

Model TM100 series

Temperature Transmitter
Measuring ranges from -50°C to 250°C

Materontek
Sensing and Internet of Things

Features

- ❑ Measuring ranges from -50°C to 250°C
- ❑ Accuracy: 0.5%FSO; 1.0%FSO
- ❑ Manufactured using PT100
- ❑ Variety of mechanical interface
- ❑ Output: 4~20mA, option RS485

Application

- ❑ Rain spillway basin Chemical machinery temperature control
- ❑ Compressor temperature measurement
- ❑ Boiler temperature measurement and control



Technical data

Measuring range

Nominal range [°C]	-50°C to 250°C
Sensor type	PT100/PT1000

Performance

Accuracy*	0.5%FSO(Typ.) 1.0%FSO(Max.)	*Linearity (best straight line) + Hysteresis + Repeatability
Vibration	10 g RMS(20 to 2000Hz)	
Shock	100 g(10ms)	
Cycles	10x10 ⁵	
Long Term Stability	0.2 %FS	

Electrical @25°C

Output signal / Supply	2-wire 4...20mA / V _S = 9... 30VDC
	3-wire 1...5VDC / V _S = 9... 30VDC
	3-wire 0.5...4.5VDC / V _S = 9... 30VDC
	3-wire 0...10VDC / V _S = 15... 30VDC
	4-wire MODBUS RTU / V _S = 12...30VDC
Insulation Resistance	100 MΩ@100VDC
EMC Test	IEC61000-6-2/IEC61000-6-3
Reverse polarity protection	No damage – no function

Physical Specifications

Housing	304 stainless steel
Probe diameter [mm]	Ø6,Ø8,Ø10,Ø12
Protection	IP65/IP66/IP67/IP68
Weight	~0.5kg (without cable)

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Dimensions (All dimensions in mm)

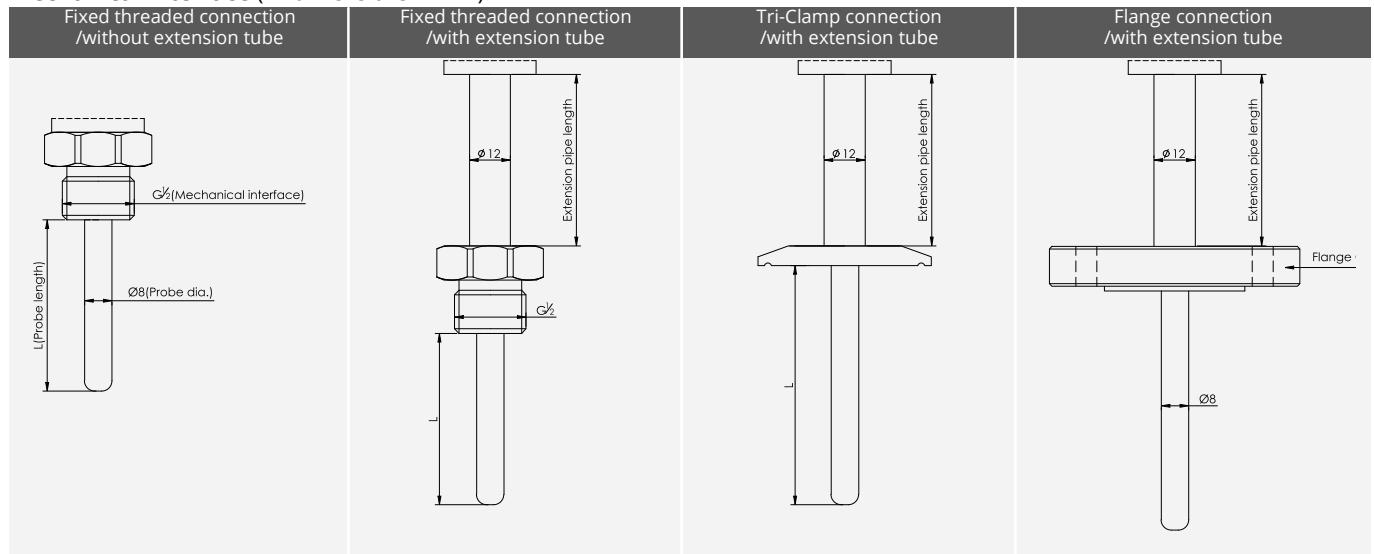
Code E1 DIN175301-803A/DIN43650/IP65	Code E2 DIN175301-803A with Circular connector M12x1(4-pin)/IP65	Code E3 Circular connector M12x1(4-pin)/IP66	Code E4 Cable outlet, 1.5m/IP67
Code E5 DP-4 DIN43650 LED display head/ IP54	Code E6 DP-5 DIN43650 LCD display head/ IP54	Code E7 DP-6 DIN43650 LCD display head/ IP54	Code E8 2088 Electronic housing /IP65

