

## NEW! TM602 • TM612 • TM630 Pocket Thermometers

Measurement with Thermocouple, RTD or Thermocouple and RTD

Rugged 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 1mΩ or 1μV.

### 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.

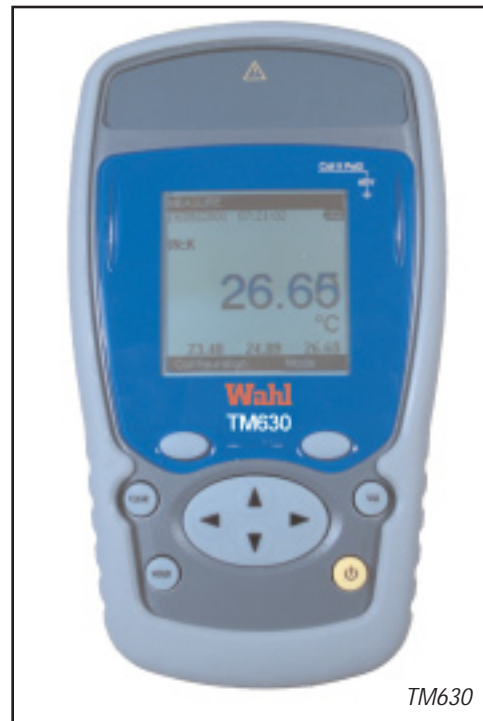
**Display Resolution** - 3 user selectable resolutions (up to 3 decimal places: High, Middle or Low resolution).

**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.

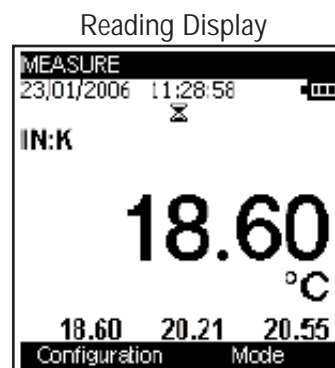
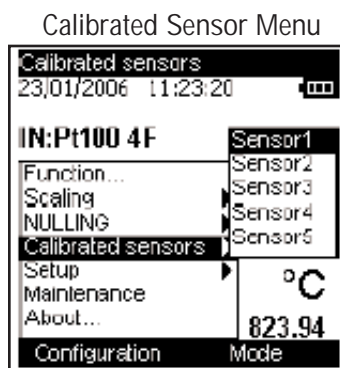
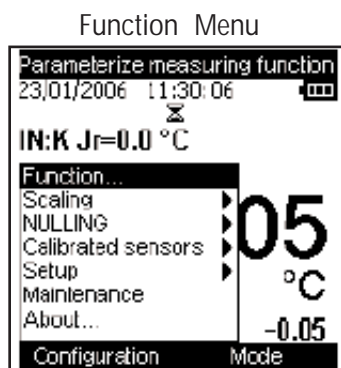


TM630



### 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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**Wahl  
Pocket  
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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	Accuracy/1 Yr Emission
Pt 50 (alpha = 3851)	-220°C +850°C	0.01°C	0.012% + 0.06°C	0.012% + 0.06°C
Pt 100 (alpha = 3851)	-220°C +850°C	0.01°C	0.012% + 0.05°C	0.012% + 0.05°C
Pt 100 (alpha = 3916)	-200°C +510°C	0.01°C	0.012% + 0.05°C	0.012% + 0.05°C
Pt 100 (alpha = 3926)	-210°C +850°C	0.01°C	0.012% + 0.05°C	0.012% + 0.05°C
Pt 200 (alpha = 3851)	-220°C +1200°C	0.01°C	0.012% + 0.12°C	0.012% + 0.12°C
Pt 500 (alpha = 3851)	-220°C +1200°C	0.01°C	0.012% + 0.07°C	0.012% + 0.07°C
Pt 1000 (alpha = 3851)	-220°C +760°C	0.01°C	0.012% + 0.05°C	0.012% + 0.05°C
Ni 100 (alpha = 618)	-60°C +180°C	0.01°C	0.012% + 0.03°C	0.012% + 0.03°C
Ni 120 (alpha = 672)	-40°C +205°C	0.01°C	0.012% + 0.03°C	0.012% + 0.03°C
Ni 1000 (alpha = 618)	-60°C +180°C	0.01°C	0.012% + 0.03°C	0.012% + 0.03°C
Cu 50 (alpha = 427)	-70°C +150°C	0.01°C	0.012% + 0.18°C	0.012% + 0.18°C
Cu 50 (alpha = 428)	-50°C +150°C	0.01°C	0.012% + 0.06°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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**PALMER Wahl**  
INSTRUMENTATION GROUP  
170 Years of Continued Innovation

# Wahl Pocket Thermometers

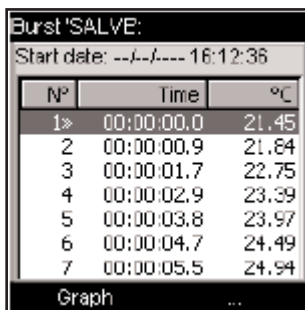
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### MEASUREMENT FUNCTIONS

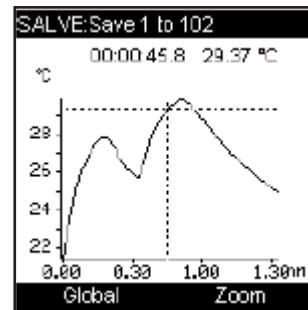
**Calibrated Sensors:** A database can be created to design curves for sensors after calibration in relation with the corrections shown on a calibration report.

**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 whether manually on event or automatically with programmed frequency. Data is time stamped, and can be displayed as list or curves.



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



### 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 sheath): 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.

