

*Actual Size*

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

# Wahl® DST600

Digi-Stem® Digital RTD  
Reference Thermometer  
for Retorts & Temperature  
Critical Applications

**PALMER Wahl**  
INSTRUMENTATION GROUP

[www.palmerwahl.com](http://www.palmerwahl.com)

PW1201

*Continued Innovation Since 1836*  
ISO 9001:2008 CERTIFIED

01/09 Rev D

## Key Features and Benefits

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



*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.

- **Trustworthy Alternative to Mercury-in-Glass**
- **Exclusive Patent-Pending Wahl® 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 Calibration included**

### Innovative New Technology!

Mercury-in-Glass (MIG) thermometers, the only standard for years, may now be replaced with other technologies under the FDA's Final Rule for 21 CFR Part 113.

Wahl's DST600 is a patent-pending digital 4-wire RTD thermometer, designed and manufactured using 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 also meets the current USDA 9CFR318.305 for canned meat and 9CFR381.305 for canned poultry products.

### Continuous Self Checking Accuracy

The Wahl DST600 meets and exceeds the FDA rules by incorporating patent-pending 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. The Wahl DST600 is the last defense against potential health hazards!

### Drop-in Direct MIG Replacement

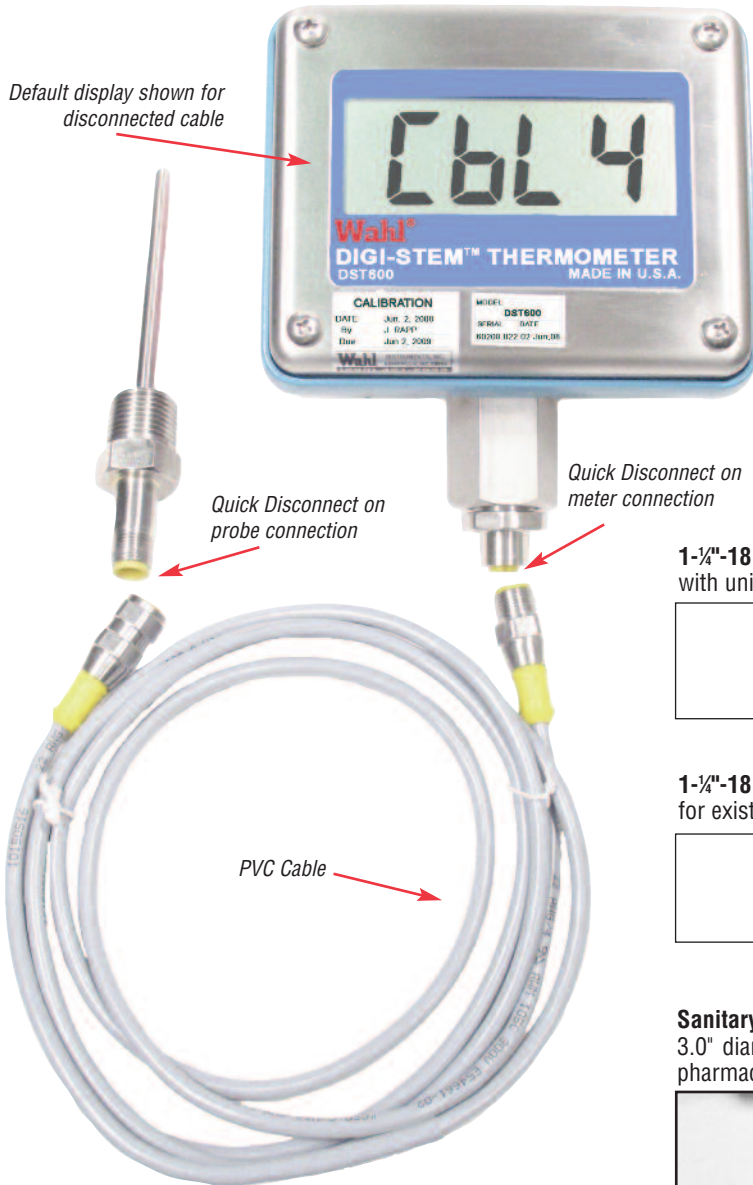
The Wahl DST600 offers the highest precision temperature measurement technology with many unique features - making it the best choice for your processing needs. It has a field replaceable battery with a 2 year life, and provides a trustworthy alternative to MIG style thermometers with drop-in direct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

### Applications

- **Retorts - for Low-Acid Canned Foods**
- **Dairy Processors** • **USDA**
- **Pharmaceutical Companies**
- **All Temperature Critical Applications**



