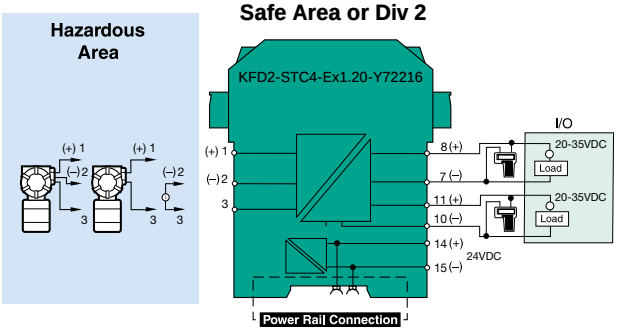

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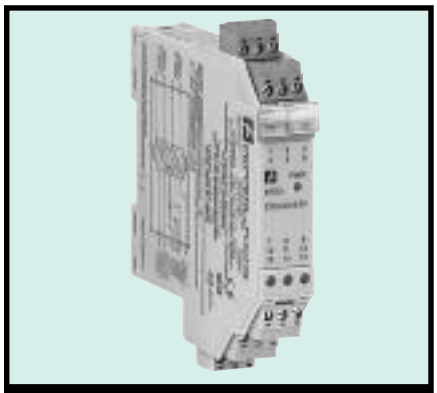

Model Number
KFD2-STC4-Ex1.20-Y72216

- Single-channel
- Dual outputs
- HART compatible
- Sink mode outputs
- 3-way isolation

SMART transmitter power supplies supply a 2-wire SMART transmitter within a hazardous area and transfer the analog 4-20 mA signal from the hazardous area to the safe area as two current sink outputs.

Digital signals which can be modulated onto the analog signal, can also be transmitted bidirectionally on the hazardous or safe side. Handheld terminals can be connected as shown in the block diagram.

The SMART transmitters are normally delivered with the KF-STP-BU and KF-STP-GN terminals. Connector jacks are integrated in these terminals for the connection of the handheld terminals.

If the communicator is connected in the safe area, the load resistance must not be less than 230 Ω.