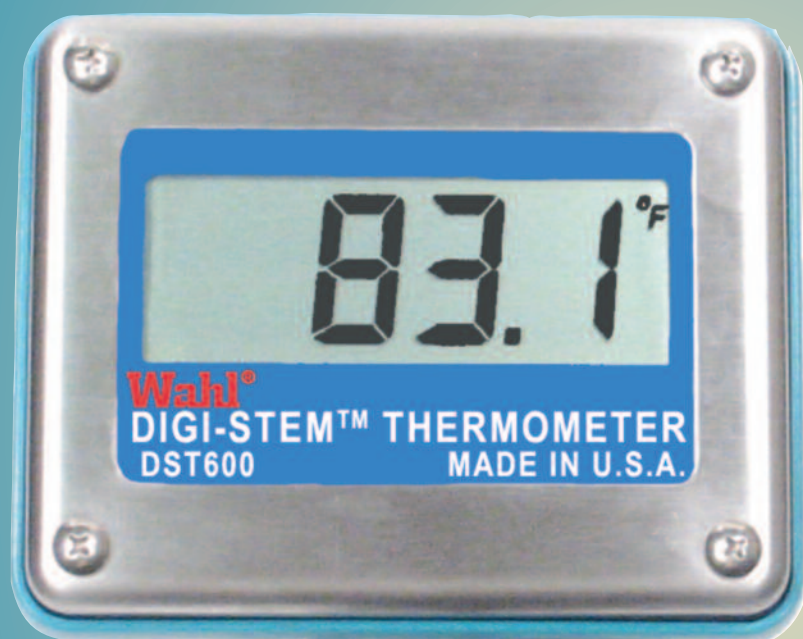




BESTOBELL
AQUATRONIX
SINCE / DEPUIS 1953
BEP-Bestobell
www.bestobell.com

Digi-Stem® Digital Temperature Indicating Devices for Food Processing



and other temperature critical applications

- Exclusive Continuous Self-Checking Technology
- Trustworthy Alternative to Mercury-in-Glass
- Designed in compliance with the FDA Final Rule Change for 21 CFR Part 113

Models

DST600 • DST610 • DST611 • DST620 • DST621
DST640 • DST650 • DST651 • DST660 • DST661

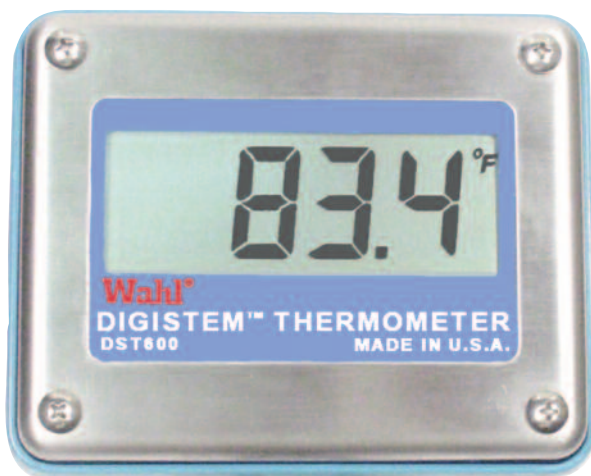


ISO 9001:2008
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MANAGEMENT SYSTEM

PALMER Wahl
INSTRUMENTATION GROUP

The Temperature Experts

Digi-Stem® DST600 & DST640 Series Digital Temperature Indicating Devices



Wahl DST600 with Rigid Mount shown with 1-1/4"-18 Swivel Nut Fitting with Tapered Bulb for use in thermowells.

Shown on cover:
Wahl DST600 Adjustable Angle mounting system allows meter adjustment to any angle required for best viewing.

Shown with 1-1/4"-18 Swivel Nut Fitting and 1/4" Diameter Stem for quick response in union connections.

