



- 1-channel
- Input EEx ia IIC; $U_0 = 28V$
- 24 V DC nominal supply voltage
- SMART capable up to 40 kHz (-1dB)
- EMC acc. to NAMUR NE 21

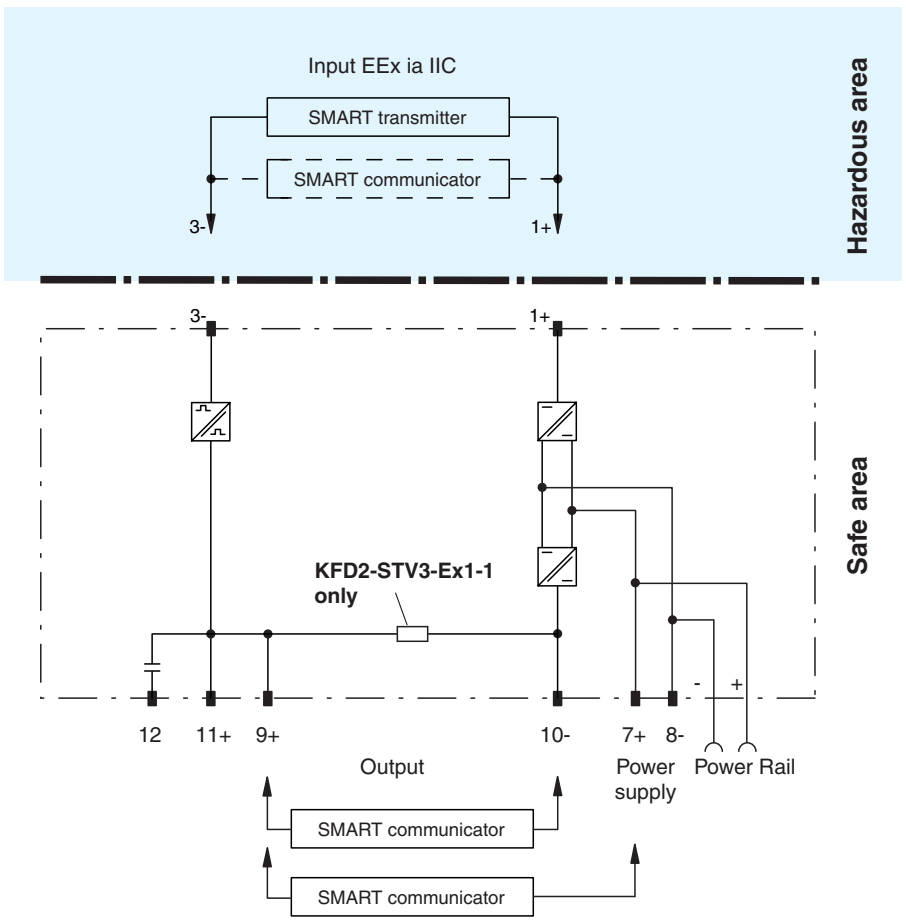
Output 4 mA ... 20 mA

KFD2-STC3-Ex1

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

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	4 ... 20 mA , max. load 1000 Ohm , for HART ≥ 230 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 p.p.m. / K
Frequency range	hazardous area to safe area: bandwidth with 1 mA _{SS} signal 0 ... 40 kHz (-1 dB); 0 ... 100 kHz (-6 dB) safe area to hazardous area: bandwidth with 1 V _{SS} -signal 0 ... 40 kHz (-1 dB); 0 ... 100 kHz (-6 dB)
Rise time	10 μs
De-energised delay	10 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	basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V
Directive conformity	
Electromagnetic compatibility	standards
Directive 89/336/EC	EN 61326, EN 50081-2, NE 21
Standard conformity	
Climatic conditions	acc. to DIN IEC 721
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 150 g
Data for application in conjunction with hazardous areas	
Certificate of conformity	BASEEFA No. Ex-89C2093 ; for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	[Ex ia] IIC (T _{amb} = 60 °C)
Voltage U ₀	28 V DC
Current I ₀	93 mA
Power P ₀	660 mW
Internal capacitance C _i	negligibly small
Internal inductance L _i	negligibly small
Type of protection [Ex ia]	
Explosion group	IIA IIB IIC
External capacitance	1.04 μF 0.39 μF 0.13 μF
External inductance	33.6 mH 12.6 mH 4.2 mH
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
Entity parameter	
Certification number	4Z6A5.AX
FM control drawing	No. 116-0129
Suitable for installation in division 2	yes
Connection	terminals 1, 3
Input I	
Voltage V _{OC}	28 V
Current I _t	93 mA
Explosion group	A&B C&E D, F&G
Max. external capacitance C _a	0.14 μF 0.43 μF 1.14 μF
Max. external inductance L _a	4.18 mH 16.83 mH 34.21 mH

Release date 2005-07-08 10:37 Date of issue 2005-07-08 071826_ENG.xml

Safety parameter			
UL control drawing	E 106378		
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 1, 3		
Input I			
Safety parameter	28 V / 300 Ohm		
Voltage V_{OC}	28 V		
Current I_{SC}	93 mA		
Explosion group	A&B	C&E	D, F&G
Max. external capacitance C_a	0.14 μ F	0.42 μ F	1.14 μ F
Max. external inductance L_a	3.1 mH	16.7 mH	34 mH

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.

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...

By means of the Power Rail PR-03 or UPR-03 the devices can be provided with 24 V DC via the power feed module. If no Power Rails are used, power supply of the individual devices is realised 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!