

## DIN Rail Temperature Transmitter TMT130



- Universal temperature transmitter for resistance thermometers (RTD), thermocouples (TC), resistance and voltage transmitters, settable via PC-Programmable
- The slim housing with 12.5 mm wide for DIN-rail mounting

### Application areas

- Temperature Transmitter for converting various input signals into a scalable 4 to 20 mA analogue output signal
- Input
  - Resistance thermometers(RTD)
  - Thermocouples(TC)
  - Resistance transmitters( $\Omega$ )
  - Voltage transmitters(mv)
- Installation on DIN Rail

### Performance

- Universal settings with PC-Programmable for various input signals
- 2 wire technology, 4 to 20mA analogue output
- High accuracy in total ambient temperature range
- An internal temperature sensor for active temperature compensation
- Wide voltage supply range
- Customer specific measurement range settings
- Expanded resistance input (max 2K $\Omega$ )
- Expanded voltage input (max 2Kmv)

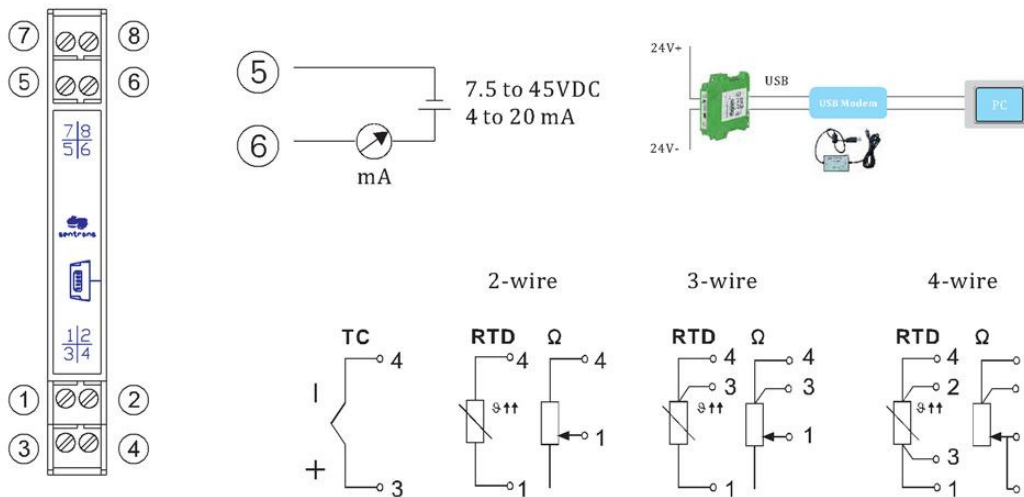
### Technical data

| Power supply                         |   |
|--------------------------------------|---|
| Supply voltage                       | 7.5 to 45 VDC(without display) , polarity protected                                     |
| Output                               |   |
| Output signal                        | 4 to 20 mA  |
| Signal on alarm                      | Underranging Linear drop to 3.8 mA  |
|                                      | Overranging linear rise to 20.5 mA  |
|                                      | Sensor break; sensor open-circuit 3.6 mA  |
| Load                                 | max.( $V_{\text{power supply}} - 7.5 \text{ V}$ )/0.022 A                               |
| Linearisation/transmission behaviour | Temperature linear, resistance linear, voltage linear                                   |
| Installation conditions              |   |
| Installation instructions            | Installation angle:no limit   |
|                                      | Installation area:Connection head accord. To DIN 43 729 Form B;<br>TAF 10 field housing |