DST600 - Temperature Indicating Device – Stainless Steel and Polycarbonate Enclosure



DST640 - Harsh Environment Temperature Indicating Device - All Stainless Steel Enclosure with increased RFI Protection.



- **USDA Accepted Equipment**
- **Trustworthy Alternative to Mercury-in-Glass**
- **Exclusive Continuous Self-Checking Technology to ensure accuracy and reliability**
- **Exclusive Adjustable Meter Update Rate**
- **User Selectable °F or °C**
- **Ambient operation at -40°F to 158°F**
- **Unique Probe ID Feature prevents use of unauthorized probes**
- **Long Battery Life - 2 years nominal**

- **Adjustable Angle, Rigid, or Remote configurations available**
- **Programmable "R0" for "matching" sensor to meter**
- **User friendly Single Point Software Calibration**
- **Tamper Resistant - all adjustments require software**
- **Exclusive Quick Disconnect Connector option on Remote Cables**
- **NIST Traceable Certificate of Conformance - Optional**

Innovative New Technology!

Wahl's DST600 Series may now replace traditional mercury-in-glass (MIG) thermometers, under the FDA's Final Rule for 21 CFR Part 113. This digital RTD thermometer, is designed and manufactured specifically for low-acid canned food processing in hermetically sealed containers. It uses high reliability components to meet the Final Rules mandate that the Temperature-Indicating Device be accurate to 1°F, and not be

affected by EMI or environmental conditions.

The Wahl DST600 Series also meets the current USDA 9CFR318.305 for canned meat and 9CFR381.305 for canned poultry products.

Our new DST640 features an all Stainless Steel enclosure and H-frame for increased RFI protection in harsh environments. The DST600 features a Stainless Steel enclosure with a polycarbonate H-frame.

Continuous Self Checking Accuracy

The Wahl DST600 Series meet and exceed the FDA rules by incorporating self-checking technology which continuously verifies the accuracy of the electronics, and indicates any out-of-tolerance conditions. This assures that its accuracy and ability to function properly during processing are not compromised.

Test temperatures are set at 180°F (82.2°C) and 250°F (121.1°C). Out-of-tolerance conditions will be displayed as an error, and immediately indicate to the operator if accuracy is not maintained, preventing under- or over-processing of product.



Digi-Stem® DST610, 620, 650 & 660 Series Digital Temperature Indicating Devices with Independent Secondary RTD's

Direct Access RTD Output Models

DST610 and DST650 - Users access the isolated second RTD via a 1/2" NPT Female connector. User connection can be 2, 3, or 4 wire.

- **DST610** - Temperature Indicating Device with independent secondary RTD sensor with terminal block connection.
- **DST650** - Harsh environment Temperature Indicating Device with all Stainless Steel enclosure, increased RFI protection, and an independent secondary RTD sensor with terminal block connection.

DST611 and DST651 - A Turck® 4 pin connector is provided on the second port for watertight access. An optional mating connector or cable assembly is used to provide access to the second RTD. User connection can be 2, 3, or 4 wire.

- **DST611** - Temperature Indicating Device with independent secondary RTD sensor with terminal block connection.
- **DST651** - Harsh environment Temperature Indicating Device with all Stainless Steel enclosure, increased RFI protection, and an independent secondary RTD sensor with terminal block connection.

4-20mA Transmitter Output Models

DST620 and DST660 - Users access the 4-20mA transmitter via a 1/2" NPT Female connector.

- **DST620** - Temperature Indicating Device with independent secondary RTD sensor with 4-20mA programmable transmitter.
- **DST660** - Harsh environment Temperature Indicating Device with all Stainless Steel enclosure, increased RFI protection, and an independent secondary RTD sensor with 4-20mA programmable transmitter.

DST620 and DST660 - A Turck® 4-pin connector is provided on the second port for watertight access. An optional mating connector or cable assembly is used to provide access to the 4-20mA transmitter.

