Wahl

Wahl DST600 Series For Critical Applications, With Secondary RTD and Internal Terminal Block

DST610, DST611, DST650 and DST651

Innovative New Technology!

The DST610 features all the benefits of our DST600 series, including local display, with the addition of a second, 4-wire RTD wired to an internal Euro-style terminal block, factory wired for 2, 3, or 4 wire direct output capability. Maximum wire size is 10AWG.
The second RTD is entirely independent, powered by customer provided 24VDC loop power.[1] The primary RTD sensor functions as part of the reference thermometer (TID). The completely independent second sensor is ideal for output to a recorder or control panel. Users access the internal terminal block via a ½" NPT Female conduit connector in the second port on the side of the case.

The **DST650** includes all the features of the DST610, but with a laser welded stainless steel H-Frame for additional protection against EMI and water ingress.

The **DST611** features all the benefits of our DST600 series, including local display, with the addition of a second 4 wire RTD wired to an internal Euro-style terminal block, factory wired for 2, 3, or 4 wire direct output capability. Internal terminal block is connected to external Turck 4 pin connector on the side of the case for a watertight connection. The **DST611** has a standard polycarbonate H-Frame.

The DST651 includes all the features of the DST611, but with a laser welded stainless steel H-Frame for additional protection against EMI and water ingress.

DST610

DST650

1/2" NPT Female Connection on right side of Meters

DST611

DST651

Turck 4-pin Connection on right side of Meters

FEATURES

Safety & Security

- Wahl DST600 series digital RTD thermometers use high precision, high reliability components.
- LCD Screen with easy to read 1 inch high digits. Resolution to 1/10th of 1°.[2]
- Self-checking technology continuously verifies the accuracy of the electronics and indicates any out-of-tolerance condition by displaying "Err" on the LCD screen.
- Tamper Resistant. All reference thermometer (TID) adjustments require DSTCAL, our user friendly single point calibration software (sold separately). Not needed for output RTD.
- User selectable °F or °C.
- Adjustable meter update rate.[3]
- Meter electronics, LCD Screen and primary RTD (the TID) are powered by the internal C cell sized Lithium Metal Battery.[4] Two years nominal battery life at default update rate.[5]
- Adjustable meter update rate.[6]
- Meets the FDA Final Rule 21 CFR Part 113 for replacing traditional mercury-in -glass thermometers.
  - Ideal for low acid canned food processing in hermetically sealed containers.

Probes

- Probe ID feature prevents the reading of unauthorized probes.[7] Only the probe with its ID programmed into the meter can be used. Using an unauthorized probe will display "Prb" on the LCD screen.
- The programmable R0 allows any initial tiny probe error to be offset in the meter.
- Sanitary probes are in compliance with 3A Sanitary Standard.
- Probes utilize Pt100, Class A 4 wire platinum RTD sensors in MgO packed MI cable.

Enclosure

- Stainless Steel H-Frames included on DST650 and DST651 meters.
- Standard polycarbonate H-Frame included on DST610 and DST611 meters.

Certifications

- NIST Traceable Certificate of Conformance is available.

USDA Accepted Equipment

TWO YEAR 2 WARRANTY

TRACEABLE TO NIST

3A

MADE IN THE USA

Palmer Wahl Instruments, Inc. • Toll Free: 800-421-2853 • Phone: 828-658-3131 • www.palmerwahl.com

Palmer Wahl BEYOND THE SCALE

FOOD PROCESSING APPLICATIONS, OR IDEAL FOR ANY APPLICATION WHERE ACCURACY IS CRITICAL.

The Wahl **DST600** Series was designed with food processing applications in mind. The DST600 Series meets and exceeds the FDA requirements, ensuring that its accuracy and ability to function properly during critical processing is not compromised. The DST600 Series also meets current USDA 9CFR318.305 for canned meat and 9CFR381.305 for canned poultry products. With high reliability components, combined with its accuracy and safety features, the DST600 is ideal for low acid canned food processing in hermetically sealed containers and any application where accuracy is critical.

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[1] Primary RTD, LCD Screen, and meter electronics are powered by the internal battery. This is the "TID". Second RTD is totally separate, not part of the "TID".

[2] "R" models have resolution switchable between 0.1° and 1.0°.

