

# FlexTemp Temperature Transmitter

**Input: Pt100, Ni100, Cu100 and thermo-couple (J-K-L-N-R-S-B)**

**Output: 4...20 mA and LCD bar graph with zoom feature**

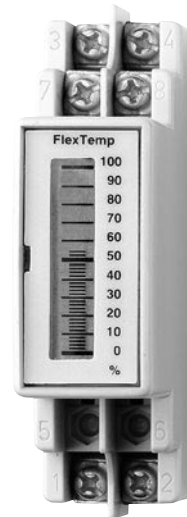
**Configurable via a standard PC**

**Accuracy < 0.25°C (Pt100)**

**Local or remote CJC-compensation**

**Input and output are polarity protected**

**Demko EEx ia IIC T5, ATEX II 1G**



## Description

FlexTemp comprises two independent signal inputs.

It has a millivolt input for thermocouples J, K, L, N, R, S and B.

The resistance input for Pt100, Ni100 and Cu100 resistance elements (RTD) can also be used to compensate for "cold junction" if thermocouples are to be connected.

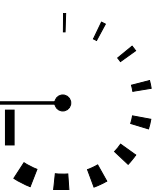
FlexTemp offers 2- or 3-wire connection when used as an RTD transmitter.

Using a PC and a FlexProgrammer kit, the temperature range and the display can be configured easily and quickly, providing a high degree of flexibility.

FlexTemp can be used for most temperature measuring applications.

**BOURDON  
HAENNI**

made to measure



## Technical Data

### Input

Sample time	< 0.5 sec.
RTD measuring current	< 0.2 mA, pulsating
Cable resistance	≤ 10 Ohm per wire (3-wire)

### Accuracy

Pt100	< 0.25°C
Ni100	
Cu100	
Type J	< 1.0°C
Type K	
Type L	
Type N	
Type R	< 2.0°C
Type S	
Type B	

### Output

Signal type	4...20 mA, 2-wire
Supply range	6.5...35 V <sub>dc</sub>
Load equation	$R_L \leq (V_{cc} - 6.5)/22$ (kOhm)
Current limiting	3.8 mA/22 mA
Accuracy	< 0.1% of prevailing span
Temperature drift	Typ. 0.003% per °C Max. 0.01% per °C
Overrange	22 mA
Underrange	3.8 mA

### Power supply

Supply drift	Max. 0.005% per V
Ripple immunity	3 V <sub>rms</sub>

### Approval (Demko) EEx ia IIC T5, ATEX II 1G

Supply	6.5...28 V <sub>dc</sub>
Internal inductivity	$L_i \leq 15 \mu\text{H}$
Internal capacity	$C_i \leq 1 \text{ nF}$
Barrier data	$U \leq 28 \text{ V}_{dc}$ ; $I \leq 0.1 \text{ A}$ ; $P \leq 0.7 \text{ W}$
Temperature class	T1...T5: $-10 < T_{amb} < 60^\circ\text{C}$

### Environmental conditions

Operating temperature	-10...60°C
Storage temperature	-35...85°C
Humidity	< 90% RH, non-condensing
Vibrations	Lloyds Register, test 2

### EMC data

Immunity	EN 50082-2
Emission	EN 50081-1

### Mechanical data

Dimensions	62 x 88 x 24 mm
DIN-rail mounting	DIN 46277
Protection class	Housing: IP 30 Terminals: IP 10
Weight	0.12 kg
Approval	Det Norske Veritas