- **DST621** - Temperature Indicating Device with independent secondary RTD sensor with 4-20mA programmable transmitter.
- **DST661** - Harsh environment Temperature Indicating Device with all Stainless Steel enclosure, increased RFI protection, and an independent secondary RTD sensor with 4-20mA programmable transmitter.



DST610, 611, 620, 621 - Temperature Indicating Device - Stainless Steel and Polycarbonate Enclosure

DST650, 651, 660, 661 - Harsh Environment Temperature Indicating Device - All Stainless Steel Enclosure with increased RFI Protection.



Wahl DST600 Series thermometer system being tested in the calibration lab of a major food processor, against two certified references.



DST600 / DST640 Series RTD Meter Specifications

Temperature Indicating Device with RTD and Local Display

Standard Series	DST600	DST600R	DST600I
All Stainless Steel, RFI Protection	DST640	DST640R	DST640I
	Standard	Selectable Resolution	AA Battery for International shipments
Panel Mount	add "P" to end of Model number	add "P" to end of Model number	add "P" to end of Model number
Quick Disconnect	add "Q" to end of Model number	add "Q" to end of Model number	add "Q" to end of Model number
Meter Range / Scale	-50° to 500°F (-45.5° to 260°C) / User Selectable for °F or °C		
Meter Accuracy	± 0.1°F/C, over 1-year period (@ Tamb = 23°C ± 5°C)		
Meter and Probe Accuracy	Temp ≤ 300°F (148.8°C) = ± 0.3°F (± 0.2°C), Temp > 300°F (148.8°C) = ± 0.25% of reading		
Display	1.0" 4-digit LCD display with icons for °F, °C and Low Battery, Readable up to 30 ft.		
Display Resolution	0.1°F/C	User Selectable 1.0° or 0.1°F/C	0.1°F/C
Sample/Display Rate	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds		3 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds
Ambient Operating Environment	-40° to 158°F (-40° to 70°C) / 10% to 100% RH non-condensing		
Ambient Temperature Coefficient	Maximum of 0.003°/°C over Ambient Operating Temperature Range from 23°C ± 5°C		
Sensor/Probe	• Sensor - 4-wire RTD, R0 = 100Ω, Alpha = .00385 Ω / Ω / °C with serial ID chip • 304 or 316L Stainless Steel Probe construction • Adjustable Angle Stem Probes • Rigid Stem Probes • Remote Probes with rugged IP68 connection system. • Sanitary Fittings in compliance with 3A Sanitary Standard		
Sensor Cables	PVC insulation, shielded, 6 conductor, 105°C rating		
Battery - User Replaceable	1 Lithium Thionyl Chloride "C" Battery		1 Lithium Thionyl Chloride "AA" Battery
Battery Life	2 years nominal at 2 second update interval		1 year nominal at 3 second update interval
NIST Calibration	Optional NIST Traceable Certificate of Conformance at: 180°F, 220°F, 250°F. Optional User Specified Points		
Programming & Calibration Software	Optional: DSTCAL Calibration Software		
Enclosure	DST600 Series: Stainless Steel Enclosure with Polycarbonate H Frame and Window (NEMA 4X) DST640 Series: All Stainless Steel Enclosure and H Frame with Polycarbonate Window (NEMA 4X)		
Enclosure Dimensions / Weight	Dimensions: 5.3" W x 4.3" H x 2.7" D (13.5 x 10.9 x 6.9 cm). Weight: 2 lbs. (1kg)		

Specifications subject to change without notice.

Drop-in Direct MIG Replacement

The Wahl DST600 Series offers the highest precision temperature measurement technology with many unique features - making it the best choice for your processing needs. It has a field replaceable battery with a 2 year life, and provides a trustworthy alternative to MIG style thermometers with drop-in direct replacement. It is available with MIG standard tapered bulb chambers, or in a variety of probe configurations. All Wahl Digi-Stem's also features a 1" high LCD display - readable from 30 feet away!