# Probe Selection and Measurement

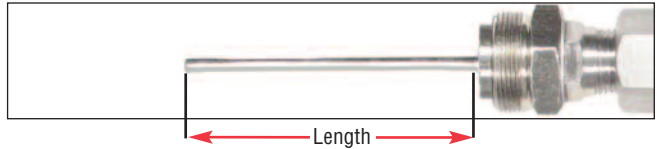


## Optional Quick Disconnect for Calibration Convenience

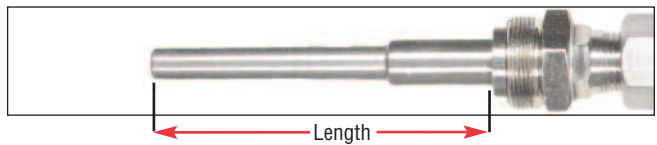
Optional Quick Disconnect for both probe and meter connections offers convenient calibration for the user. This industry leading, and time saving capability allows the probe and meter to be removed and taken to the calibration lab and calibrated as a system - *without removing the permanently installed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

Custom Built Probes available.  
Call Customer Service for information.

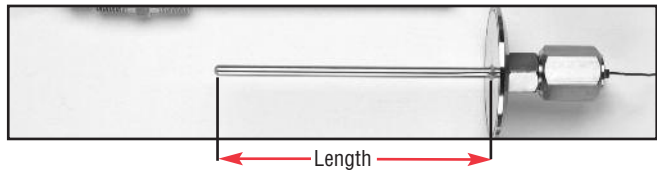
**1-1/4"-18 Swivel Nut Fitting with 1/4" Diameter Stem** - for use with union connections (no thermowells) for quick response.



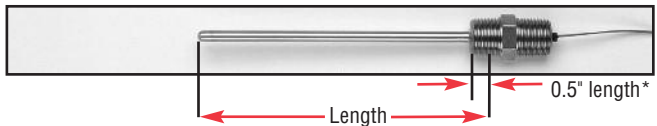
**1-1/4"-18 Swivel Nut Fitting & Tapered Bulb** - Direct replacement for existing MIG's. **Requires use with thermowell.**



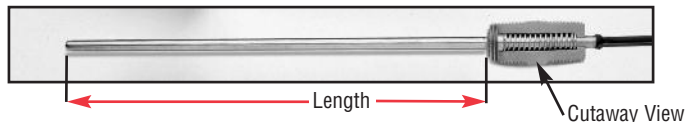
**Sanitary Probe:** Authorized 3-A Sanitary Standard 74-03 for 1.5" to 3.0" diameter tube sizes with tri-clamp fitting for milk, food and pharmaceutical processing.



**Brazed Probe:** For use in thermowells, or low pressure applications.  
**Welded Probe:** Sealed for immersion in fluids; for use in thermowells, sanitary, and high-pressure applications.



**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.



## 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](http://www.palmerwahl.com/register)

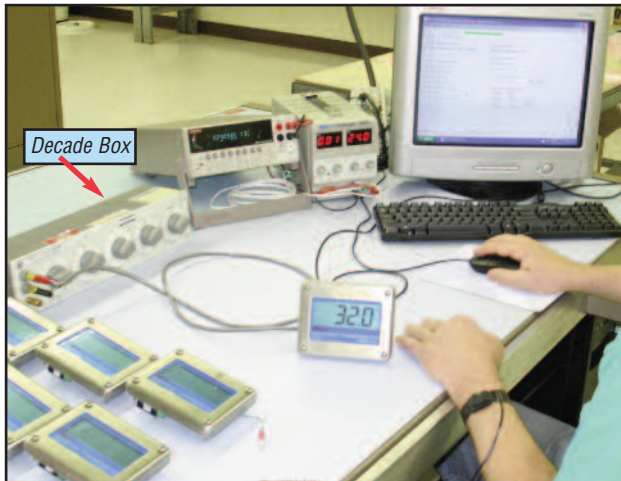


Complete Calibration Services Available

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



## Calibration and Programming Software and Accessories

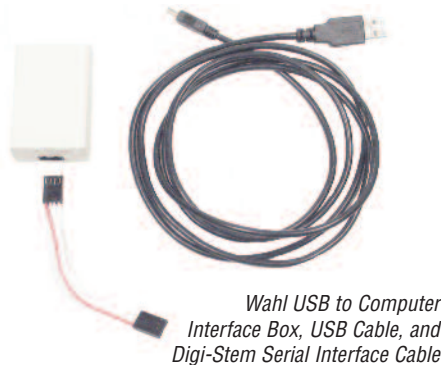


Meter Calibration of a Digi-Stem Meter utilizing a decade box and USB to Computer Interface Box.



