Temperature Transmitters for DIN-Rail and Surface Mounting

- Accurate measurements
- Voltage linear or temperature linear
- Easy to connect and install
- Sensor failure monitoring
- High load capacitance

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Model:
TUM-S

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T2

Description

Transmitters for rail and surface mounting convert the temperature-dependant change in voltage of thermocouples and the temperature-dependant change in resistance of resistance thermometers to a linear standard current signal.

The transmitter is a two-wire transmitter with 4 - 20 mA output. Transmission is absolutely noise-free even over long distances.

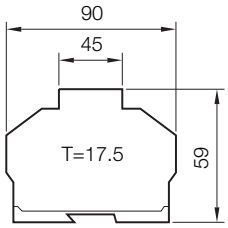
Standard version

Settings are made with internal solder pads and potentiometers situated on the front panel.

Model	Input	Output
TUM-SW	Pt 100	Temperature linear
TUM-ST	Thermocouples J, L, T, K or N	Voltage linear

These transmitters are used where the use of transmitters for head mounting is not viable because of unsuitable field service conditions.

Dimensions in mm



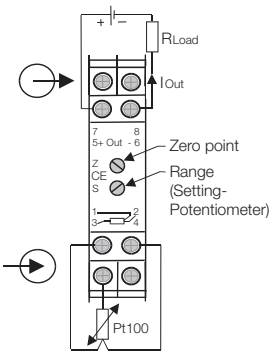
Option: Factory setting. Please specify special data in writing.

Technical Details

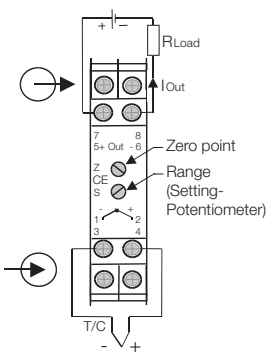
Model	TUM-SW	TUM-ST
Input	Pt 100 (α= 0.00385) 3-wire connection	Thermocouples J, L, T, K or N
Settings	-50...+550 °C	Measuring ranges: -5...+55 mV
Zero-point	-50...+50 °C	±10 % of measuring span
Measuring span, selectable	50...500 °C	10...50 mV
Measuring span, fine adjustment	±10 %	±10 %
Supply, reverse polarity protected	6.5...32 V_{DC} (not electrically isolated)	6.5...32 V_{DC} (not electrically isolated)
Output	4...20 mA	4...20 mA
Linearity	Temperature linear	Voltage linear
Sensor failure monitoring, selectable	Max. approx. 25 mA, Min. approx. 3 mA	Max. approx. 25 mA, Min. approx. 3 mA
Current limiting	approx. 25 mA	approx. 25 mA
Maximum load	700 Ω at 24 V_{DC}, 25 mA	700 Ω at 24 V_{DC}, 25 mA
Long-term stability	±0.1 % of measuring span/ year	±0.1 % of measuring span/ year
Operating temperature	-20...+70 °C	-20...+70 °C
Storage temperature	-20...+70 °C	-20...+70 °C
Connection (wire or stranded cable)	≤ 2.5 mm²	≤ 2.5 mm²
Protection, housing/terminals	IP 20 / IP 20	IP 20 / IP 20

Wiring diagrams

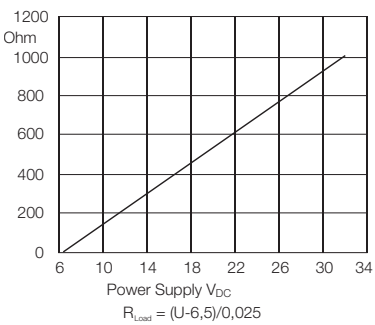
TUM-SW



TUM-ST



Load diagram



Programmable version

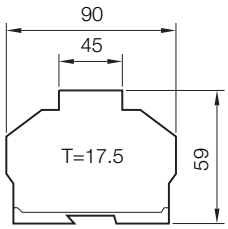
for industrial applications.
A device for resistance thermometers and thermocouples, thus reduced inventory costs.
Configuration in seconds with a Windows-based user-friendly software.

Model	Input	Output
TUM-SP	Pt 100 Thermocouples	Temperature linear

Accessories

TUM-SP01	Software with cable

Dimensions in mm



Option: Factory setting. Please specify special data in writing.

Technical Details

Model	TUM-SP
Input	Pt 100, IEC751, α = 0.00385, 3+4-wire connection, -200...+1000 °C D100. (Pt 100 acc. to JIS1604, α = 0.003916), 3+4-wire connect., -200...+1000 °C, Thermocouple Type AE W5%Rh-W26% -10...2300 °C Type N NiCrSi-NiSi -270...1300 °C Type B PtRh30%-PtRh6% 0...1800 °C Type R Pt13%Rh-Pt -50...1750 °C Type E NiCr-CuNi -200...1000 °C Type S Pt10Rh-Pt -50...1750 °C Type J Fe-CuNi -200...1000 °C Type T Cu-CuNi -200... 400 °C Type K NiCr-Ni -200...1350 °C Type U Cu-CuNi -200... 600 °C Type L Fe-CuNi -200... 900 °C
Adjustment	Minimum input range
Zero-point	any value within the range limits
Minimum input range	Thermocouples 2 mV; Pt 100 10 °C
Supply, reverse polarity protected	7.5...36 V_{DC} (electrically isolated)
Output	4...20 mA
Linearity	Temperature linear
Sensor failure monitoring, selectable	Minimum/Maximum
Minimum output signal	(measurement/fault) 3.8 mA / 3.5 mA
Maximum output signall	(measurement/fault) 20.5 mA / 21.6 mA
Maximum load	750 Ω at 24 V_{DC}, 22 mA
Long-term stability	±0.1 % of measuring span/ year
Operating temperature	-20...+70 °C
Storage temperature	-20...+70 °C
Connection (wire or stranded cable)	≤ 1.5 mm²
Protection, housing/terminals	IP 20 / IP 20

Wiring diagrams