Applications for all DST600 Series

- **Retorts - for Low-Acid Canned Foods in Hermetically Sealed Containers**
 - Dairy Processors • USDA
 - Pharmaceutical Companies
 - Meat & Poultry Industries
- **All Temperature Critical Applications**



The Wahl® DST600 Series are the new standard against which all other temperature indicating devices are compared.



The Temperature Experts

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PW1201
02/21 Rev B

DST610 - 620 Series / DST650 - 660 Series RTD Meter Specifications

Temperature Indicating Device with RTD, Local Display and Isolated Second RTD Sensor

Standard Series	DST610	DST611	DST620	DST621
All Stainless Steel, RFI Protection	DST650	DST651	DST660	DST661
Isolated Secondary Sensor	Internal Terminal Block		4-20mA Transmitter	
	1/2" NPT Female Connection	Turck 4 pin Connection	1/2" NPT Female Connection	Turck 4 pin Connection
Selectable Resolution	add “R” to end of Model number		add “R” to end of Model number	
Battery for International Shipments	add “I” to end of Model number		add “I” to end of Model number	
Panel Mount	add “P” to end of Model number		add “P” to end of Model number	
Quick Disconnect	add “Q” to end of Model number		add “Q” to end of Model number	
DISPLAY SPECIFICATIONS				
Meter Range / Scale	-50° to 500°F (-45.5° to 260°C) / User Selectable for °F or °C			
Meter Accuracy	± 0.1°F/C, over 1-year period (@ Tamb = 23°C ± 5°C)			
Meter and Probe Accuracy	Temp ≤ 300°F (148.8°C) = ± 0.3°F (± 0.2°C), Temp > 300°F (148.8°C) = ± 0.25% of reading			
Display	1.0" 4-digit LCD display with icons for °F, °C and Low Battery, Readable up to 30 ft.			
Display Resolution	0.1°F/C / Optional “R” Model: User Selectable 1.0° or 0.1°F/C			
Sample/Display Rate	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds Optional “I” Model: 3 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds			
Ambient Operating Environment	-40° to 158°F (-40° to 70°C) / 10% to 100% RH non-condensing			
Ambient Temperature Coefficient	Maximum of 0.003°/°C over Ambient Operating Temperature Range from 23°C ± 5°C			
Sensor/Probe	• Sensor - 4-wire RTD, R0 = 100Ω, Alpha = 0.00385 Ω/Ω/°C w/ serial ID chip • 304 or 316L Stainless Steel Probe construction • Adjustable Angle Stem Probes • Rigid Stem Probes • Remote Probes - 3A Sanitary Standard • Models 610/650, 611/651, 620/660, 621/661 - 3/8" & 1/2" OD Shank & Tapered Bulbs only			
Sensor Cables	PVC insulation, shielded, 6 conductor, 105°C rating			
SECONDARY RTD SPECIFICATIONS				
RO	100 ohms per DIN EN 60751		100 ohms per DIN EN 60751	
Accuracy	Class A per DIN EN 60751		Class A per DIN EN 60751	
Temperature Coefficient	TCR = 3850 ppm/k		TCR = 3850 ppm/k	
Connection	Factory wired for 4-wire, user selectable 2, 3 or 4 wire		4-wire	
Self-Heating	0.4 K/mW at 0°C		NA	NA
Measuring Current	0.3 to 1.0 mA, self-heating must be considered		NA	NA
Terminal Block Type	Euro Style		NA	NA
Maximum Wire Size	10 AWG		NA	NA
TRANSMITTER SPECIFICATIONS				
Programming	NA	NA	PC Programming*	
Power Supply Requirements	NA	NA	10 to 35 Volts DC	
Range	NA	NA	-58° to 500°F (-50° to 260°C)	
Accuracy	NA	NA	Greater of 0.1°C or 0.05% of input span	
Fault Monitoring	NA	NA	Programmable High (> 21.6 mA), Low (< 3.5 mA)	
Battery - User Replaceable	1 Lithium Thionyl Chloride “C” Battery. Optional “I” Model: 1 Lithium Thionyl Chloride “AA” Battery**			
Battery Life	2 years nominal at 2 second update interval. Optional “I” Model: 1 year nominal at 3 second update interval			
NIST Calibration	Optional NIST Traceable Certificate of Conformance at: 180°F, 220°F, 250°F. Optional User Specified Points			
Programming & Calibration Software	Optional: DSTCAL Calibration Software			
Enclosure	DST610/DST620 Series: Stainless Steel Enclosure with Polycarbonate H Frame and Window (NEMA 4X) DST650/DST660 Series: All Stainless Steel Enclosure and H Frame with Polycarbonate Window (NEMA 4X)			
Dimensions / Weight	Dimensions: 5.3" W x 4.3" H x 2.7" D (13.5 x 10.9 x 6.9 cm). Weight: 2 lbs. (1kg)			

