

NEW! TM602 • TM612 • TM630 Pocket Thermometers

**Wahl
Pocket
Thermometers**

Measurement with Thermocouple, RTD or Thermocouple and RTD

Rugged IP54 Construction for On Site Use

Metrology and Control Tool

User friendly and robust, the New Wahl TM Series Pocket Thermometers are designed to simplify temperature transmitters and probes maintenance and commissioning. They feature **0.02% Accuracy** and measure in Thermocouple and/or RTD's. Resolution is programmable for better reading by user with up to $1\text{m}\Omega$ or $1\mu\text{V}$.

TM602: Pocket Thermocouple Thermometer

TM612: Pocket RTD Thermometer

TM630: Pocket Thermocouple and RTD Thermometer

FEATURES

- Well adapted for different process job procedures due to their wide choice of ranges and specific functions such as data recording
- High Accuracy: 0.02% of Reading
- Very low temperature coefficient: 15 ppm / °C in thermocouples and 10 ppm / °C in resistance
- Accuracy is maintained even in harsh environmental conditions
- Measurement and Simulation of 14 thermocouples and 12 RTD types
- Display in °C, °F, mV and Ohms
- Data Recording and Onscreen analysis

Language - 5 user selected languages (English, French, Spanish, German and Italian).

Display - Graphical LCD with adjustable contrast and backlight.

Display Resolution - 3 user selectable resolutions (up to 3 decimal places: High, Middle or Low resolution).

Date and Time Display - Continuously displayed.

Statistics - Maximum, Average, and Minimum are displayed. Reset function allows re-calculating of the values.

Hold - Freezes the display.

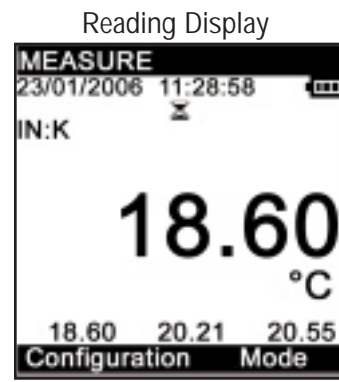
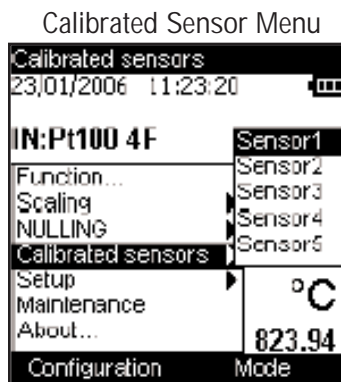
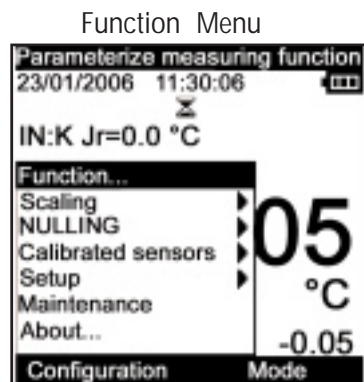
Filter - A filter can be applied to avoid fluctuation of the value.



TM630

GRAPHIC DISPLAY

TM Series Pocket Thermometers use a graphic display making programming and reading easier.



Specifications subject to change without notice

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THERMOCOUPLE SPECIFICATIONS

DC VOLTAGE

Function	Range	Resolution	Accuracy / 1yr	Range
IN	±100mV	1µV	0.020%R + 3µV	-10mV / 100mV

Temperature Coefficient < 15 ppm R / °C from 0°C to 18°C and 28°C to 50°C.

TEMPERATURE WITH THERMOCOUPLES

Sensor	IN Range	Resolution	Accuracy/1Yr
K	-250°C to -200°C	0.20°C	0.90°C
	-200°C to -120°C	0.10°C	0.3°C
	-120 °C to -50°C	0.05°C	0.02% R + 0.12°C
	-50°C to +1372°C	0.05°C	0.02% R + 0.11°C
T	-250°C to -200°C	0.2°C	0.80°C
	-200°C to -50°C	0.05°C	0.25°C
	-50°C to +400°C	0.05°C	0.02% R + 0.09°C
J	-210°C to -200°C	0.05°C	0.30°C
	-200°C to -120°C	0.05°C	0.25°C
	-120°C to +60°C	0.05°C	0.020% R + 0.11°C
	+60°C to +1200°C	0.05°C	0.020% R + 0.09°C
E	-250°C to -200°C	0.1°C	0.55°C
	-200°C to -100°C	0.05°C	0.20°C
	-100°C to +450°C	0.05°C	0.020% R + 0.07°C
	+450°C to +1000°C	0.05°C	0.020% R + 0.05°C
R	-50°C to +150°C	0.50°C	0.95°C
	+150°C to +550°C	0.20°C	0.40°C
	+550°C to +1768°C	0.10°C	0.020% R + 0.30°C
S	-50°C to +150°C	0.5°C	0.85°C
	+150°C to +550°C	0.2°C	0.020% R + 0.4°C
	+550°C to +1768°C	0.1°C	0.020% R + 0.3°C
B	+400°C + 900°C	0.2°C	0.95°C
	+900°C + 1820°C	0.1°C	0.50°C
U	-200°C to -100°C	0.05°C	0.35°C
	-100°C to +600°C	0.05°C	0.20°C
L	-200°C to -100°C	0.05°C	0.30°C
	-100°C to +900°C	0.05°C	0.20°C
C	-20°C + 900°C	0.1°C	0.30°C
	+900°C + 2310°C	0.1°C	0.020% R + 0.15°C
N	-240°C to -190°C	0.2°C	0.60°C
	-190°C to -110°C	0.1°C	0.25°C
	-110°C to -0°C	0.05°C	0.15°C
	+0°C to +1300°C	0.05°C	0.020% R + 0.07°C
Platinum	-100°C to +1400°C	0.05°C	0.3°C
Mo	0°C to +1375°C	0.05°C	0.020% R + 0.10°C
NiMo/NiCo	-50°C to +1410°C	0.05°C	0.020% R + 0.35°C

CJC Accuracy: ±0.3°C

Temperature Coefficient < 10% of Accuracy / °C

Specifications @23°C ±5°C,
and between 45% and 75% of
relative humidity.

