

DIN Rail Temperature Transmitter TMT131



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

Application areas

- Temperature head transmitter for converting various input signals into a scalable 4 to 20 mA analogue output signal
- Input
 - Resistance thermometer (RTD)
 - Thermocouple (TC)
 - Resistance transmitter (Ω)
 - Voltage transmitter (mV)

Performance

- Universal setting 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 Ω)
- Expanded voltage input (max. 2K mV)

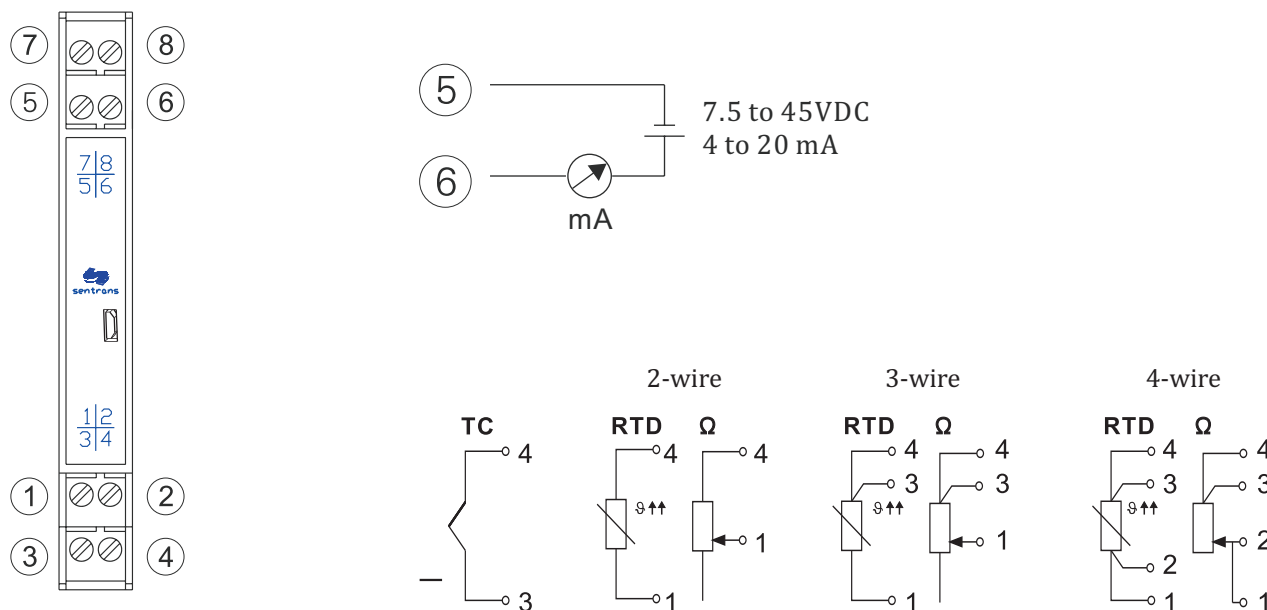
Technical data

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 22 mA
Load	Max.(V _{power supply} - 7.5 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 according to DIN 43 729 Form B; TAF 10 field housing