| <b>Input</b>                               |   |                                     |                        |
|--|---|-------------------------------------|------------------------|
| <b>Input</b>                               | <b>Type</b>                             | <b>Measurement ranges</b>           | <b>Min.meas.Ranges</b> |
| Resistance thermometer(RTD)                | Pt100                                   | -200°C to 850°C (-328°F to 1562°F)  | 10K                    |
|  | Pt500                                   | ▲ -200°C to 250°C (-328°F to 482°F) | 10K                    |
|  | Pt1000                                  | ▲ -200°C to 250°C (-328°F to 482°F) | 10K                    |
|  | Cu50                                    | -50°C to 150°C (-58°F to 302°F)     | 10K                    |
|  | Cu100                                   | -50°C to 150°C (-58°F to 302°F)     | 10K                    |
|  | *Ni100                                  | -60°C to 180°C (-76°F to 356°F)     | 10K                    |
|  | *Ni500                                  | ▲ -60°C to 180°C (-76°F to 356°F)   | 10K                    |
|  | *Ni1000                                 | ▲ -60°C to 150°C (-76°F to 302°F)   | 10K                    |
| Resistance transmitter                     | Resistance(Ω)                           | 0 to 400Ω                           | 10Ω                    |
|  |   | ▲ 0 to 2000Ω                        | 20Ω                    |
| Connection type:2-,3- or 4-wire connection |   |                                     |                        |
| Thermocouples(TC)                          | B(PtRh30-PtRh6)                         | 0 to 1820°C ( 32 to 3308°F)         | 500K                   |
|  | E(NiCr-CuNi)                            | -270 to 1000°C (-454 to 1832°F)     | 50K                    |
|  | J(Fe-CuNi)                              | -210 to 1200°C (-346 to 2192°F)     | 50K                    |
|  | K(NiCr-Ni)                              | -270 to 1372°C (-454 to 2501°F)     | 50K                    |
|  | N(NiCrSi-NiSi)                          | -270 to 1300°C (-454 to 2372°F)     | 50K                    |
|  | R(PtRh13-Pt)                            | -50 to 1768°C (-58 to 3214.4°F)     | 500K                   |
|  | S(PtRh10-Pt)                            | -50 to 1768°C (-58 to 3214.4°F)     | 500K                   |
|  | T(Cu-CuNi)                              | -270 to 400°C (-454 to 752°F)       | 50K                    |
| Voltage transmitters(mV)                   | Millivolt transmitter(mV)               | -10 to 75mV                         | 5mV                    |
|  |   | ▲ -100 to 100mV                     | 5mV                    |
|  |   | ▲ -100 to 500mV                     | 6mV                    |
|  |   | ▲ -100 to 2000mV                    | 20mV                   |
| ▲ on request                               |   |                                     |                        |
| <b>Performance characteristics</b>         |   |                                     |                        |
| Response time                              | 1 s                                     |                                     |                        |
| Reference operating conditions             | Calibration temperature: 23°C(73.4°F)5K |                                     |                        |
| Long term stability                        | ≤0.05%/year                             |                                     |                        |
| Switch on delay                            | ≤5s                                     |                                     |                        |
| Influence of ambient                       | Negligible                              |                                     |                        |
| Load influence                             | Negligible                              |                                     |                        |
| Power supply influence                     | Negligible                              |                                     |                        |
| Self stability configuration               | 0 to 2%                                 |                                     |                        |
| Filter configurating                       | 0 to 160 μ A                            |                                     |                        |
| Resolution                                 | 0.3 μ A                                 |                                     |                        |
| Maximum measured error                     | Input                                   | Type                                | Measurement accuracy   |
|  | RTD                                     | Pt100, Ni100                        | 0.2K or 0.08%          |
|  |   | Pt500, Ni500                        | 0.5K or 0.20%          |
|  |   | Pt1000, Ni1000                      | 0.3K or 0.12%          |
|  |   | Cu50                                | 0.2K or 0.08%          |
| Cu100                                      |   | 0.3K or 0.12%                       |                        |
| TC   | K, J, T, E                              | typ.0.5K or 0.08%                   |                        |
|  | N                                       | typ.1.0K or 0.08%                   |                        |
|  | S, B, R                                 | typ.2.0K or 0.08%                   |                        |
| Ω  | 0 to 400Ω                               | ± 0.1Ω or 0.08%                     |                        |
|  | 0 to 2000Ω                              | ± 1.5Ω or 0.12%                     |                        |
| mV   | -10 to 75mV                             | ± 20 μ V or 0.08%                   |                        |
|  | -100 to 100mV                           | ± 0 μ V or 0.08%                    |                        |
|  | -100 to 500mV                           | ± 0 μ V or 0.08%                    |                        |
|  | -100 to 2000mV                          | ± 0 μ V or 0.08%                    |                        |

| Environment conditions              |   |
|-------------------------------------|---|
| Ambient temperature limits          | -40 to 85°C (-40°F to 185°F)  |
| Storage temperature                 | -40 to 100°C (-40°F to 212°F)   |
| Condensation                        | Allowable   |
| Degree of protection                | IP 20   |
| Shock and vibration resistance      | 4g/2 to 150 Hz as per IEC 60 068-26   |
| Electromagnetic compatibility (EMC) | Interference immunity and interference emission according to GB/T17626.2-1998), compliance with IEC 61000-4-3:1995. |
| Explosion                           | Intrinsically safe: no limit  |
| Others                              |   |
| Weight                              | Approx. 90g   |
| Materials                           | PA 66-FR  |

### Electrical connections



### Dimensions

