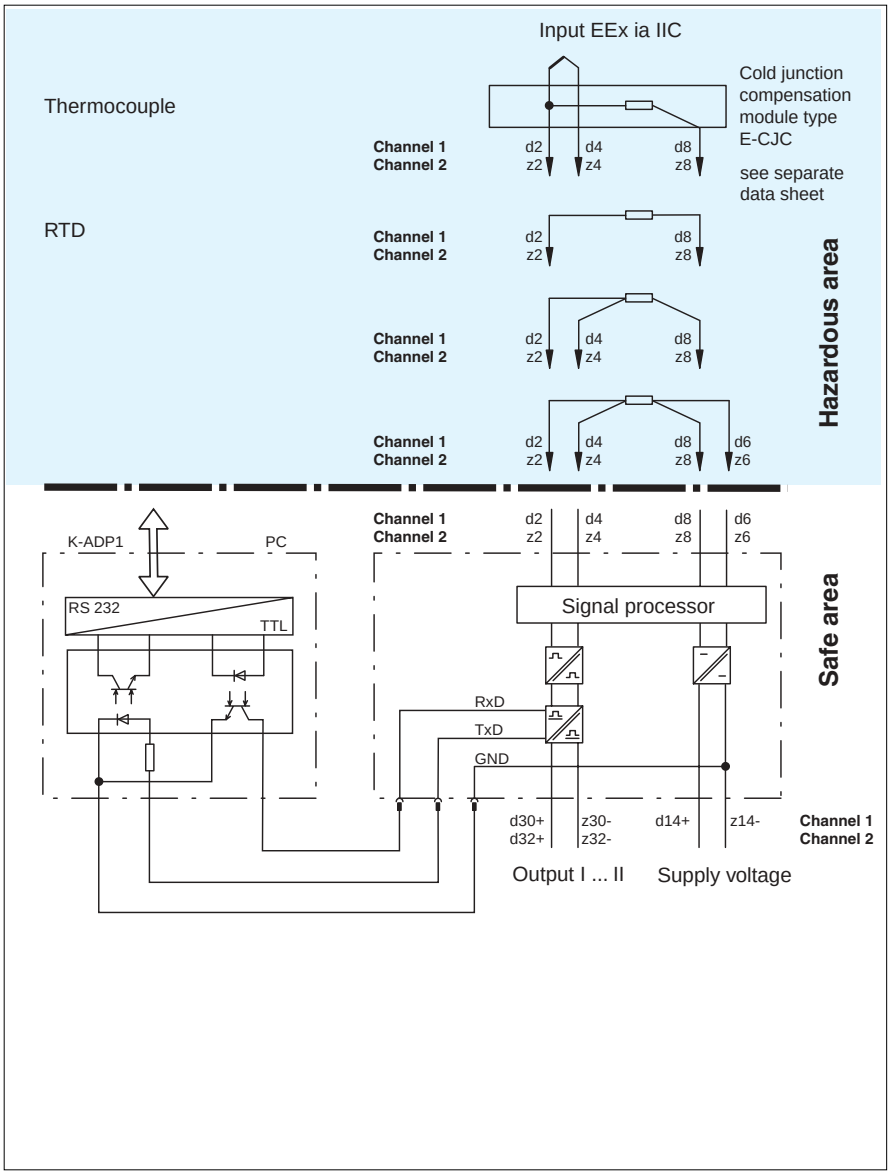
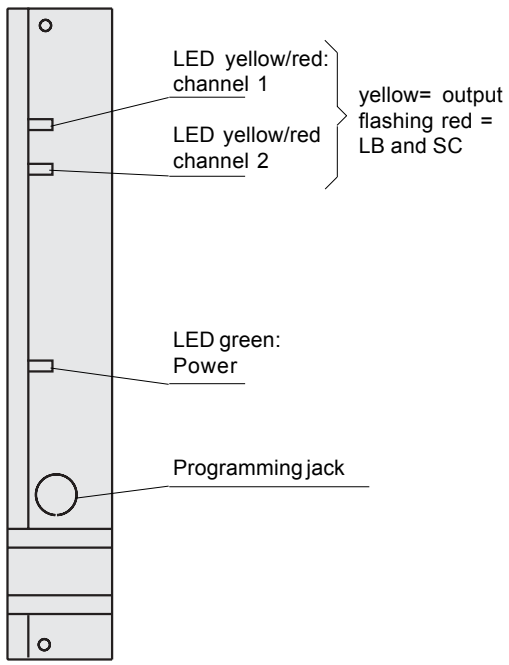
- **2-channel**
- **ATEX approval**
- **EEx ia IIC inputs**
- **24 V DC power supply**
- **0/4 mA ... 20 mA current output**
- **Voltage output**
  0/1 V ... 5 V or 0/2 V ... 10 V
- **Adjustment options:**
  - **temperature measuring range of Pt100 or Ni100 in 2-, 3- or 4-wire designs**
  - **temperature measuring range for model B, E, J, K, L, N, R, S or T thermocouples**
- **Internal cold junction compensation**
- **Sensor breakage and short circuit monitoring with Pt100 or Ni100**
- **All adjustments performed via serial interface on a PC**
- **The device can be field configured by the manufacturer upon request**
- **EMC per NAMUR NE 21**

