REOTEMP

INSTRUMENTS

TCXT4PR 2-WIRE PROGRAMMABLE TRANSMITTER

- **RTD or Ohm input**
- **High measurement accuracy**
- **3-wire connection**
- **Programmable sensor error value**
- **For DIN form B sensor head mounting**

Application:

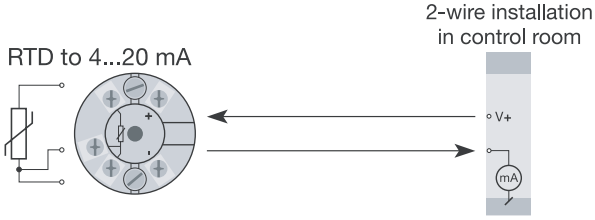
• Linearised temperature measurement with Pt100...Pt1000 or Ni100...Ni1000 sensor.

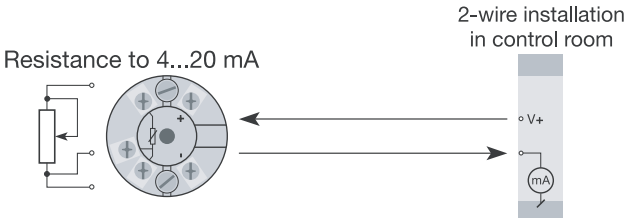
• Conversion of linear resistance variation to a standard analogue current signal, for instance from valves or Ohmic level sensors.

Technical characteristics:

• Using the optional software package, within a few seconds the user can re-program TCXT4PR to measure temperatures within all RTD ranges defined by the norms.

• The RTD and resistance inputs have cable compensation for 3-wire connection.





Mounting / installation:

• For DIN form B sensor head or DIN railmounting with a special fitting.

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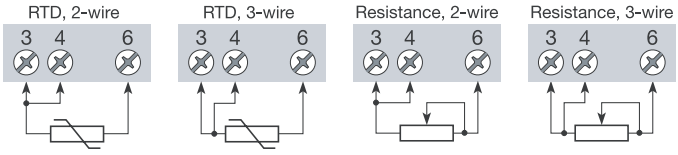
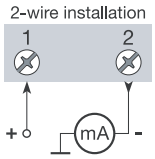
Connections:

Input:



Output:



Electrical specifications:

Specifications range:
-40˚C to +85˚C

Common specifications:

Supply voltage, DC	8.0...35 V
Internal consumption	25 mW...0.8 W
Voltage drop	8 VDC
Warm-up time	5 min.
Communications interface	Loop Link
Signal / noise ratio	Min. 60 dB
Response time (programmable)	0.33...60 s
Signal dynamics, input	19 bit
Signal dynamics, output	16 bit
Calibration temperature	20...28˚C

Accuracy, the greater of general and basic values:

General values		
Input type	Absolute accuracy	Temperature coefficient
All	≤±0.1% of span	≤±0.01% of span / ˚C

Basic values		
Input type	Basic accuracy	Temperature coefficient
RTD	≤±0.3˚C	≤±0.01˚C / ˚C
Lin.R	≤±0.2 Ω	≤±20 mΩ / ˚C

EMC immunity influence	≤±0.5% of span

Effect of supply voltage variation	≤0.005% of span / VDC
Vibration	IEC 60068-2-6 Test FC
Lloyd's specification no. 1	4 g / 2...100 Hz
Max. wire size	1 x 1.5 mm² stranded wire
Humidity	< 95% RH (non-cond.)
Dimensions	Ø 44 x 20.2 mm
Tightness (enclosure / terminal)	IP68 / IP00
Weight	50 g

Electrical specifications, input:

RTD and linear resistance input:

RTD type	Min. value	Max. value	Min. span
Pt100	-200˚C	+850˚C	25˚C
Ni100	-60˚C	+250˚C	25˚C
Lin.R	0 Ω	10000 Ω	30 Ω

Max. offset	50% of selec. max. value
Cable resistance per wire (max.)	10 Ω
Sensor current	> 0.2 mA, < 0.4 mA
Effect of sensor cable resistance (3-wire)	< 0.002 Ω/ Ω
Sensor error detection	Yes

Output:

Current output:

Signal range	4...20 mA
Min. signal range	16 mA
Updating time	135 ms
Load resistance	≤ (V_{supply} - 8) / 0.023 [Ω]
Load stability	< ±0.01% of span/100 Ω

Sensor error detection:

Programmable	3.5...23 mA
NAMUR NE43 Upscale	23 mA
NAMUR NE43 Downscale	3.5 mA

Marine approval:

Det Norske Veritas	Standard for Certification No. 2.4

Observed authority requirements:	**Standard:**
EMC 89/336/EEC, Emission	EN 50081-1, EN 50081-2
Immunity	EN 50082-2, EN 50082-1
Emission and immunity	EN 61326

Of span = Of the presently selected range

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