

UNIFLEX-R / REX

2-wire Temperature transmitter programmable

Pt100, Ni 100, Cu 100

Thermo couple type J, K, L, N, R, S, B

Setting via PC

Ex protection EEx ia II C T5

Bargraph-display scalable

GENERAL

The UNIFLEX 2-wire temperature transmitter with bargraph display is the solution to requirements regarding flexibility, reduced stock as approved safety against electromagnetic interferences.

By means of a PC and a programming set the transmitter is programmed for sensor type, measuring and display range.

For use within hazardous areas an intrinsically safe version is available.

DESCRIPTION

The transmitter consists of two independent signal inputs. One for thermocouples and one for resistive temperature sensors.

If thermocouple is selected, the resistive input is being used for connection of the cold junction compensation sensor Pt100CJC.

Resistive sensors can be connected in 3-wire configuration.

The bargraph display will be adjusted within the choosen span to perform optimal display function.

TECHNICAL DATA

INPUT

Resolution 14 bit (16 384 steps)

Resistance transducer

Sensor	span °C	min. span	error
Pt100	-50...+450		
Ni100	-50...+200	20 [K]	0.25 (K)
Cu100	-50...+200		

Smallest configurable resolution: 0.1 K

RTD current: < 0.2 mA, pulsating

Configuration: 3-wire
max. lead resistance ≤10 Ω per lead

Thermocouple

Type	span °C	min. span	error
J	-50...+800		
L	-50...+800		
K	-50...+1250	50 [K]	1 [K]
N	-50...+1200		
R	-50...+1700		
S	-50...+1700	200 [K]	2 [K]
B	+600...+1800		

Smallest configurable resolution: 0.1 K

Cold junction compensation

with Pt100 at terminals 3 + 4 (+7);
2-/ 3-wire connection, error 0.1K/10K

OUTPUT

Standard signal: 4...20 mA

Resolution: 12 bit

Load

$$R_{Load} = \frac{U_{Supply} - 6.5[V]}{0.02[A]} - R_{Lead}$$

Output current limitation: appr. 3.8/22 mA

Characteristic: temperature linear

Conformity error: ± 0.1 % of span

Accuracy
(inclusive linearity error)

Sensor	error
Pt100	
Ni100	± 0.25 K ± 0.1 % of span
Cu100	
Typ J	
Typ L	± 1 K ± 0.15 % of span
Typ K	
Typ R	
Typ S	± 2 K ± 0.15 % of span
Typ B	

Response time

T₉₀ RTD ≤ 0.5 s
TC ≤ 0.6 s

Sensor break

upscale (22 mA) for RTD and TC

DISPLAY

Bargraph 51 segments with a resolution of 2 % for each visible element, respective 1 %, when top segment flashes.

The display is selectable within the measuring range.

E.g.:

Output signal: 4 mA ± 0 °C, 20 mA ± 600 °C

Display: 0% ± 500 °C, 100 % ± 600 °C

POWER SUPPLY

Supply voltage: 6.5...35 VDC
EEx 6.5...28 VDC

Power supply effect

To span start: $\leq \pm 0.005 \% / V$
to span: $\leq \pm 0.001 \% / V$

Permissible ripple: $3 V_{rms}$

Supply voltage failure

no loss of configuration datas

ENVIRONMENTAL CONDITIONS

Temperature limits

Operation: -10 ... + 60 °C

Storage: -35 ... + 85 °C

Humidity: 90 % RH, no condensation

Vibrations: 0.7 g 10 to 100 Hz
(Lloyds Register Test 1)