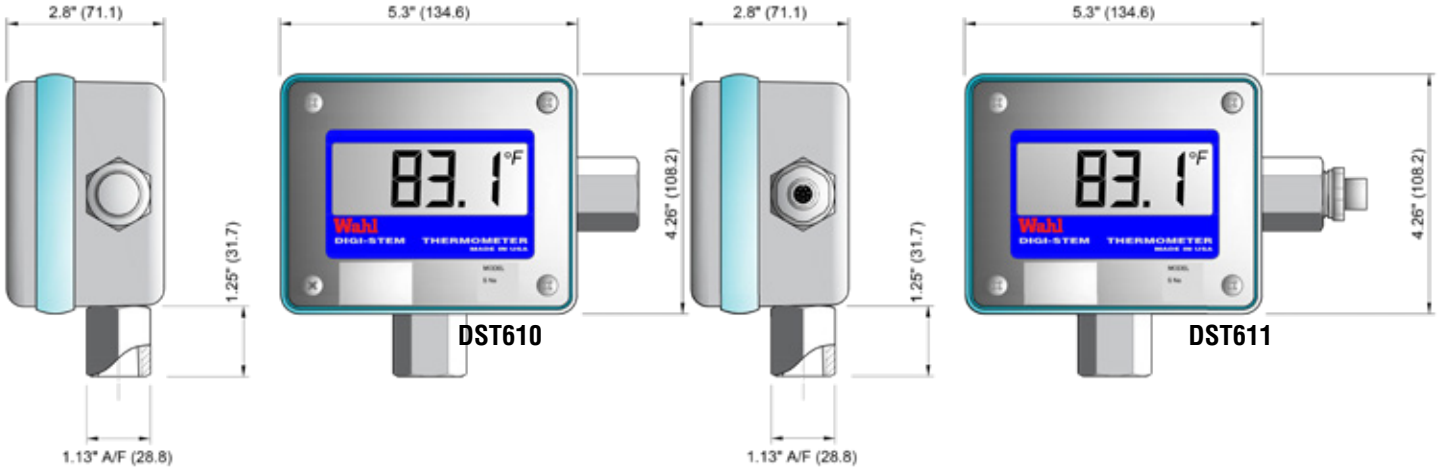
[3] Default update rate is 2 seconds unless otherwise specified at time of order. Adjustable from 0.25 seconds to 10 seconds in 0.25 second intervals.

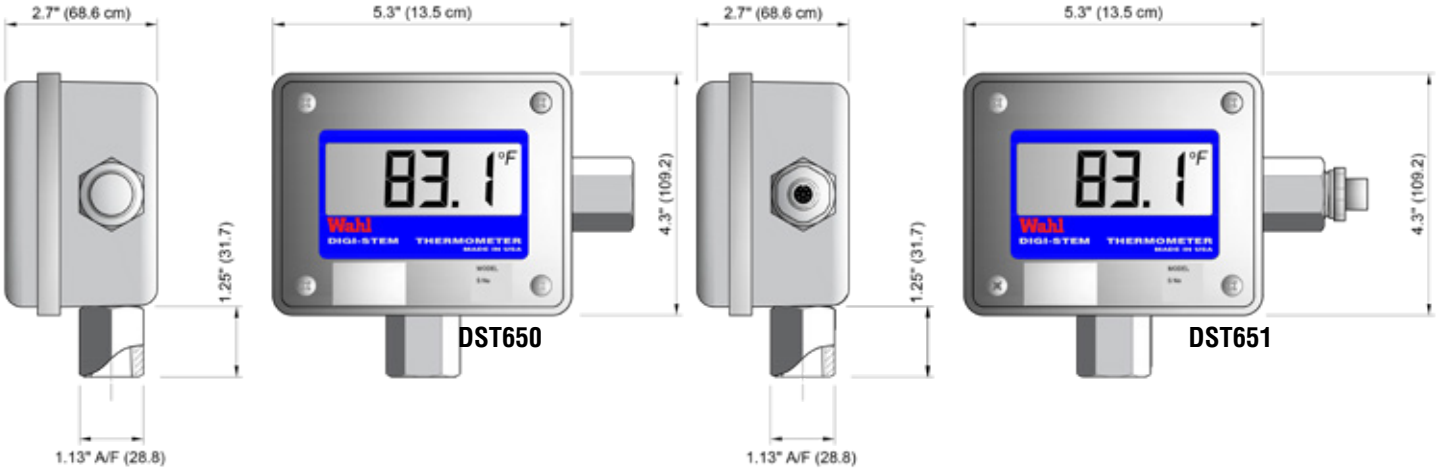
[4] "I" models contain a "AA" size lithium metal battery, in compliance with air transportation regulations regarding lithium metal batteries.

[5] Low battery is indicated by "LOW BATT" displaying in the lower right corner of the display. When battery discharges, eventually the battery voltage will get low enough to cause an error. The display will switch to "- - -" before that happens.

[6] Default update rate is 2 seconds unless otherwise specified at time of order.

[7] Probe ID feature is available on rigid probes and remote probes with a cable of 25 meters or less. Probe ID can be disabled upon request at time of order.