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RTD SPECIFICATIONS

RESISTANCE					
Function	Range	Resolution	Accuracy / 1yr	Range	Notes
IN	400 Ohm	1 mΩ	0.012% R + 10 mΩ	0 Ω to 400 Ω	Automatic detection: 2, 3 or 4 wires
	3600 Ohm	10 mΩ	0.012% R + 100 mΩ	0 Ω to 3600 Ω	Automatic detection: 2, 3 or 4 wires

Temperature Coefficient < 10 ppm R / °C from 0°C to 18°C and 28°C to 50°C.

RESISTIVE PROBES			
Sensor	Range	Resolution Measurement	Accuracy/1Yr Measurement
Pt 50 ($\alpha = 3851$)	-220°C +850°C	0.01°C	0.012% + 0.06°C
Pt 100 ($\alpha = 3851$)	-220°C +850°C	0.01°C	0.012% + 0.05°C
Pt 100 ($\alpha = 3916$)	-200°C +510°C	0.01°C	0.012% + 0.05°C
Pt 100 ($\alpha = 3926$)	-210°C +850°C	0.01°C	0.012% + 0.05°C
Pt 200 ($\alpha = 3851$)	-220°C +1200°C	0.01°C	0.012% + 0.12°C
Pt 500 ($\alpha = 3851$)	-220°C +1200°C	0.01°C	0.012% + 0.07°C
Pt 1000 ($\alpha = 3851$)	-220°C +760°C	0.01°C	0.012% + 0.05°C
Ni 100 ($\alpha = 618$)	-60°C +180°C	0.01°C	0.012% + 0.03°C
Ni 120 ($\alpha = 672$)	-40°C +205°C	0.01°C	0.012% + 0.03°C
Ni 1000 ($\alpha = 618$)	-60°C +180°C	0.01°C	0.012% + 0.03°C
Cu 50 ($\alpha = 427$)	-70°C +150°C	0.01°C	0.012% + 0.18°C
Cu 50 ($\alpha = 428$)	-50°C +150°C	0.01°C	0.012% + 0.06°C

Temperature Coefficient < 10% of accuracy / °C

Accuracy is given for a 4 wire connection

Sensor accuracy is not taken into account in the accuracy

Automatic detection: 2, 3 or 4 wires

Measuring current: 0.65 mA

Specifications @23°C ±5°C,
and between 45% and 75% of
relative humidity.

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MEASUREMENT FUNCTIONS

Calibrated Sensors: A database can be created to design curves for sensors after calibration in relation with the corrections shown on a calibration report.

Scaling: This operation allows correction of probe errors. Scaling is performed using up to 10 segments, in order to fit with the real calibrated value.

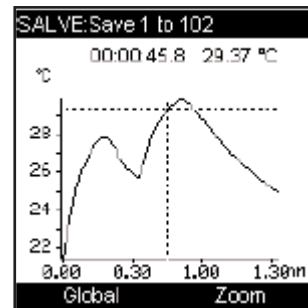
Data Recording: Data is recorded either manually on event or automatically with programmed frequency. Data is time stamped, and can be displayed as list or curves.

Burst SALVE:

Start date: --/--/--- 16:12:36

N°	Time	°C
1>	00:00:00.0	21.45
2	00:00:00.9	21.84
3	00:00:01.7	22.75
4	00:00:02.9	23.39
5	00:00:03.8	23.97
6	00:00:04.7	24.49
7	00:00:05.5	24.94

Graph ...



ENVIRONMENTAL CONDITIONS

Reference Conditions: 23°C ±5°C, Relative Humidity: 45% to 75%

Nominal Operating Conditions: -10°C up to +50°C, Relative Humidity: 20% up to 80% non-condensing

Maximum Operating Conditions: -10°C up to +55°C, Relative Humidity: 10% up to 80% (70% at 55°C)

Maximum Storage Temperature: -30°C up to +60°C (without battery)

Electrical Security: EN 61010

Electromagnetic capability: EN61326

Thermocouple Connection: mini compensated connector

RTD Connection: 4 pin round connector or 4 banana plugs

USB Connection: for PC connection (software upgrade and application with DATACAL)

Power Supply: 4 AA batteries. Optional rechargeable battery pack with charger is available

Battery Life: 40 hours

Dimensions: (without protection boot): 6.18 x 3.35 x 1.77 inches (157 x 85 x 45mm)

Weight: 10.79 ounces (306 grams)

IP Rating: IP 54 according to EN 60529

Included Accessories: Protective Boot, 4 AA Batteries, User Manual on CD Rom and Wrist Strap

Optional Accessories: Rechargeable Batteries and Battery Charger, NIST Calibration Certificate, and Carrying Case

ORDERING INFORMATION

TM602: Pocket Thermocouple Thermometer

TM612: Pocket RTD Thermometer

TM630: Pocket Thermocouple and RTD Thermometer

12436-01: Rechargeable Batteries and Battery Charger

12436-05: TM Series Carrying Case

NIST: NIST Certification TM602

NIST: NIST Certification TM612

NIST: NIST Certification TM630

Optional Thermocouple and RTD Probes available in the Wahl Heat Prober® catalog.

