

Measuring Point Multiplier TMU104V

1 Input for Temperature Sensors, 4 Outputs Pt100 (RTD)

TMU104V

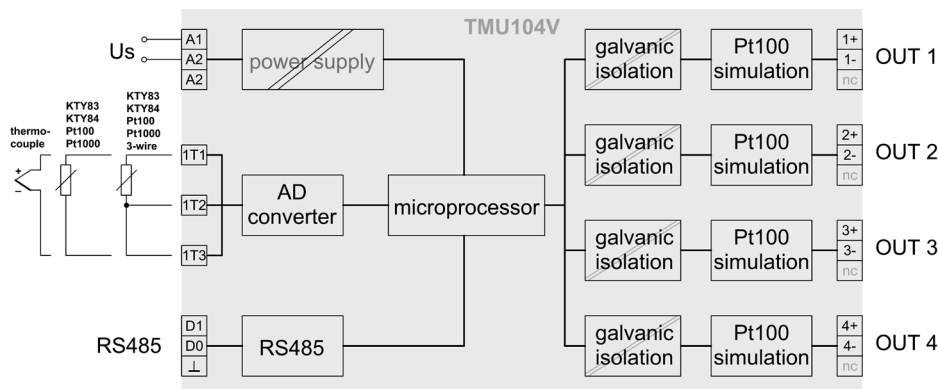


The measuring point multiplier TMU101V measures the temperature at a connected sensor and transduces it into 4 insulated signals Pt 100 (RTD). Via interface RS 485 it can be used as a simulator for up to 4 signals Pt 100.

- Measuring input Pt 100 (RTD), Pt 1000, KTY 83 / 84 in 2- or 3-wire connection
- Measuring input thermocouple (types B, E, J, K, L, N, R, S, T)
- Measuring range -199...+850 °C
- 4 insulated outputs signal Pt 100 (resistance- signal), connection in 2-, 3- or 4-wire
- Digital display, 3 digits, resolution 1 °C (-19.9 ... 99.9 °C: resolution 0,1 °C)
- Storing of MIN- and MAX- values
- Universal supply voltage AC/DC 24-240 V
- Interface RS 485 (protocols ZIEHL and Modbus RTU)
- Housing for DIN-rail or wall-mount, 105 mm wide, mounting height 55 mm

Part number: **T236061**

Block diagram

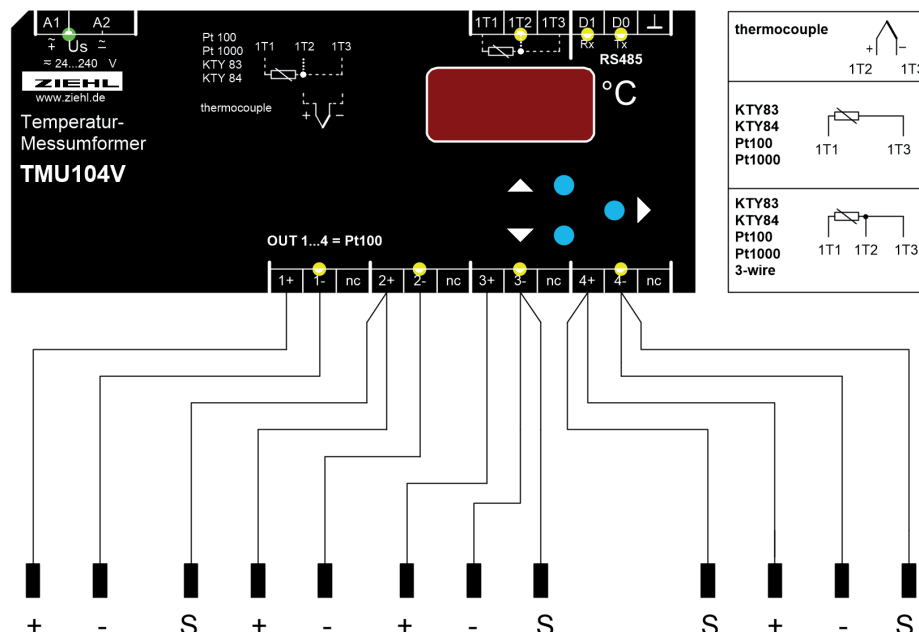


Measuring Point Multiplier and Transducer:

The temperature of the sensor (resistance or thermocouple), connected to the input, is available as signal Pt 100 (RTD) at 4 insulated outputs. Thus allows the connection of other sensors than Pt 100 to inputs for Pt 100 at other devices. Normally only one input can be connected to a temperature sensor. With help of TMU104 up to 4 devices (controls, displays, monitoring devices) with inputs Pt 100 can be connected to one sensor at the same time.

Simulator für Pt 100:

Controlled via interface RS 485 (protocol Modbus RTU) the TMU1004V can simulate up to 4 sensors Pt 100 (RTD). This allows the application in equipment, that makes automatic tests and calibrations at devices and installations with several inputs Pt 100.



Technical Data

Rated supply voltage U_s AC/ DC 24V - 240V < 2,5 V
 Tolerance DC 20,4 - 297 V, AC 20-264 V, 50/60 Hz

Sensor input 1T/2T/3T

Pt100 (RTD), Pt1000 nach EN 60751:

Sensor	Measuring range [°C]		Short Circuit [Ω]	Break [Ω]	Resistance of sensor + line[Ω]
	from	to			
Pt100	-199	860	15	400	500
Pt1000	-199	860	150	4000	4100
KTY83	-55	175	150	4000	4100
KTY84	40	150	150	4000	4100

Tolerance $\pm 0,2$ % of measured value $\pm 0,5$ K (KTY ± 5 K)
 Sensor current $\leq 0,6$ mA
 Temperature factor < 0,04°C/K
 Measuring time 2-wire/3-wire ≤ 330 ms/ ≤ 440 ms

Thermocouples according to EN 60584, DIN 43710:

Type	Measuring range [°C]		Tolerance [°C]
	from	to	
B	0	1820	T > 300 ± 2
E	-270	1000	± 1
J	-210	1200	± 1
K	-200	1372	± 2
L	-200	900	± 1
N	-270	1300	± 2
R	-50	1770	± 2
S	-50	1770	± 2
T	-270	400	± 1

Temperature factor $\pm 0,01$ % /K
 Measuring error of sensor line + 0,25 μ V / Ω
 Reference junction ± 5 °C
 Measuring time ≤ 440 ms

Sensor output OUT1...OUT4

Pt100 according to EN60751
 Reaction time < 10 ms
 Current range 200 μ A ... 5 mA
 Type of connection 2-, 3-, 4-wire
 Tolerance $\pm 0,2$ % of simulated value

Test conditions

EN 61010-1
 Rated impulse voltage 4000 V
 Overvoltage category III
 Contamination level 2
 Rated insulation voltage U_i 300 V
 ON period 100%
 Insulation / Test voltage
 Us - OUT1...4, Input, RS 485: DC 3820 V
 OUT1...4 -Input, RS 485: DC 1000 V
 OUT1 - OUT2 - OUT3 - OUT4: DC 1000 V
 Input - RS 485
 no insulation
 EMC-Tests EN 61326-1
 Rated ambient temperature range -20...+65 °C

Housing

Dimensions (w x h x d) Design V6, 105 x 90 x 58 mm
 Torque 0,5 Nm (3,6 lb.in)
 Protection Housing/Terminals IP30/IP20
 Installation Snap mount on rail 35 mm or screws M4
 Weight app. 200g