* Factory Programmable or optional programming kit required.

Specifications subject to change without notice.

** Must select this model for International shipments. See Display Rate and Battery Life specifications.

Probe Selection and Measurement

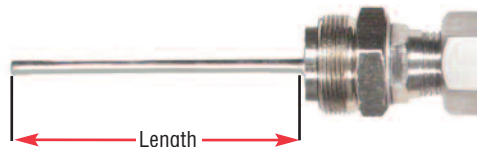
Custom Engineered Sensors from Wahl

Our Sales Team and Product Engineers can assess the requirements of your process to custom design a solution for your application.

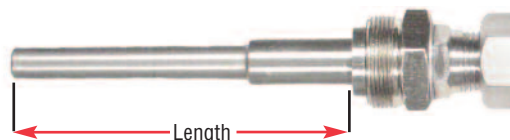
Call our Customer Service Department to get started.

Standard Probes

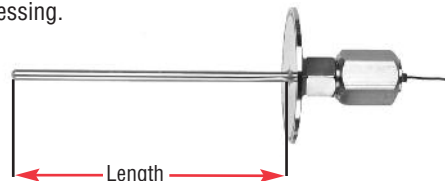
1-1/4"-18 Swivel Nut Fitting with 1/4" Diameter Stem - for use with union connections (no thermowells) for quick response.



1-1/4"-18 Swivel Nut Fitting & Tapered Bulb - Direct replacement for existing MIG's. **Requires use with thermowell.**

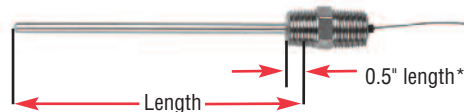


Sanitary Probe: 3-A Sanitary Standard for 1.0" to 3.0" diameter tube sizes with tri-clamp fitting for milk, food and pharmaceutical processing.



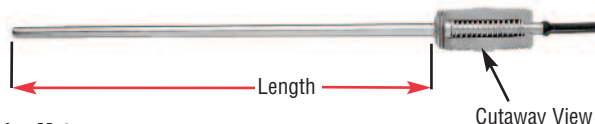
Brazed Probe: Discontinued.

Welded Probe: Sealed for immersion in fluids; for use in thermowells, sanitary, and high-pressure applications.