### Display data

Display	LCD bar graph with 51 segments
Resolution	1%

### Disposal of product and packing

According to national laws or by returning to Bourdon-Haenni

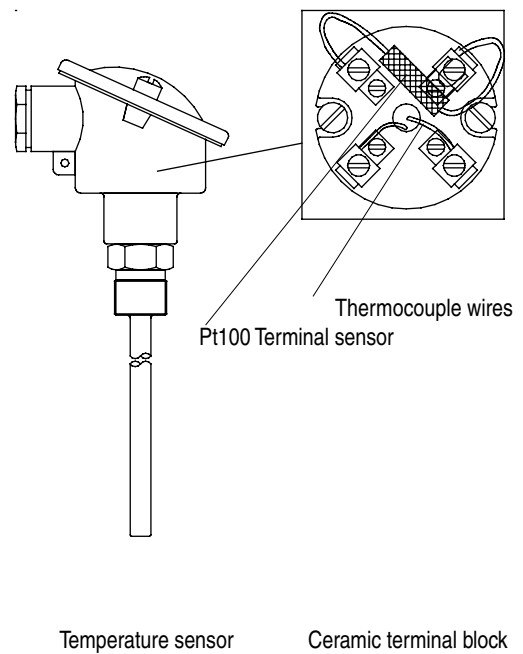
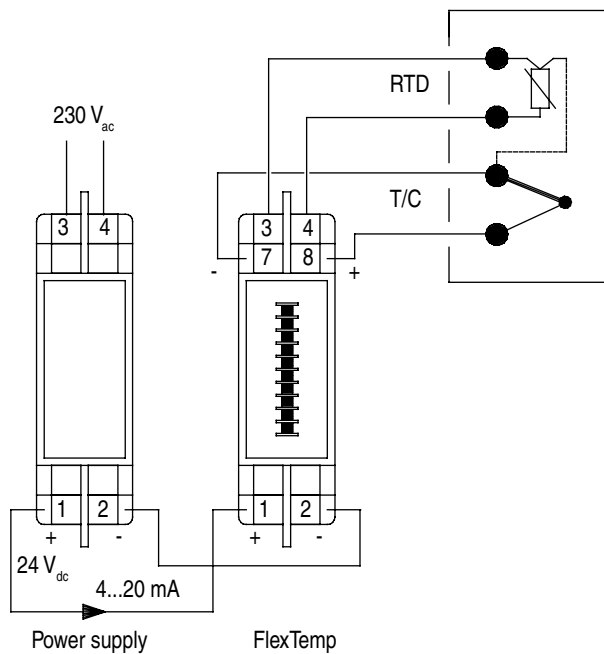
## Ordering Details - FlexTemp Temperature Transmitter

	82 2x - 51x	
<b>Type</b>	4 digit	
Standard version	3	
Demko EEx ia IIC T5, ATEX II 1G	4	
<b>Configuration</b>	7 digit	
Not configured	4	
Configured according to customer specifications	5	

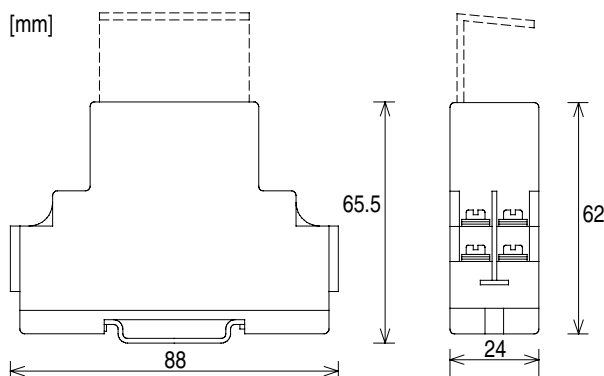
## Measuring Ranges

Sensor type	Measuring range	Min. span	Notes
Pt100	-50...450°C	20°C	Measuring range The temperature range which can be configured for both output and LC-display.
Ni100	-50...200°C	20°C	
Cu100	-50...200°C	20°C	Min. span The minimum measuring range which can be configured. E.g. Pt100: Measuring range -20°C...0°C or 430°C...450°C is possible.
Fe-CuNi, type J	-50...800°C	50°C	
NiCr-Ni, type K	-50...1200°C	50°C	
Fe-CuNi, type L	-50...800°C	50°C	Resolution The lowest resolution is 0.1°C. E.g.: Measuring range -10.1°C...9.9°C
NiCrSi-NiSi, type N	-50...1200°C	50°C	
PtRh13-Pt, type R	-50...1700°C	200°C	Note The highest temperature in the measuring range must be equal to or higher than 0°C.
PtRh10-Pt, type S	-50...1700°C	200°C	
PtRh30-Pt, type B	600...1800°C	200°C	