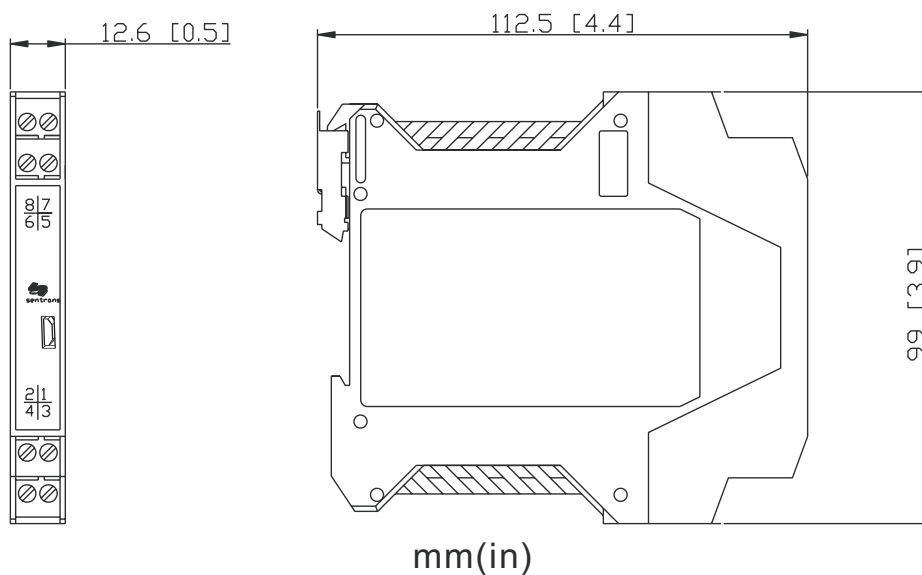
Input			
Input	Type	Measurement ranges	Min.meas.ranges
Resistance thermometer(RTD)	Pt100	-200°C to 850°C (-328°F to 1562°F)	10K
	Pt500	▲ -200°C to 250°C (-328°F to 482°F)	10K
	Pt1000	▲ -200°C to 250°C (-328°F to 482°F)	10K
	Cu50	-50°C to 150°C (-58°F to 302°F)	10K
	Cu100	-50°C to 150°C (-58°F to 302°F)	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 Ω to 400 Ω	10 Ω
		▲ 0 Ω to 2000 Ω	20 Ω
Connection type:2-,3- or 4-wire connection			
Thermocouples(TC)	B(PtRh30-PtRh6)	0 °C to 1820°C(32°F to 3308°F)	500K
	E(NiCr-CuNi)	-270°C to 1000°C(-454°F to 1832°F)	50K
	J(Fe-CuNi)	-210°C to 1200°C(-346°F to 2192°F)	50K
	K(NiCr-Ni)	-270°C to 1372°C(-454°F to 2501°F)	50K
	N(NiCrSi-NiSi)	-270°C to 1300°C(-454°F to 2372°F)	50K
	R(PtRh13-Pt)	-50°C to 1768°C(-58°F to 3214.4°F)	500K
	S(PtRh10-Pt)	-50°C to 1768°C(-58°F to 3214.4°F)	500K
	T(Cu-CuNi)	-270°C to 400°C(-454°F to 752°F)	50K
Voltage transmitters(mV)	Millivolt transmitter(mV)	-10mV to 75mV	5mV
		▲ -100mV to 100mV	5mV
		▲ -100mV to 500mV	6mV
		▲ -100mV to 2000mV	20mV
▲ on request			
Performance characteristics			
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 Ω to 400 Ω	± 0.1 Ω or 0.08%	
	0 Ω to 2000 Ω	± 1.5 Ω or 0.12%	
mV	-10mV to 75mV	± 20 μV or 0.08%	
	-100mV to 100mV	± 20 μV or 0.08%	
	-100mV to 500mV	± 20 μV or 0.08%	
	-100mV to 2000mV	± 20 μV or 0.08%	

Environment conditions	
Ambient temperature limits	-40°C to 85°C (-40°F to 185°F)
Storage temperature	-40 °C to 100°C (-40°F to 212°F)
Condensation	Allowable
Degree of protection	IP20
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: Exia II CT4
Others	
Weight	Approx. 90g
Material	PA 66-FR

