

Temperature Meter

SERIES TM

Watlow's new family of micro-processor based temperature meters provide an economical solution for applications requiring process temperature viewing. The temperature meter can be ordered in 1/8 DIN-square panel mount or DIN-rail mount design configurations.

The TM temperature meter incorporates a microprocessor design platform. A red, four-character seven segment LED displays the temperature process value.

The new temperature meters are UL® and C-UL® listed and carry CSA and CE approvals. Watlow's temperature meters include industry leading service and support and are backed by a three-year warranty.

Applications

- Food preparation
- Industrial machinery
- Packaging
- Plastics processing

Features and Benefits

Four character LED display

- Easy to see process value

Multiple mounting options

- Minimize installation time

Fahrenheit or Celsius operation with indication

- Offers application flexibility

Agency approvals

- Meet certification requirements/compliance

Microprocessor based technology

- Ensures accurate repeatable temperature display

Specifications

Operator Interface

- Four digit, seven segment LED displays, 7 mm (0.28 in.) high
- °C or °F indicator LED



Standard Conditions For Specifications

- Rated line voltage, 50 to 60Hz, 0 to 90 percent RH, non-condensing, 15-minute warm-up
- Calibration ambient range: 25°C (77°F) ±3°C

Sensor Input Thermocouple

- Grounded or ungrounded
- Type E, J, K or T thermocouple
- >10 MΩ input impedance
- 250 nV input referenced error per 1Ω source resistance

RTD

- 2-wire platinum, 100Ω
- DIN-curve (0.00385 curve)
- 125 μA nominal RTD excitation current

Input Accuracy Span Range

Type E:	-200 to 800°C	(-328 to 1470°F)
Type J:	0 to 750°C	(32 to 1382°F)
Type K:	-200 to 1250°C	(-328 to 2282°F)
Type T:	-200 to 350°C	(-328 to 662°F)
RTD (DIN)	-200 to 800°C	(-328 to 1472°F)

Thermocouple Input

- Calibration accuracy: ±1 percent of input accuracy span, ±1° at standard conditions and actual calibration ambient. Exception: Type T, ±2.4 percent of input accuracy span for -200 to 0°C (-328 to 32°F)
- Temperature stability: ±0.3 degree per degree change in ambient

RTD Input

- Calibration accuracy ±1 percent of input accuracy span ±1° at standard conditions and actual calibration ambient
- Temperature stability: ±0.2 degree per degree change in ambient

Allowable Operating Ranges

Type E:	-200 to 800°C	(-328 to 1470°F)
Type J:	-210 to 1038°C	(-346 to 1900°F)
Type K:	-270 to 1370°C	(-454 to 2500°F)
Type T:	-270 to 400°C	(-454 to 750°F)
RTD (DIN)	-200 to 800°C	(-328 to 1472°F)

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Temperature Meter

F.O.B.: Winona, Minnesota

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Specifications Cont.

Agency Approvals

- UL® 60730-1 Recognized Temperature Controller and Indicator
- UL® 197 Reviewed for use in cooking appliances
- ANSI Z21.23 Gas Appliance Thermostat approval
- Temperature Control and Indicator CSA 22.2 No. 24

Terminals

- 6.3 mm (0.25 in.) quick connect, push on terminal

Power

- 24V~(ac) +10 percent; -15 percent; 50/60Hz, ±5 percent
- 120V~(ac) +10 percent; -15 percent; 50/60Hz, ±5 percent
- 230 to 240V~(ac) +10 percent; -15 percent; 50/60Hz, ±5 percent
- 10VA maximum power consumption
- Data retention upon power failure via nonvolatile memory

Operating Environment

- 0 to 70°C (32 to 158°F)
- 0 to 90 percent RH, non-condensing
- Storage temperature: -40 to 85°C (-40 to 185°F)

Dimensions

- DIN-rail model can be DIN-rail or chassis mount
- DIN-rail spec DIN 50022, 35 mm x 7.5 mm (1.38 in. x 0.30 in.)

Style	Width	Height	Depth
DIN-rail	78.1 mm (3.08 in.)	112.3 mm (4.42 in.)	90.7 mm (3.57 in.)
Square 1/8 DIN-panel	72.4 mm (2.85 in.)	72.4 mm (2.85 in.)	Behind panel 51.7 mm (2.04 in.)

Ordering Information

To order, complete the model number on the right with the information below.

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SERIES TM = Indicator only, four character, seven segment display

Power Supply _____

B = 120V~(ac)
D = 230 to 240V~(ac)
F = 24V~(ac)

Package _____

1 = Panel mount square 1/8 DIN
2 = DIN-rail mount

Sensor Type and Scale _____

H = T/C Type J Fahrenheit (-346 to 1900°F)
J = T/C Type J Celsius (-210 to 1038°C)
K = T/C Type K Fahrenheit (-454 to 2500°F)
L = T/C Type K Celsius (-270 to 1370°C)
M = T/C Type T Fahrenheit (-454 to 750°F)
N = T/C Type T Celsius (-270 to 400°C)
P = RTD Fahrenheit (-328 to 1472°F)
R = RTD Celsius (-200 to 800°C)
S = T/C Type E Fahrenheit (-328 to 1470°F)
T = T/C Type E Celsius (-200 to 800°C)

Overlay/Customs Options _____

A = Standard