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

Wahl **DSTPROG** and **DSTCAL** Software Kits are user friendly and include on-screen prompts for guiding the user through their operation. Both Kits require Windows XP to operate, and include a USB cable, USB to Computer Interface Box, and Digi-Stem Serial Interface Cable in order to connect the Wahl DST600 to a PC.



Wahl USB to Computer Interface Box, USB Cable, and Digi-Stem Serial Interface Cable



### Probe ID and Probe R0

**Probe ID** - The unique Probe ID feature verifies that the authorized probe is connected to the meter. If an unauthorized probe is connected, the meter will display "Pr b", indicating the need to perform the probe authorization and probe calibration functions. Probe ID is available on Adjustable Angle, Rigid, and Remote probes up to 25-meter lengths.

**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 Programming Software

**DSTPROG Programming Software Kit** - This software allows the customer 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 a new probe with the existing meter.

### DST600 Calibration Software

**DSTCAL Calibration Software Kit** - This exclusive software allows setting of the same configuration parameters as DSTPROG, but also allows the following calibrations:

- **Meter Calibration** - uses an ohmmeter to calibrate the resistance measurement electronics by connecting to known fixed resistances.
- **System Calibration** - used to calibrate a sensor 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. Determine appropriate model number below, based on length of installed cable.

**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

Complete Calibration Services Available

# Meter Specifications and Accessories

DST 600 RTD METER SPECIFICATIONS	
<b>Meter Range</b>	-50° to 500°F (-45.5° to 260°C)
<b>Scale</b>	User Selectable for °F or °C
<b>Meter Accuracy</b>	± 0.1°F/C, over 1-year period (@ Tamb = 23°C ± 5°C)
<b>Meter and Probe Accuracy</b>	Temp ≤ 300°F (148.8°C) = ± 0.3°F (± 0.2°C), Temp > 300°F (148.8°C) = ± 0.25% of reading
<b>Display</b>	1.0" 4-digit LCD display with icons for °F, °C and Low Battery, Readable up to 30 ft.
<b>Display Resolution</b>	0.1°F/C
<b>Sample/Display Rate</b>	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds
<b>Ambient Operating Temperature Range</b>	-40° to 158°F (-40° to 70°C)
<b>Ambient Temperature Coefficient</b>	Maximum of 0.003°/°C over Ambient Operating Temperature Range from 23°C ± 5°C
<b>Humidity</b>	10% to 100% RH non-condensing
<b>Battery</b>	One Lithium Thionyl Chloride "C" Battery, Field Replaceable
<b>Battery Life</b>	2 years nominal at 2 second update interval
<b>Enclosure</b>	Stainless Steel and Polycarbonate (NEMA 4X)
<b>Enclosure Dimensions/Weight</b>	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)
<b>Sensor/Probe</b>	<ul style="list-style-type: none"> <li>• Sensor - 4-wire RTD, R0 = 100Ω, Alpha = .00385 Ω/Ω/°C with serial ID chip</li> <li>• 304 or 316L Stainless Steel Probe construction</li> <li>• Adjustable Angle Stem Probes</li> <li>• Rigid Stem Probes</li> <li>• Remote Probes with rugged IP68 connection system.</li> <li>• Sanitary Fittings in compliance with 3A Sanitary Standard 74-03</li> </ul>
<b>Sensor Cables</b>	All Remote Cables are shielded, 6 conductor < 30 meters, 4 conductor > 30 meters.
<b>NIST Calibration</b>	Includes NIST Traceable Certificate of Calibration at 3 points: 180°F, 220°F, 250°F (For User Specified Fixed Points please contact Customer Service)
<b>Optional Programming and Calibration Software</b>	DSTPROG Programming Software DSTCAL Calibration Software

