



- 1-channel
- Input EEx ia IIC
- 24 V DC nominal supply voltage
- Current or voltage output
- Accuracy 0.05 %
- EMC acc. to NAMUR NE 21

KFD2-PT2-Ex1-2

Replacement device for KFD2-PT-Ex1
Attention: output polarity now 7-, 8+

Function

The KFD2-PT2-Ex1 supplies power to the potentiometers in the hazardous area.

The loop voltages are transmitted.

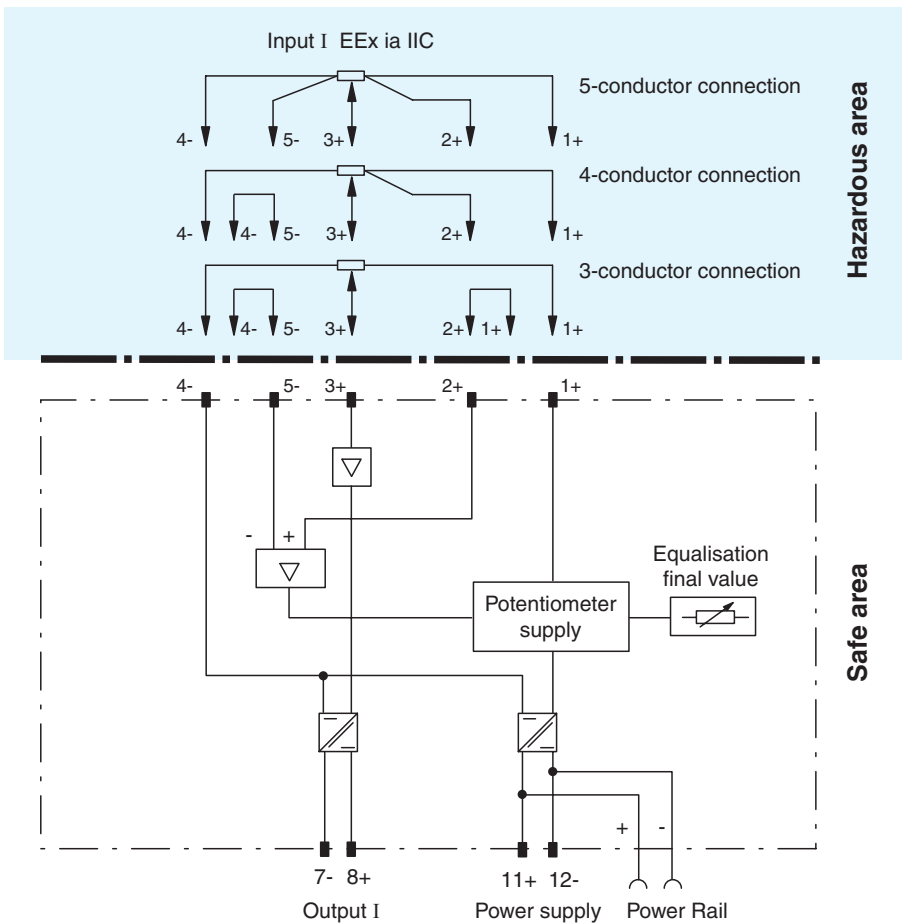
The KFD2-PT2-Ex1 is available with current and voltage outputs (terminals 7 and 8).

It can be operated in the 3-, 4- or 5-wire mode with the potentiometer.

In the 5-wire mode of operation, the potentiometer voltage is measured at terminals 2 and 5 and automatically readjusted. For a 4-wire connection on the KFD2-PT2-Ex1, terminals 4- and 5- are bridged. With the resistance adjustment on the front housing panel, it is possible to adjust the final value. For potentiometer resistances greater than 1 kΩ, the potentiometer can be used to compensate for lead resistances up to 5 % of the potentiometer value. For potentiometer values in a range of 800 Ω up to 1 kΩ the adjustment value is 50 Ω. During adjustment, the potentiometer is set to 100 % of its value and the output signal is adjusted to 100 % of the required value. This adjustment can be repeated setting the potentiometer to 0 %.

Terminals 4 and 5 as well as 1 and 2 must be bridged for a 3-wire connection to the potentiometer.