The ED2-UT-Ex2 is designed for the connection of Pt100 and Ni00 (2-, 3- or 4-wire sensors) resistance temperature sensors as well as model B, E, J, K, L, N, R, S or T thermocouples. A temperature linear, current signal of 0/4mA ... 20mA is available at the output.
PACTware is used for programming the ED2-UT-Ex2 through the programming jack on the front of the device.
The inputs, outputs, programming input and the power supply are all galvanically isolated from eachother. The channels are also galvanically isolated.
The univeral converter is capable of on-line communications. Programming adjustments (e. g. of the measurement range), the display of measured values or the reading of the device's settings can be performed on-line without affecting the intrinsic safety of the device.
The device can be configured for cold junction compensation when using thermocouples, with Module E-CJC or an external reference thermocouple (channel 1).
Sensor breakage or lead faults are indicated by a red flashing LED. The reaction to error signals is programmable (upscaled and downscaled output).
The device can evaluate applied signals of -50 mV ... +150 mV or resistances of 0 Ω... 400 Ω A table of characteristic lines-linearisation can be entered by means of the interface.



Front View

New eurocard housing
(dimensions see page 17)



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Accessories	E-CJC module: internal cold junction compensation K-ADP1: programming adapter for connecting the converter to the PC K-SK: PACTware programming software
Technical data	
Power	
Nominal voltage	20 ... 35 V DC terminals d14+, z14-
Ripple	within supply tolerances
Power consumption	≤3 W
Inputs (intrinsically safe)	terminals d2-, d4, d6-, d8; z2-, z4, z6-, z8
Input signal	from temperature sensors Pt100, Ni100 (2-, 3- or 4- wire sensors), model B, E, J, K, L, N, R, S or T thermocouples (IEC 584), mV- or resistor values
Lead resistance	≤50 Ω per lead
Measurement current	about 400 µA for resistance sensors, lead breakage monitoring current is switched off during measurement
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	BAS 00 ATEX 7044 X, for additional certificates see www.pepperl-fuchs.com
Group, category, type of protection	⟨Ex⟩ II (1) G D [EEx ia] IIC (-20 °C ≤T_a≤60 °C)
Input	EEx ia IIC
Voltage U_0	11 V
Current I_0	33 mA
Power P_0	90 mW
Type of protection [EEx ia]	
Explosion group	IIA / IIB / IIC
Max. external capacitance C_0	60 µF / 13.8 µF / 1.97 µF
Max. external inductance L_0	250 mH / 120 mH / 31 mH
Fail-safe max. voltage U_m	
Supply	250 V (Attention! The nominal voltage can be lower.)
Output	250 V (Attention! The nominal voltage can be lower.)
Directive conformity	
Directive 94/9 EC	EN 50014, EN 50020
Outputs (not intrinsically safe)	terminals d30+, z30-; d32+, z32-
Current output (analog)	
Normal operation	0/4 ... 20 mA
During excessive input signal error	20.5 mA
During lead breakage (LB) error	programmable: downscaled to 2 ... 4 mA or upscaled to 20 ... 22.5 mA
Load	≤500 Ω
Voltage output	
Normal operation	0/1 ... 5 V or 0/2 ... 10 V
During excessive input signal error	5.125V or 10.25V
During lead breakage (LB) error	programmable -0/1 ... 5 V: downscaled to 0.5 ... 1 V or upscaled to 5 ... 5.625 V -0/2 ... 10 V: downscaled to 1 ... 2 V or upscaled to 10 ... 11.25 V
Load	≤30 Ω
Transmission Characteristics	
Pt100 calibrated accuracy:	± (0.01 % of value in Kelvin + 0.05 % of span + 0.1 K). (4-wire connection)
Thermocouples:	± (0.05 % of value in Celsius + 0.05 % of span + 1 K, 1.2 K with models R and S), this includes ± 0.8 K cold junction compensation margin of error (± 0.9 K with models R and S)
Pt100 temperature influence (I-output):	± (0.0015 % of value in Kelvin + 0.006 % of span)/K ΔT
Thermocouples:	± (0.02 K + 0.004 % of value in Kelvin + 0.006 % of span)/K ΔT
Pt100 temperature influence (U-output):	± (0.0015 % of value in Kelvin + 0.0075 % of span)/K ΔT
Thermocouples:	± (0.02 K + 0.004 % of value in Celsius + 0.0075 % of span) per K ΔT
Influence due to adjustment of the current supply	≤0.01 % of span
Load resistance influence (Current output)	≤0.001 % of the output value per 100 Ω
Rise time	≤430 ms
Galvanic Isolation	
Input/output	available
Input/power	available
Output/power	available
Input 1/input 2	available
Conformity to standards	
Input	in accordance with DIN 19234 (NAMUR)
Basic insulation	per DIN EN 50178
Galvanic isolation	per DIN EN 50178
Environmental conditions	per DIN IEC 721
EMC	per EN 50081-2, EN 50082-2, NAMUR NE 21
Coding	a15/a27
Weight	200 g
Ambient temperature	
Operating temperature	-20 ... +60 ° C (253 ... 333 K)
Storage temperature	-40 ... +60 ° C (233 ... 333 K)

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