DST600 Series Software and Accessories	
<b>DSTCAL</b>	DST600 Series Calibration Software Kit
<b>DSTPROG</b>	DST600 Series Programming Software Kit
<b>12370-002</b>	DST600 Series Interconnect Calibration Cable - 2 meter length, 6 conductor
<b>13500-03</b>	DST600 Series Fixed Probe Calibration Cable
DST600 Series Meter Accessories and NIST Traceable Certificate of Calibration	
<b>DSA3030</b>	Wall Mount Bracket (for Remote Mount units)
<b>DSA3031</b>	Wall Mount Bracket (for Remote Mount units) with Grounding Lug
<b>DSA3032</b>	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)
<b>DSA3033</b>	Security Wire Seals, 10/pack, Toolless, 8", SS Wire
<b>DSA3060</b>	Spare Lithium Thionyl Chloride "C" Battery
<b>DS-M</b>	Calibration & Firmware Upgrades (Upgrades if applicable, included in price)
<b>DST6NIST</b>	NIST Traceable Certificate of Calibration of System & Firmware Upgrades* - Standard Set Test Points
<b>DST6NIST-1</b>	NIST Traceable Certificate of Calibration of System & Firmware Upgrades* - User Specified Test Points
<b>13146</b>	90 Degree Elbow for Fixed units, Specify "B" Back Angle, "L" Left Angle, "R" Right Angle
<b>13510</b>	Adjustable Stop Kit - for mounting on side of evaporation pans

Specifications subject to change without notice



DSA3030  
Wall Mount  
Bracket

13146 90° Elbow



The World's Finest Manufacturers of Industrial Temperature, Pressure, Humidity, Test and Calibration Instruments

CALIBRATION SERVICES

Wahl designs and manufactures to the most stringent quality standards. We provide certified, traceable calibration data in support of companies whose requirements include meeting ISO 9000, FAA and FDA quality standards. Calibrations to both IPTS-68 and ITS-90 are available. Choose from two levels of calibrations services to meet your quality system requirements.

STANDARD CERTIFICATION: Unit is calibrated to factory specifications using NIST traceable equipment. Unit is provided with:

Certificate of Conformance\*- Statement that our product meets published specifications. Included when you buy a new product.

Calibration Sticker\*- (or tag) Advising you of the date your instrument(s) was/were calibrated, and the suggested date for its next calibration. This is provided when you buy a new product and when you return a product for calibration. (\*Most Products)

NIST TRACEABLE TEST REPORT: Unit is calibrated to factory specifications using NIST Traceable equipment. Unit is provided with:

NIST Traceable Test Report - Our quality Management system is certified to conform to ISO9001:2000. We maintain a calibration system in conformance with ANSI/NCSL Z-540 and MIL-STD-45662A.



"Before" and "After" Data with Out of Tolerance conditions noted.

Calibration Sticker (see above).

Why you need to Calibrate your Instruments

- Increase customer satisfaction with consistent products.
• Comply with quality standards.
• Improve product quality.
• Ensure traceability throughout your entire manufacturing process.
• Palmer Wahl offers a complete line of Calibrators to integrate all the necessary functions for adjustment and maintenance of your process.
• Our products are easy to use and Palmer Wahl is there to help, every step of the way.
• Go to: www.palmerwahl.com > Test & Calibration.

REPAIR AND OTHER SERVICES

REGISTER YOUR PRODUCT: Registration is fast and easy. In about a minute you can register your product for Warranty Protection and our Calibration Reminder Service to keep your QC Program in compliance. Go to www.palmerwahl.com/register.

REPAIR SERVICES: Palmer Wahl offers repair and calibration services on most products we sell. Contact Customer Service for pricing, and an RMA. Please see note below.

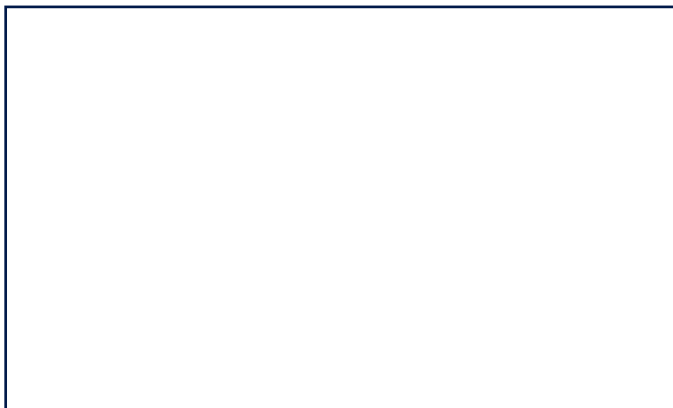
Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

Custom Points - Palmer Wahl will calibrate your instruments at your specified temperatures.

Special Requests - When calibrating your instrument, our experienced personnel will help you to achieve the level of quality that you need in your facility.

Note: You must have a Return Merchandise Authorization Number, (RMA) before returning a product for repair or calibration. To obtain an RMA, please call Customer Service at 1-800-421-2853 or go to www.palmerwahl.com and click on: Service > Product Return Request.

Wahl Digi-Stem® Thermometers are distributed by:



www.palmerwahl.com

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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