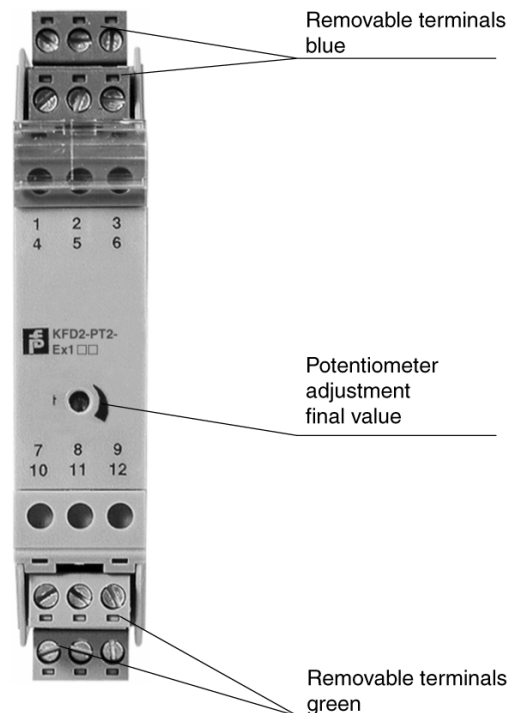
Connection



Composition

Front View

Housing type A4
(see system description)



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Supply	
Connection	Power Rail or terminals 11+, 12-
Rated voltage	20 ... 35 V DC
Ripple	within the supply tolerance
Power loss	0.5 W
Power consumption	0.6 W for voltage output; 1.3 W
Input	
Connection	terminals 4-, 5-, 3+, 2+, 1+
Lead resistance	≤ 50 Ω at potentiometer resistance ≤ 1 kΩ; 5 % of the potentiometer resistance at ≥ 1 kΩ (can be equalised by user)
Potentiometer resistance	≥ 800 Ω
Potentiometer voltage	approx. 4.7 V
Output	
Voltage output	0/1 ... 5 V or 0/2 ... 10 V
Connection	terminals 7-, 8+
Current output	0/4 ... 20 mA ; load ≤ 1 kΩ
Output resistance	≤ 30 Ω
Transfer characteristics	
Deviation	
Linearity	≤ ± 5 mV in case of voltage output/≤ ± 10 µA in case of current output
Influence of ambient temperature	≤ 5 mV/K in case of voltage output/≤ 1 µA in case of current output
Rise time	10 to 90 % ≤ 8 ms; 10 to 90 % within 1 % of span ≤ 25 ms
Electrical isolation	
Input/output	safe electrical isolation acc. to EN 50020
Input/power supply	safe electrical isolation acc. to EN 50020
Output/power supply	available
Directive conformity	
Electromagnetic compatibility	standards
Directive 89/336/EC	on request
Standard conformity	
Insulation coordination	acc. to DIN EN 50178
Electrical isolation	acc. to DIN EN 50178
Electromagnetic compatibility	EN 50081-2, EN 50082-2, IEC 801-6 intensity level 2
Climatic conditions	acc. to DIN IEC 721
Ambient conditions	
Ambient temperature	-20 ... 60 °C (253 ... 333 K)
Mechanical specifications	
Protection degree	IP20
Mass	approx. 120 g
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	BAS 00 ATEX 7171 , for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	Ex II (1)GD [EEx ia] IIC (-20 °C ≤ T _{amb} ≤ 60 °C)
Voltage U _o	10.4 V DC
Current I _o	31.4 mA
Power P _o	82 mW
Supply	
Safety maximum voltage U _m	250 V (Attention! The rated voltage can be lower.)
Type of protection [EEx ia]	
Explosion group	IIA IIB IIC
External capacitance	79 µF 17.4 µF 2.53 µF
External inductance	273.55 mH 132.57 mH 36.07 mH
Output	
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
Input/power supply	safe electrical isolation acc. to EN 50020
Directive conformity	
Directive 94/9 EC	standards on request

Supplementary information

EC-Type Examination Certificate, Statement of Conformity, Declaration of Conformity and instructions have to be observed. For information see www.pepperl-fuchs.com.

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Notes

The KFD2-PT2-Ex1 is available with various output options.

Model number	Output	Model number	Output	Model number	Output
KFD2-PT2-Ex1	0 V ... 10 V	KFD2-PT2-Ex1-2	2 V ... 10 V	KFD2-PT2-Ex1-4	0 mA ... 20 mA
KFD2-PT2-Ex1-1	0 V ... 5 V	KFD2-PT2-Ex1-3	1 V ... 5 V	KFD2-PT2-Ex1-5	4 mA ... 20 mA

Accessories

Power Rail PR-03

Power Rail UPR-03

Power feed module KFD2-EB2...

Using Power Rail PR-03 or UPR-03 the devices are supplied with 24 V DC by means of the power feed modules. If no Power Rails are used, power supply of the individual devices is possible 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!