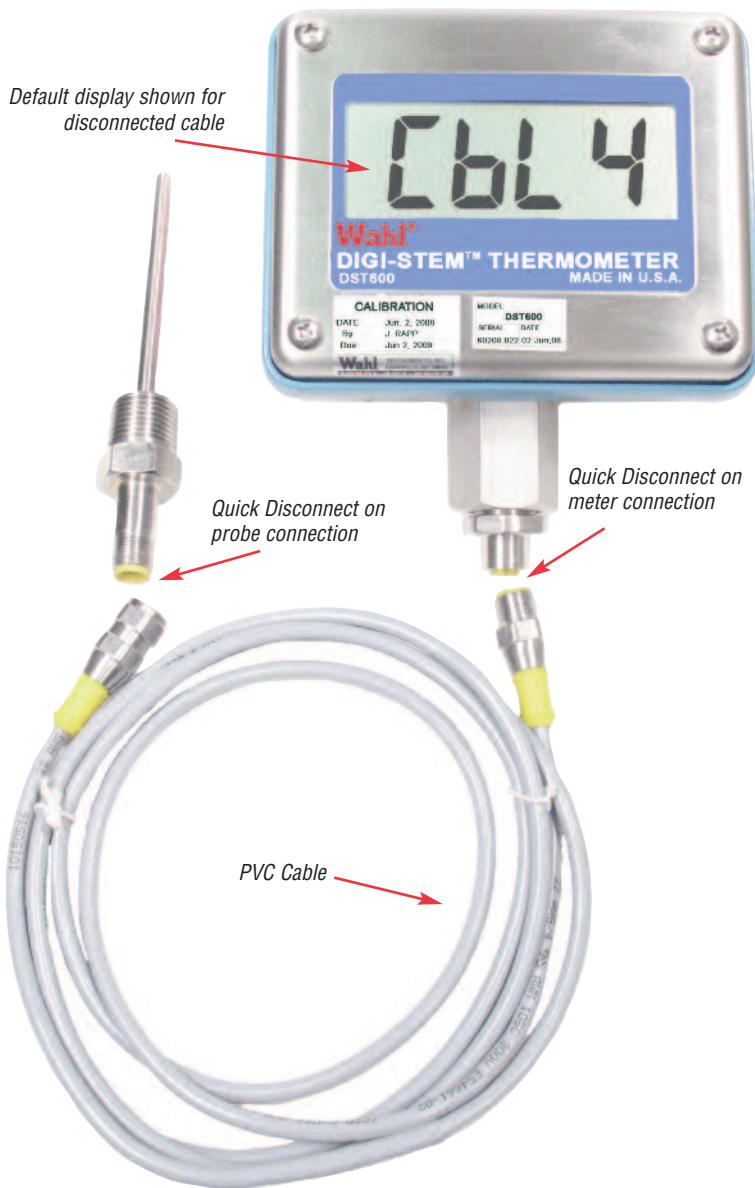


***Note:** some connections include 1/2" of threads when measuring probe length. Contact Customer Service for information.

Spring Loaded Probe: Maintains a positive force against the bottom of thermowells; not for direct immersion in fluids; assembly is not sealed. Allows approximately 1 inch of travel.