DST610 / DST650 & DST611 / DST651 Series RTD Meter Specifications Temperature Indication Device with RTD and Local Display		
Standard Series	**DST610**	**DST611**
All Stainless Steel, RFI	**DST650**	**DST651**
Isolated Secondary Sensor	Internal Terminal Block	
	1/2" NPT Female Connector	External Turck 4 pin Connector
Selectable Resolution	add "R" to end of Model number for User Selectable 1° / 0.1° resolution	
Battery for international Shipments	add "I" to end of Model number For 1 3.6 volt Lithium Thionyl Chloride "AA"Battery	
Panel Mount	add "P" to end of Model number, Probe & output connections are on back of case.	
Quick Disconnect*	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) = ± 0.5% 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° or 0.1°F/C	
Display Update 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 • Remote Probes (IP68 connection system)** • Rigid Stem Probes • 304 or 316L Stainless Steel Probe • Sanitary Fittings (3A Sanitary Std 74-06) • Adjustable Angle Stem Probes • Models 610, 611, 620, 621 - 3/8" & 1/2" OD Shank & Tapered Bulbs only	
Sensor Cables	PVC insulation, shielded, 10 conductor, 105°C rating	
Battery User Replaceable	1 Lithium Thionyl Chloride "C" Battery / Optional "I" Model: 1 Lithium Thionyl Chloride "AA"Battery	
Battery Life	1+ year nominal at 2 second update interval. Up to 10 years if set on 10 second update rate.	
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	
	Secondary RTD Specifications	
RO	100 ohms per DIN EN 60751 Powered from 24VDC external power loop	
Accuracy	Class A per DIN EN 60751	
Temperature Coefficient	TCR = 3850 ppm/k	
Connection	Factory wired for 4-wire, user selectable 2, 3 or 4 wire output	
Self-Heating	0.4 K/mW at 0°C	
Measuring Current	0.3 to 1.0 mA, self-heating must be considered	
Terminal Block Type	Euro Style	
Maximum Wire Size	10 AWG	
Enclosure	**DST610, DST611 Series:** Stainless Steel Enclosure with Polycarbonate H Frame and Window (NEMA 4X) **DST650, DST651 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)	

***This is only when ordering a quick disconnect remote mount meter without Probe. If ordering with a Remote Probe with Quick Disconnect DO NOT ORDER a DST6XXQ**

****Remote probes can be hard wired on or have optional IP68 quick disconnects at one or both ends (allows cable to run through conduit or tied into wiring harness allowing meter and probe to be disconnected for calibration check).**

Models	
Code	**Step 1 - order Digi-Stem DST610, DST611, DST620, or DST621 Series RTD Meter (NIST Certificate optional)**
DST610	RTD Meter, LCD, Terminal Block, 1/2" NPT Female Conduit Connection, LCD, Battery Powered Display, ("C" size incl) -50° to 500°F (-45.5° to 260°C)
DST611	RTD Meter, LCD, Terminal Block, Turck 4 pin Connector, LCD, Battery Powered Display, ("C" size incl) -50° to 500°F (-45.5° to 260°C)
DST650	RTD Meter, LCD, All SS, RFID, Terminal Block, 1/2" NPT Female Conn, LCD, Battery Power Display, ("C" incl) -50° to 500°F (-45.5° to 260°C)
DST651	RTD Meter, LCD, All SS, RFID, Terminal Block, Turck 4 pin Connector, LCD, Battery Powered Display, ("C" size incl) -50° to 500°F (-45.5° to 260°C)

Meter Options		
Code	**Battery Options**	**Note: Battery Options** - DST Meters come standard with a "C" cell battery, ready for ground shipment in the contiguous 48 states and some areas of Canada. For air shipments, either an "I" model with a "AA" battery, or "NB" model with no battery is required to avoid additional charges in compliance with transportation regulations regarding "C" cell lithium metal batteries.
I	International Shipping, ("AA" Battery included)	
NB	No Battery included. Requires local purchase of "C" battery	
Code	**Options**	
P	Panel Mount, Bottom Back Stem Connected	
Q	Quick Disconnect at Meter end, Probe end, or both ends (Specify at Step 3)	

Optional Accessories	
DST610/611, 620/621, 650/651, 660/661 Series Software and Accessories	
DSTCAL	DST600 Series Calibration Software Kit (USB Cable, DST/USB Interface Module, and Digi-Stem Serial Interface Cable)
12075-XX	DST611/DST621 Output Field-Wireable Conn Cable, Straight: -07 (4-6mm), -08 (6-8mm)
	Right Angle: -09 (4-6mm), -10 (6-8mm)
12361-XXX	DST611/DST621 Mating Cable with Connector. XXX = length in meters (002, 004, 006, etc) (single ended male connector)
12380-002	DST600 Series Interconnect Calibration Cable, 2 meter length - 10 Conductor, for Remote Probes
DST600 Series Meter Accessories and NIST Traceable Certificate of Conformance	
DSA3030	Wall Mount Bracket (for Remote Mount units)
DSA3031	Wall Mount Bracket (for Remote Mount units) with Grounding Lug
DSA3032	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)
DSA3033	Security Wire Seals, Tamper Resistant, 10/pack, Toolless, 8", SS Wire
DSA3062	Spare Lithium Thionyl Chloride "C" Battery, 3.6V, for all DST meters except FM version
12234-03	Spare Lithium Thionyl Chloride 3.6V "AA" Battery for "**I**" versions
	Calibration and Firmware Upgrades[2]
	NIST Traceable Certificate of Conformance of System & Firmware Upgrades[2]
13146X	90 Degree Elbow [3] for Rigid Stem models, Specify: Back Connection (B), Left (L) or Right Side (R) Mount
12415-14	Transmitter Programming Kit for DST620 and DST621 meters with INOR Transmitters (White #12415-08, -09)

[2] Upgrades if applicable, are included in price.
[3] For Back, Left, or Right Side Mounting specify Code B, L, or R - Rigid Stem, under Mounting Style, 90 Degree Elbow accessory, and specify code as shown above.