## Example of Application



## Dimensional Drawings

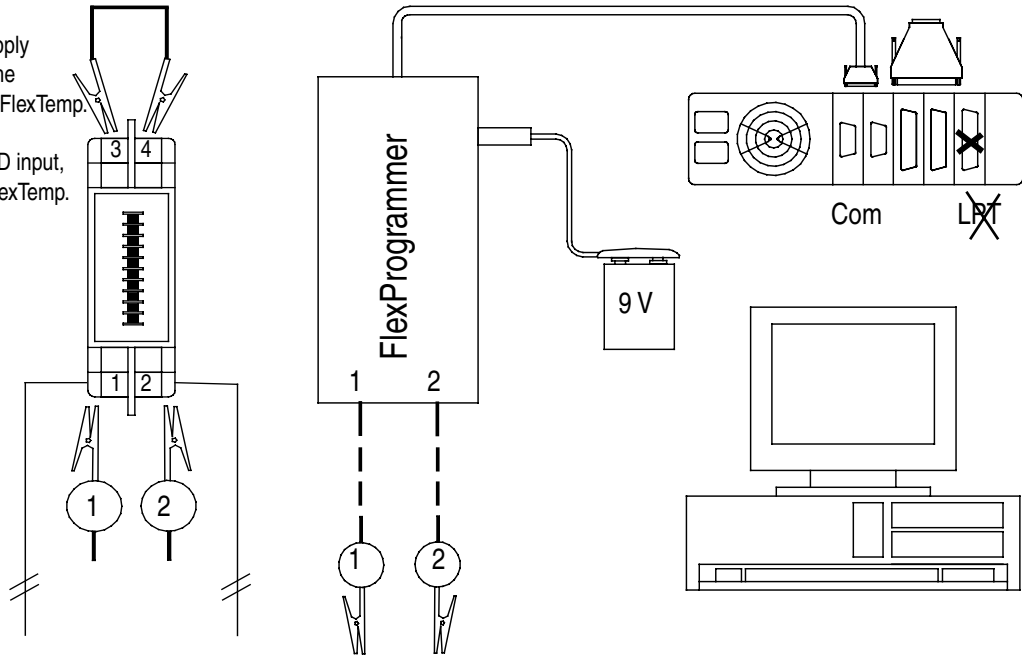


## Configuration

Note:

Disconnect loop supply before connecting the FlexProgrammer to FlexTemp.

Short-circuit the RTD input, when configuring FlexTemp.



## Status-indications

### 1. Normal mode

The basic scale is visible and the measured temperature is indicated by the relevant number of visible segments.

### 2. Prevailing temperature exceeds the selected range

11 segments at the top of the display are flashing. The basic scale is not visible.

### 3. Prevailing temperature is lower than the selected range

11 segments at the bottom of the display are flashing. The basic scale is not visible.

### 4. Prevailing temperature exceeds display range, but is below the permitted maximum

11 segments at the top of the display are visible. The basic scale is not visible.

### 5. Prevailing temperature is lower than display range, but over the permitted minimum

11 segments at the bottom of the display are visible. The basic scale is not visible.

### 6. System error, programming mode

11 segments in the middle of the display are flashing. The basic scale is not visible.

### 7. Module has not been configured

All segments, including the basic scale, are flashing.

### 8. Program memory not installed

All segments, including the basic scale, are visible.

## Accessories

FlexProgrammer configuration set, type number 82 23-903 comprises:  
FlexProgrammer with 9 pole RS232C cable  
Software CD  
Battery plug  
Cable with test plugs



## Pt100 Terminal Sensor

Pt100 terminal sensor for local CJC-compensation, type number 82 23-910

