CHOOSE THE DST500 SERIES METERS IF YOU:
- Are looking for high level accuracy and design.
- Want -328° to 1472°F (-200° to 800°C) measurement range
- Are looking for FM or MIN-MAX.
- Want optional 4-20mA transmitter with loop powered local display.
- Can use 4-wire Pt100 probes from Wahl or other manufacturers.
- Need a wide variety of probe geometries and dimensions to fit any measurement task.

CHOOSE THE DST600 SERIES METERS IF YOU:
- Are looking for high level accuracy.
- Want Self-checking technology for the highest reliability.
- Want Probe ID for FDA applications such as 21 CFR part 113.
- Want -50° to 500°F (-45.5° to 260°C) measurement range tailored to Food/Beverage/Pharma applications.
- Want an optional independent secondary RTD with direct RTD or 4-20mA current loop output.
- Need a wide variety of probe geometries and dimensions to fit any measurement task.

		DST500	DSX500	DSX501	DST550	DST500-FM	DST600	DST610	DST611	DST620	DST621
CASE STYLE	Stainless Steel Case Polycarbonate H Frame/Window	DST500	DSX500	DSX501	DST550	DST500-FM	DST600	DST610	DST611	DST620	DST621
	Stainless Steel Case and H Frame/Polycarbonate Window	DST540	DSX540	–	–	–	DST640	DST650	DST651	DST660	DST661
PROBES and OUTPUT	Special Features	–	–	–	MIN-MAX	FM Approval	Probe ID and Self - Checking Technology				
	Probes	Pt100 - 4 wire	Pt100 - 4 wire	Pt100 - 4 wire	Pt100 - 4 wire	Pt100 - 4 wire	Pt100 - 4 wire	2 Independent Pt100 - 4 wire Secondary RTD Sensors		2 Independent Pt100 - 4 wire Secondary RTD Sensors	
	Output	–	4-20mA Transmitter	4-20mA Transmitter	–	–	–	Internal Terminal Block		INOR 4-20mA Transmitter	
	Connector	–	1/2" NPT Female Connector	Turck 4 pin Connector	–	–	–	1/2" NPT Female Connector	Turck 4 pin Connector	1/2" NPT Female Connector	Turck 4 pin Connector
METER SPECIFICATIONS	Meter Range	-328° to 1472°F (-200° to 800°C) / User Selectable for °F or °C					-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)					± 0.1°F/C, over 1 year period (@ Tamb = 23°C ± 5°C)				
	System Accuracy	Greater of ± 0.4°F / 0.22°C or ± 0.5% of reading, over 1 year period (@ Tamb = 23°C)					Greater of ± 0.3°F / 0.2°C or ± 0.5% of reading, over 1 year period (@ Tamb = 23°C)	Temp ≤ 300°F (148.8°C) = ± 0.3°F (± 0.2°C), Temp > 300°F (148.8°C) = ± 0.5% of reading			
	Ambient Operating Environment	-40° to 158°F (-40° to 70°C) 10% to 100% RH non-condensing					-40° to 158°F (-40° to 70°C) 10% to 100% RH non-condensing				
	Vibration	Vibration - MIL STD 202G	Vibration Resistant	Vibration Resistant	Vibration Resistant	Vibration Resistant	Vibration - MIL STD 202G	Vibration Resistant	Vibration Resistant	Vibration Resistant	Vibration Resistant
	Ambient Temperature Coefficient From 23°C ± 5°C	Maximum of 0.003°/°C over Ambient Operating Temperature Range					Maximum of 0.003°/°C over Ambient Operating Temperature Range				
	Meter Battery*	1 - C size, Lithium Thionyl Chloride, 3.6 V	Loop Powered 10-36 VDC		1 - C size, Lithium Thionyl Chloride, 3.6 V	1 - C size, Lithium Thionyl Chloride, 3.6 V	1 - C size, Lithium Thionyl Chloride, 3.6 V (Display only, all DST600 Series)				
	Battery Life	1+ year nominal at 2 second update interval	–	–	2 year minimum	1+ year nominal at 2 second update interval. