Output 1 V ... 5 V

- 1-channel
- Input EEx ia IIC; U_0 = 25.5 V
- 24 V DC nominal supply voltage
- SMART capable up to 12 kHz (-1 dB)
- EMC acc. to NAMUR NE 21

Successor KFD2-STV4-Ex1-1

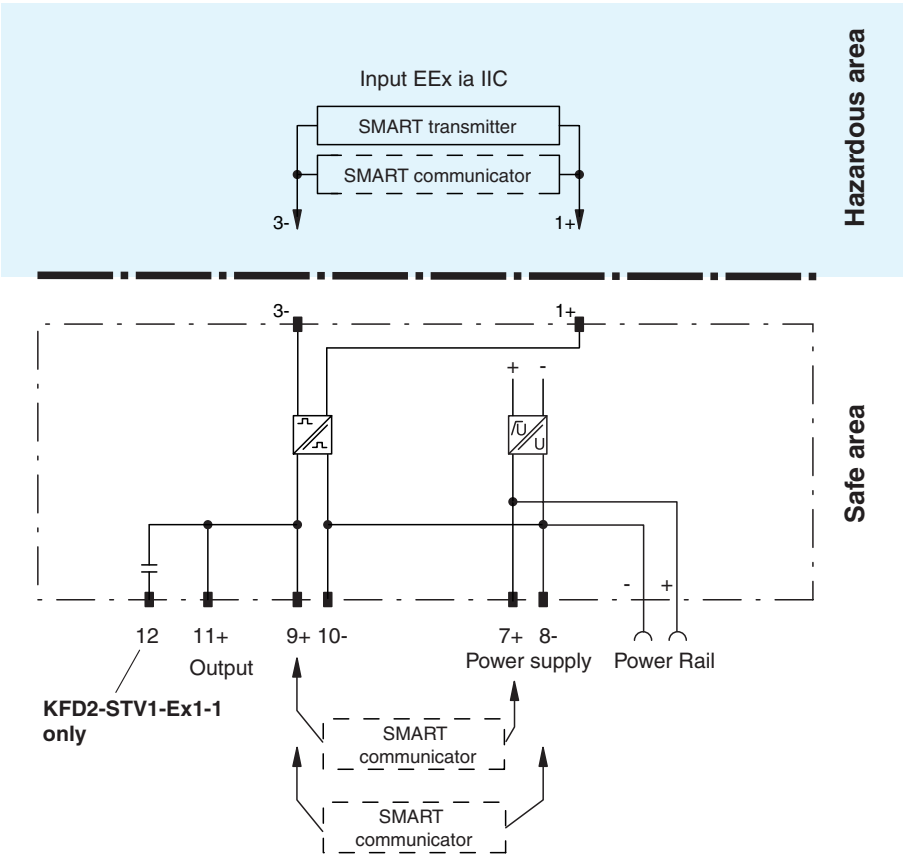
Function

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-.
The output signal for the KFD2-STC1-Ex1 is 4 mA ... 20 mA and the KFD2-STV1-Ex1-1 delivers 1 V ... 5 V. 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. 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.

Application

- The supply of power to SMART transmitters and the transfer of the measurement current to the output
- suited for the following SMART systems:

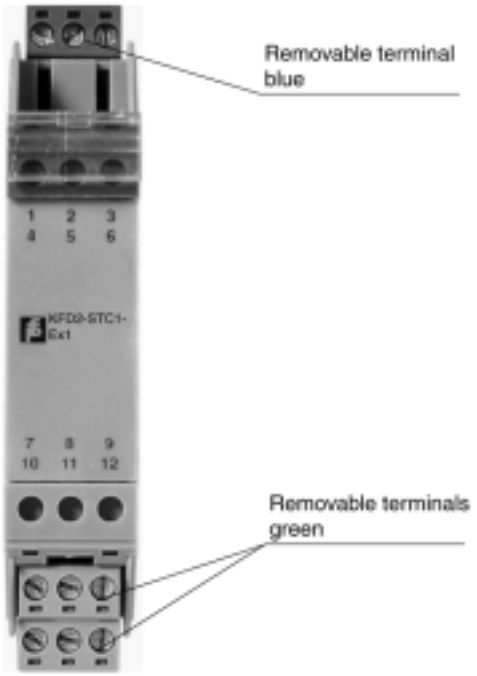
ABB	Chessel
Eckhardt-Foxboro	Endress+Hauser
Emerson	Fuji
Honeywell	Smar
Yokogawa	Siemens



Composition

Front View

Housing type A4
(see system description)



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Supply				
Connection		Power Rail or terminals 7+, 8-		
Rated voltage		20 ... 35 V DC		
Ripple		within the supply tolerance		
Power consumption		≤ 1,2 W		
Input				
Connection		terminals 1+, 3-		
Input signal		4 ... 20 mA		
Available voltage		15,8 V		
Output				
Connection		terminals 8-, 9+, 10-, 11+		
Output signal		1 ... 5 V , internal resistance approx. 305 Ohm		
Ripple		≤ 75 µA $_{ss}$		
Transfer characteristics				
Deviation		≤ 10 µA incl. calibration, linearity, hysteresis, loads and fluctuations of supply voltage		
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		40 µs		
De-energised delay		40 µs		
Electrical isolation				
Output/Power supply		not isolated		
Standard conformity				
Climatic conditions		acc. to DIN IEC 721		
Directive conformity				
Electromagnetic compatibility		standards		
Directive 89/336/EG		EN 61326, EN 50081-2, NE 21		
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				
EC-Type Examination Certificate		BAS 00 ATEX 7127 , for additional certificates see www.pepperl-fuchs.com		
Group, category, type of protection		⟨Ex⟩ II (1) G D [EEx ia] IIC (T_{amb} = -20 °C to +60 °C) [circuit(s) in zone 0/1/2]		
Input		EEx ia IIC		
Voltage	U_0	25,5 V DC		
Current	I_0	93 mA		
Power	P_0	586 mW		
Type of protection [EEx ia]				
Explosion group		IIA	IIB	IIC
External capacitance		2,87 µF	0,79 µF	0,082 µF
External inductance		35 mH	17 mH	4,3 mH
Supply				
Safety maximum voltage	U_m	250 V (Attention! The rated voltage can be lower)		
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		standards		
Directive 94/9 EU		EN 50014, EN 50020		
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
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 µF	0,42 µF	1,14 µF
Max. external inductance L_a	3,1 mH	16,7 mH	34 mH

Notes

Terminal 12 is placed across an internally applied capacitance.
Active input cards such as Foxboro FMB 18, can be operated with this.

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed.
This information can be found under www.pepperl-fuchs.com

Accessories

PR-03 Power Rail
UPR-03 Power Rail
KFD2-EB2 power feed module
The devices are supplied with 24 V DC through the KFD2-EB2 power feed module and the PR-03 or the UPR-03 Power Rail. Each power feed module monitors and provides protection for groups of as many as 100 individual devices. The PR-03 Power Rail is an insert component for the DIN rail. The UPR-03 Power Rail is a complete unit consisting of an electrical insert and an aluminium DIN rail measuring 35 mm x 15 mm x 2000 mm. The devices are simply snapped in place to make electrical contact.
If a Power Rail is not being used, power can be supplied to the devices directly through the device terminals.

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