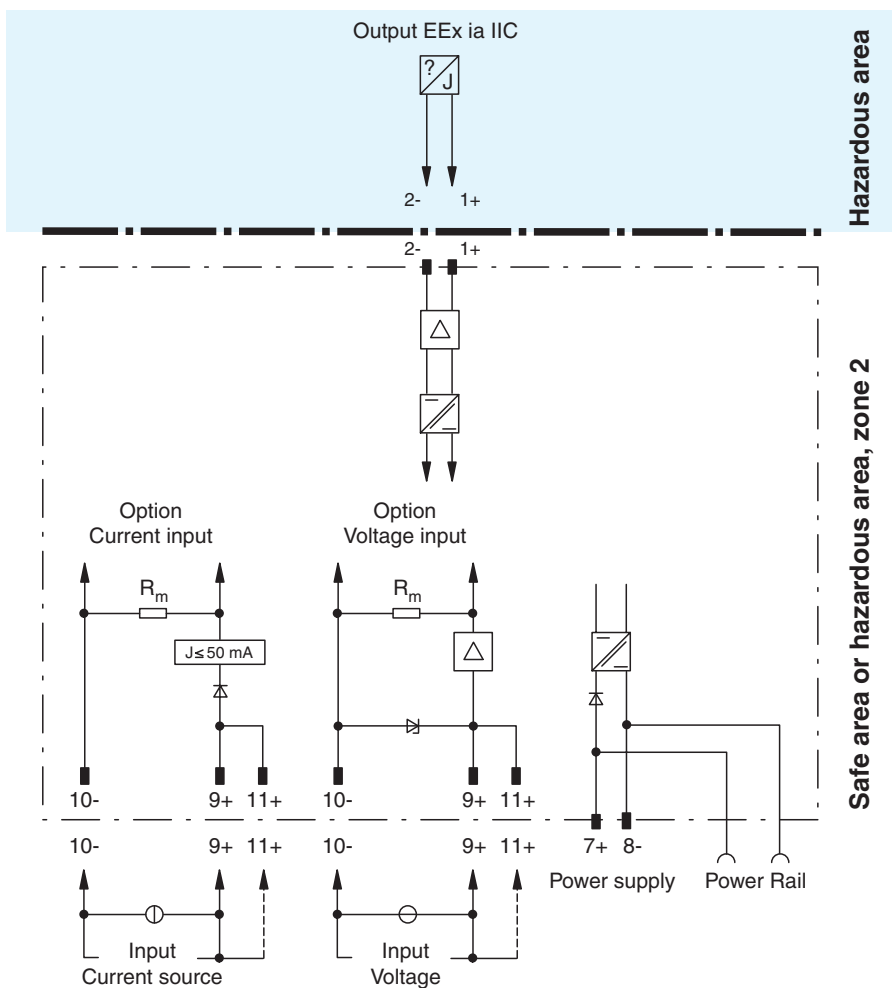




- 1-channel
- Output EEx ia IIC
- 24 V DC nominal supply voltage
- Device installation permissible in zone 2
- Conversion of current/voltage or voltage/current
- Elevation/Suppression of the "life zero"
- Accuracy 0.1 %
- EMC acc. to NAMUR NE 21