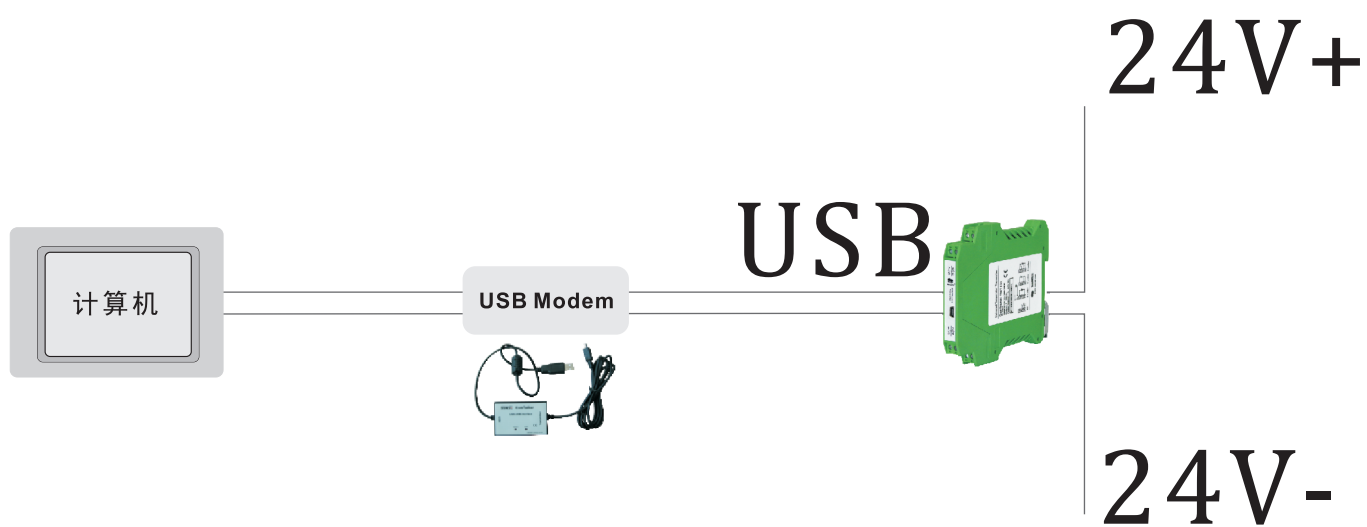
Electrical connections



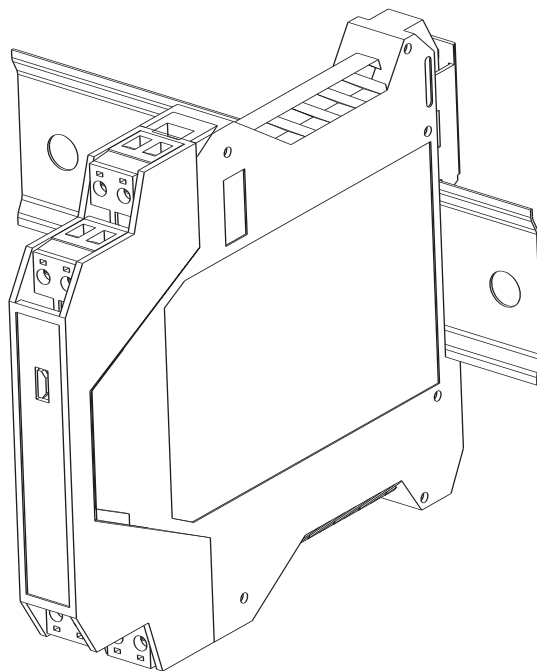
Dimensions



How to programme



Installation diagram



Ordering code

Certification			
	A	Version for non hazardous areas	
	B	NEPSI Ex ia CT4	
Configuration transmitter connection			
	A	Standard factory configuration 3-wire	
	1	Configuration connection TC	
	2	Configuration connection RTD(2-wire)	
	3	Configuration connection RTD(3-wire)	
	4	Configuration connection RTD(4-wire)	
Configuration temperature sensor			
	A	Standard factory configuration Pt100	
	1	Pt100 -200°C to 850°C (-328°F to 1562°F)	
	2	Pt500 -200°C to 250°C (-328°F to 482°F)	
	3	Pt500 -200°C to 250°C (-328°F to 482°F)	
	4	Pt1000 -200°C to 250°C (-328°F to 482°F)	
	5	Cu50 -50°C to 150°C (-58°F to 302°F)	
	6	Cu100 -50°C to 150°C (-58°F to 302°F)	
	7	Ni100 -60°C to 180°C (-76°F to 356°F)	
	8	Ni500 -60°C to 180°C (-76°F to 356°F)	
	B	Type B 0°C to 1820°C (-32°F to 3308°F)	
	E	Type E -270°C to 1000°C (-454°F to 1832°F)	
	J	Type J -210°C to 1200°C (-346°F to 2192°F)	
	K	Type K -270°C to 1372°C (-454°F to 2501°F)	
	N	Type N -270°C to 1300°C (-454°F to 2372°F)	
	R	Type R -50°C to 1768°C (-58°F to 3214.4°F)	
	S	Type S -50°C to 1768°C (-58°F to 3214.4°F)	
	T	Type T -270°C to 400°C (-454°F to 752°F)	
Configuration			
	A	Standard factory configuration (Pt100/3-wire/0 to 100°C)	
	B	Customised measurement range	
	C	Customised expanded configuration for TC	
	D	Customised expanded configuration for RTD	
TMT131		Order code (complete)	For example:TMT131-AAAA