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Mechanical interface (All dimensions in mm)



Electrical connections

DIN175301-803-A	4...20mA 2-wire	1...5VDC 3-wire	0.5...4.5VDC 3-wire	RS485 4-wire
+Vcc	1	1	1	1
OUT	2	3	3	-
GND	-	2	2	2
RS485A	-	-	-	3
RS485B	-	-	-	4

Connector M12x1(4-pin)	4...20mA 2-wire	1...5VDC 3-wire	0.5...4.5VDC 3-wire	RS485 4-wire
+Vcc	1	1	1	1
OUT	3	4	4	-
GND	-	3	3	3
RS485A	-	-	-	2
RS485B	-	-	-	4

Ordering code

Model	Range	Output	Accuracy	Electrical Connection	Pressure Connection
TM100	01 -50...+100°C	42 4...20mA	A1 0.25%FS	E1 DIN175301-803A/DIN43650/IP65	01 G $\frac{1}{4}$ male
	02 -50...+150°C	15 DC1...5V	A2 0.5%FS	E2 DIN175301-803A with Circular connector	02 G $\frac{1}{2}$ male
	03 -50...+200°C	04 DC0.5...4.5V	A3 1.0%FS	E3 Circular connector M12x1(4-pin)/IP66	03 G1" male
	04 -50...+250°C	25 DC0.5...2.5V		E4 Cable outlet, 1.5m/IP67	04 G1- $\frac{1}{4}$ male
	05 0...+50°C	05 DC0...5V		E5 DP-4 DIN43650 LED display head/IP54	05 G1- $\frac{1}{2}$ male
	06 0...+60°C	01 DC0...10V		E6 DP-5 DIN43650 LCD display head/IP54	06 $\frac{1}{2}$ NPT male
	07 0...+100°C	10 DC1...10V		E7 DP-6 DIN43650 LCD display had/IP54	07 $\frac{1}{4}$ NPT male
	08 0...+150°C	H2 4...20mA+HART		E8 2088 Electronic housing/IP65	08 1"NPT male
	09 0...+200°C	R4 MODBUS RTU			09 PT $\frac{1}{4}$ male
	10 0...+250°C				10 PT $\frac{1}{2}$ male
	99 Custom				11 PT $\frac{3}{8}$ male
					12 R $\frac{1}{4}$ male
					13 R $\frac{1}{2}$ male
					14 M20x1.5 male
					15 M22x1.5 male
					16 1- $\frac{1}{2}$ " Tri-Clamp connection
					17 2" Tri-Clamp connection
					18 Flange (Please specify flange specifications)
					99 - Custom requirements

Probe diameter	Probe length	Extension tube	Label	Accessory [Optional]
D6 6mm	L1 50mm	T0 Without (For temperature range:-40°C to 85°C)	S Standard	A1 Thermowell (Please specify the diameter and length of the thermowell when ordering.)
D8 8mm	L2 100 mm	T1 Length=50mm,Ø12mm	N Neutral packing	
D10 10mm	L3 150 mm	T2 Length=100mm,Ø12mm	C Custom label	
D12 12mm	L4 200 mm	T3 Length=150mm,Ø12mm		
99 Custom requirements	99 Custom requirements	T4 Length=200mm,Ø12mm		
		99 Custom requirements		