Default display shown for disconnected cable

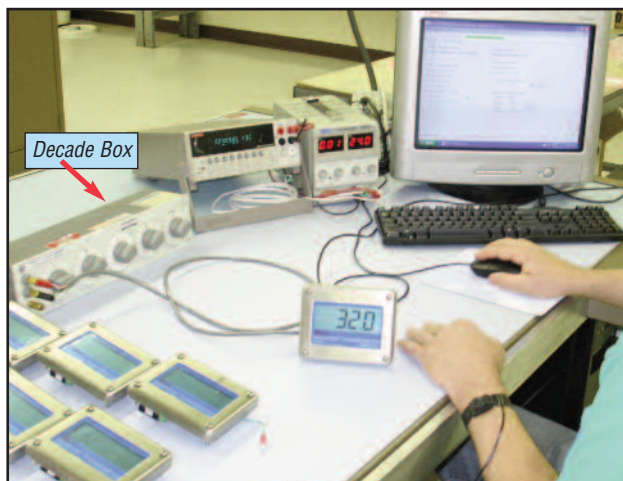


Optional Quick Disconnect for Calibration Convenience

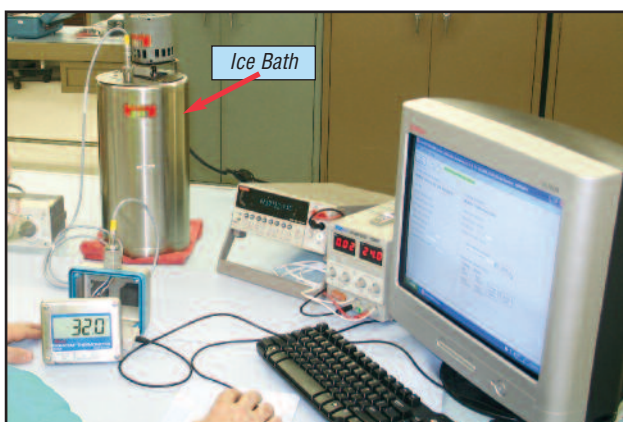
Optional Quick Disconnect (shown above) for both probe and meter connections offers convenient calibration for the user. This industry leading, and time saving capability allows the probe and meter to be removed and taken to the calibration lab and calibrated as a system - **without removing the installed cables.**



Calibration and Programming Software and Accessories



Meter Calibration of a Digi-Stem Meter utilizing a decade box and USB to Computer Interface Box.



System Calibration of a Remote Digi-Stem utilizing an ice bath and USB to Computer Interface Box

Wahl **DSTCAL Software Kit** is user friendly and includes on-screen prompts for guiding the user through their operation. **DSTCAL** requires Vista, Windows XP, Windows 7 or 8 to operate, and includes a USB cable, DST/USB Interface Module, and Digi-Stem Serial Interface Cable in order to connect the Wahl DST600 to a PC.



Wahl DST/USB Interface Module, USB Cable, and Digi-Stem Serial Interface Cable

Probe ID and Probe R0

Probe ID - The unique Probe ID feature verifies that only the authorized probe is connected to the meter. If an unauthorized probe is connected, the meter will display "Prb", indicating the need to perform the probe authorization and probe calibration functions. Probe ID is not available on Remote probes with connectors with cable length over 25-meters.

NO OTHER SYSTEM HAS THIS SAFETY FEATURE!

Probe R0 - The Wahl DST600 includes an exclusive compensation feature utilizing a programmable R0 calibration coefficient for increased accuracy. This allows the meter and probe to be "matched" to each other, and along with the Probe ID feature, guarantees an accurate and secure system.

DST600 Calibration Software

DSTCAL Calibration Software Kit - This software allows the user to configure the following parameters:

- **Sample/Display Rate** - Factory default at 2/seconds. Adjustable from .25 seconds to 10 seconds in .25 second intervals. Slower update rates extend battery life.
- **Probe R0** - Compensation feature which allows calibration of meter to be "matched" to probe.
- **Probe Authorization** - Allows user to change probes and authorize the new probe to operate with the existing meter.
- **Meter Calibration** - calibrates the meters resistance measurement circuits using precision resistances.
- **System Calibration** - used to calibrate a sensor's R0 value to a meter using a standard ice bath.

Software Accessories

DST600 Fixed Probe Calibration Cable - 13500-03 Extends the probe leads when performing system calibrations on fixed probe systems. Allows the meter to be conveniently placed on the benchtop, while the probe is installed in an ice bath.

DST600 Interconnect Calibration Cable - When probe wiring is difficult to remove, simply disconnect the probe and meter from the cable, and use the 2 meter interconnect cable for performing lab calibration.

12370-002 - 2 meter length, 6 conductor cable for use in calibration when installed remote cable cannot be easily removed.

For ordering assistance for all DST600 Series Meters please call Customer Service at 1-800-421-2853





CALIBRATION AND NIST CERTIFICATION SERVICES: Our Quality Management System is certified to conform to ISO9001:2008. We provide certified, traceable calibration data in support of companies whose requirements include meeting ISO 9001:2008, FAA and FDA quality standards. Calibrations to both IPTS-68 and ITS-90 are available. We maintain a calibration system in conformance with ANSI/NCSL Z-540 and MIL-STD-45662A.