Temperature effect: $< \pm 0.1 \% / 10 K$

Long term drift: $\pm 0.1 \% / 10\ 000 h$

ELECTROMAGNETIC COMPATIBILITY

Tested to EN 50082-2 and EN 50081- 1/2

EXPLOSION PROTECTION

Conforms to EN 50 014 and 50 020
EEx ia IIC T5

Certificate of conformity

DEMKO 94D.116789X

GENERAL

Dimensions: 62 x 88 x 24 mm

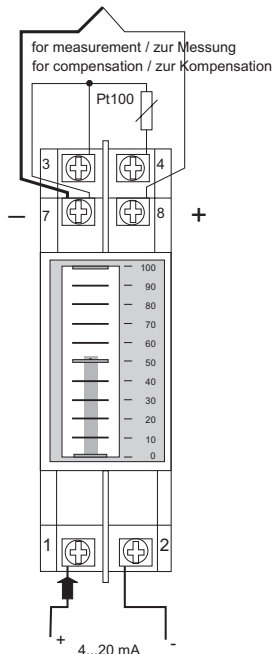
Mode of protection: housing IP30,
terminals IP10

Electrical connection: screw terminals

Weight: 0.12 kg

Mounting: 35 mm rail to DIN 46 277

Fig. 3 Connections



Mounting position

not critical (check display)

ORDER CODES

Description	Order number
UNIFLEX R	
Not configured	9404-202-08001
Configured to specification ¹⁾	9404-202-08001
UNIFLEX REX (EEx)	
Not configured	9404-202-08051
Configured to specification ¹⁾	9404-202-08061

ACCESSORIES

Description	Order number
Measuring resistor for internal temperature compensation with Thermocouple measurements	9404-202-08311
Programming set Adapter for connection to serial interface of a PC. The programming set comprises: Programming unit with cable and 25-pin sub-D connector. 3 1/2-inch program disk Battery connector and connecting lead. Operating instructions.	9404-202-09301
Transmitter supply units 230 VAC, standard	9404-202-08231
230 VAC, HRT, 70 mA	9404-202-08401
115 VAC, HRT, 70 mA	9404-202-08421
Ex proof power supply units	See separate data sheet TPS HART

¹⁾ **Clear text order information**
Sensor.....; Temp.Compensation.....

Span start (4mA)	Span end 20 mA	Display start (0 %)	Display end (100 %)
..... °C	 °C	 °C	 °C

Fig. Dimensions

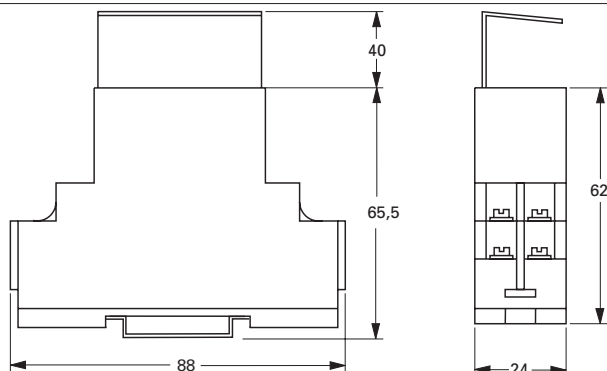
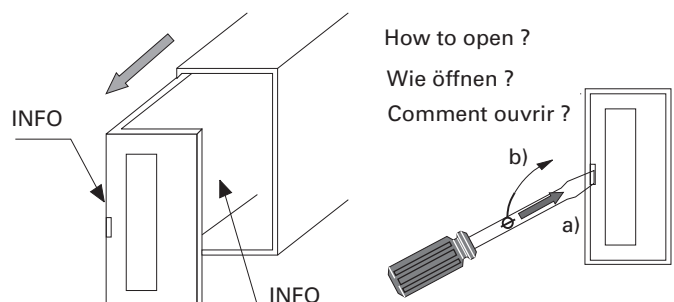


Fig. 2 Access to information



Deutschland

PMA Prozeß- und Maschinen-Automation GmbH
Miramstrasse 87, D-34123 Kassel

Tel./Fax: (0561) 505 - 1307/1710
E-mail: mailbox@pma-online.de
Internet: <http://www.pma-online.de>

Your local distributor