KFD2-CD-Ex1.32

Connection



Composition

Supply	
Connection	Power Rail or terminals 7+, 8-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Rated current	current output: ≤ 50 mA ; voltage output: ≤ 20 mA
Power loss	1.2 W
Input	
Connection	terminals 9+, 10-, 11+
Voltage drop U_d	optional current input: approx. 4 V at 20 mA
Input current	≤ 100 μ A up to 50 °C at 10 V
Signal level	???
Limit	optional current input: input current: approx. ≤ 40 mA optional voltage input: input voltage: 12 V DC
Transmission range	optional current input: 0 ... 20 mA/optional voltage input: 0 ... 10 V
Safety maximum voltage U_m	250 V
Output	
Connection	terminals 1+, 2-
Current	optional current output: 0 ... 20 mA/optional voltage output: ≤ 20 mA
Voltage	optional current output: 17 V at 20 mA/optional voltage output: 0 ... 10 V
Load	optional current output: ≤ 850 Ω optional voltage output: output resistance ≤ 3 Ω
Transfer characteristics	
Deviation	
After calibration	$\leq \pm 0.1$ % incl. non-linearity and hysteresis at 20 °C (293 K)
Influence of ambient temperature	$\leq \pm 0.01$ %/K
Rise time	< 10 ms
Electrical isolation	
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Input/power supply	basic insulation acc. to DIN EN 50178, rated insulation voltage of AC 50 V
Output/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 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. 100 g
Data for application in conjunction with hazardous areas	
Certificate of conformity	BASEEFA No. Ex-88B2373 ; for additional certificates refer to the approval list
Group, category, type of protection	[Ex ia] IIC ($T_{amb} = 60$ °C)
Voltage U_0	28 V DC
Current I_0	95 mA
Power P_0	665 mW
Internal capacitance C_i	negligibly small
Internal inductance L_i	negligibly small
Supply	
Safety maximum voltage U_m	250 V
Type of protection [Ex ia]	
Explosion group	IIA IIB IIC
External capacitance	1.04 μ F 0.39 μ F 0.13 μ F
External inductance	33.6 mH 12.6 mH 4.2 mH
Statement of conformity	TÜV 99 ATEX 1499 X (observe statement of conformity)
Group, category, type of protection, temperature classification	⊕ II 3 G EEx nA II T4
Electrical isolation	
Input/Output	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Output/power supply	safe electrical isolation acc. to EN 50020, voltage peak value 375 V
Directive conformity	
Directive 94/9 EC	EN 50021
Entity parameter	
Certification number	4Z6A5.AX

FM control drawing	No. 116-0129		
Suitable for installation in division 2	yes		
Connection	terminals 1, 2		
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 μ F	0.43 μ F	1.14 μ F
Max. external inductance L_a	4.18 mH	16.83 mH	34.21 mH
Safety parameter			
CSA control drawing	LR 65756-13		
Control drawing	No. 116-0132		
Connection	terminals 1, 2		
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

The KFD2-CD-Ex1.32 transmits an electrical unit signal from the safe area to the hazardous area. The conversion of a current signal into a voltage signal and vice versa is possible.

Current input option

A current limit circuit in series to terminal 9 protects the device from damage. The max. voltage drop at the input is DC 4 V, allowing for the connection of several KFD2-CD32-Ex1.32 repeaters due to the low voltage drop in order to maintain multiple galvanically isolated outputs (signal duplication).

Voltage input option

The signal is transmitted to terminals 9 and 10 across an amplifier and the DC/DC converter within the allowable voltage range. A voltage limiter circuit protects the amplifier from incorrect input switching and overvoltage, but will draw current through a 50 mA fuse during operation. The fuse can be changed only by the manufacturer.

Current output option

The open circuit voltage is DC 24 V within the allowable supply voltage range at terminals 1 and 2. The max. load that can be applied is 850 Ω .

Voltage output option

At least 20 mA is available within the allowable supply voltage range at terminals 1 and 2 which means that with 10 V output voltage, a load of at least 500 Ω must be connected.

Application

Used to drive I/P converters and valve positioners.

Table: input/output options, type

For options enclosed in parantheses, the transfer range for a base type is only partially used, i. e. 4 mA ... 20 mA from the base type 0 mA ... 20 mA.

	OUTPUT	0 mA ... 20 mA	4 mA ... 20 mA	0 V ... 5 V	1 V ... 5 V	0 V ... 10 V	2 V ... 10 V	Ordering example:
I N P U T	0 mA ... 20 mA	0	2	-	9	12	-	Input 0 V ... 10 V, Output 4 mA ... 20 mA: is code number 8 Type code: KFD2-CD-Ex1.32.8
	4 mA ... 20 mA	1	0	10	-	13	12	
	0 V ... 5 V	3	5	15	-	-	-	
	1 V ... 5 V	-	3	-	15	-	-	
	0 V ... 10 V	6	8	21	-	15	-	
	2 V ... 10 V	-	6	-	-	-	15	