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 1mΩ or 1µV.

TM602: Pocket Thermocouple Thermometer

TM612: Pocket RTD Thermometer

TM630: Pocket Thermocouple and RTD Thermometer

TM630

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 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.

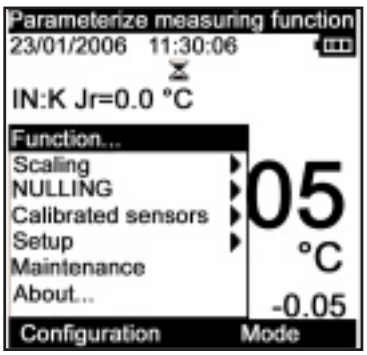
TRACEABLE TO NIST

ONE YEAR 1 WARRANTY

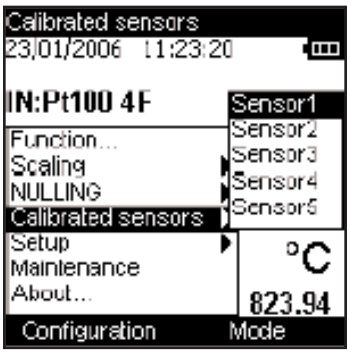
GRAPHIC DISPLAY

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

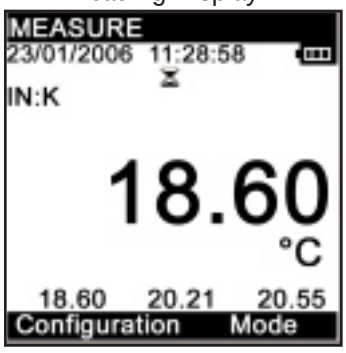
Function Menu



Calibrated Sensor Menu



Reading Display



Specifications subject to change without notice

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PALMER Wahl INSTRUMENTATION GROUP

170 Years of Continued Innovation

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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 -200°C to -120°C -120 °C to -50°C -50°C to +1372°C	0.20°C 0.10°C 0.05°C 0.05°C	0.90°C 0.3°C 0.02% R + 0.12°C 0.02% R + 0.11°C
T	-250°C to -200°C -200°C to -50°C -50°C to +400°C	0.2°C 0.05°C 0.05°C	0.80°C 0.25°C 0.02% R + 0.09°C
J	-210°C to -200°C -200°C to -120°C -120°C to +60°C +60°C to +1200°C	0.05°C 0.05°C 0.05°C 0.05°C	0.30°C 0.25°C 0.020% R + 0.11°C 0.020% R + 0.09°C
E	-250°C to -200°C -200°C to -100°C -100°C to +450°C +450°C to +1000°C	0.1°C 0.05°C 0.05°C 0.05°C	0.55°C 0.20°C 0.020% R + 0.07°C 0.020% R + 0.05°C
R	-50°C to +150°C +150°C to +550°C +550°C to +1768°C	0.50°C 0.20°C 0.10°C	0.95°C 0.40°C 0.020% R + 0.30°C
S	-50°C to +150°C +150°C to +550°C +550°C to +1768°C	0.5°C 0.2°C 0.1°C	0.85°C 0.020% R + 0.4°C 0.020% R + 0.3°C
B	+400°C + 900°C +900°C + 1820°C	0.2°C 0.1°C	0.95°C 0.50°C
U	-200°C to -100°C -100°C to +600°C	0.05°C 0.05°C	0.35°C 0.20°C
L	-200°C to -100°C -100°C to +900°C	0.05°C 0.05°C	0.30°C 0.20°C
C	-20°C + 900°C +900°C + 2310°C	0.1°C 0.1°C	0.30°C 0.020% R + 0.15°C
N	-240°C to -190°C -190°C to -110°C -110°C to -0°C +0°C to +1300°C	0.2°C 0.1°C 0.05°C 0.05°C	0.60°C 0.25°C 0.15°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 (α = 3851)	-220°C +850°C	0.01°C	0.012% + 0.06°C
Pt 100 (α = 3851)	-220°C +850°C	0.01°C	0.012% + 0.05°C
Pt 100 (α = 3916)	-200°C +510°C	0.01°C	0.012% + 0.05°C
Pt 100 (α = 3926)	-210°C +850°C	0.01°C	0.012% + 0.05°C
Pt 200 (α = 3851)	-220°C +1200°C	0.01°C	0.012% + 0.12°C
Pt 500 (α = 3851)	-220°C +1200°C	0.01°C	0.012% + 0.07°C
Pt 1000 (α = 3851)	-220°C +760°C	0.01°C	0.012% + 0.05°C
Ni 100 (α = 618)	-60°C +180°C	0.01°C	0.012% + 0.03°C
Ni 120 (α = 672)	-40°C +205°C	0.01°C	0.012% + 0.03°C
Ni 1000 (α = 618)	-60°C +180°C	0.01°C	0.012% + 0.03°C
Cu 10 (α = 427)	-70°C +150°C	0.01°C	0.012% + 0.18°C
Cu 50 (α = 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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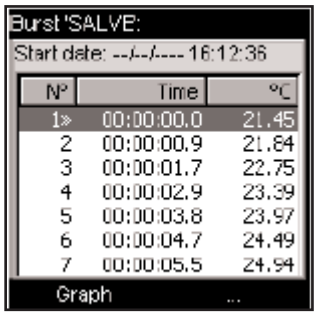
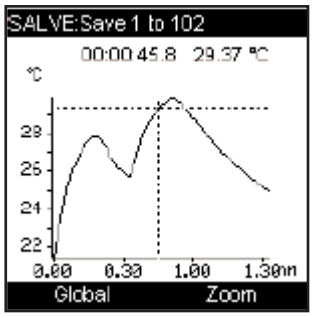
MEASUREMENT FUNCTIONS

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.





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.

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