CALIBRATION SERVICES

STANDARD CERTIFICATION: Unit is calibrated to factory specifications using NIST Traceable equipment.

Certificate of Conformance - Statement that our product meets published specifications. Included on the packing list with each shipment.

"Long Form" Certificate of Conformance - Available upon request, includes Certificate of Conformance with customer's PO number, items shipped, and any product serial numbers for products included in the shipment.

Calibration Sticker - (or tag) Advising you of the date your instrument was calibrated, and the suggested date for the next calibration. This is provided with most products at time of purchase, and when you return a product for calibration.

NIST TRACEABLE CERTIFICATE OF CONFORMANCE: Unit is calibrated to factory specifications using NIST Traceable equipment. Includes:

Calibration Data Sheet for NIST Traceability with details of standard instruments used to perform the calibration.

"As Received" and "As Left" Test Data are provided, as appropriate, with any out-of-tolerance conditions noted, and a unique test number assigned.

NIST Traceable Calibration Sticker provides the date your instrument was calibrated, technician performing the calibration, suggested date for the next calibration, and references the unique test number shown in the Test Report.

Custom or Add Points - Palmer Wahl will calibrate your instruments at your specified temperature or pressure points. Call for quote.



Why Calibration is important for your Instruments

- **Product Safety and compliance with FDA Standards.**
- **Increase customer satisfaction with consistent products.**
- **Ensure traceability throughout entire manufacturing process by maintaining accuracy records.**
- **Register your product for our Calibration eMinder Service to be reminded when calibration is due.**
Go to:
www.palmerwahl.com/register

REPAIR AND OTHER SERVICES

REPAIR and OTHER SERVICES: Palmer Wahl offers repair and calibration services on most products we sell. The customer will receive a written estimate for approval before proceeding with work. Repair pricing includes Standard Certification as listed above.

Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

Special Requests - When calibrating your instrument, our experienced personnel will help you to achieve the level of quality you require in your facility. Call Customer Service with any special requests you have.

Note: Before returning your product to us, please contact us to obtain a **Return Merchandise Authorization Number, (RMA)**. Go to: www.palmerwahl.com/rma_request.php, or call Customer Service at 1-800-421-2853. In some cases, if unit is out of spec, additional charges may apply. All instruments returned to factory may be subject to a \$50.00 evaluation fee, which will be applied to any work performed.

CALIBRATION eMINDER SERVICE: Keep your QC Program in compliance! Register your product in about a minute for our Calibration Reminder Service. Go to: www.palmerwahl.com/register.

Wahl Digi-Stem Thermometers are available from:

BESTOBELL
AQUATRONIX
SINCE DEPUIS 1953

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2880 Argenta Road, Unit 3
Mississauga, ON L5N 7X8
salesdesk@bestobell.com
1-800-668-3979
www.bestobell.com

Since 1953, Quality Products to Sense, Measure & Control
Depuis 1953, Produits De Qualités Pour Détecter, Mesurer & Contrôler

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970 Montée de Liesse, #204
St. Laurent, QC H4T 1W7
ventes@bestobell.com
1-877-331-1225

Atlantic Office
166 North Side Road
Riverport, NS B0J 2W0
dmoosman@bestobell.com
902-529-0355

Palmer Wahl Warranty

Manufacturer warrants all products listed in this catalog to be free from defects in material or workmanship under normal use and service. The Manufacturer agrees to repair or replace any product which upon examination is revealed to have been defective due to faulty workmanship or material if returned to our factory, transportation charges prepaid, within the product specific warranty period stated in the catalog by the manufacturer. This warranty is in lieu of all other warranties, expressed or implied and of all obligations or liabilities on its part for damages including but not limited to consequential damages, following the use or misuse of instruments sold by the Manufacturer. No agent is authorized to assume for manufacturer any liability except as set forth above.

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CERTIFIED QUALITY
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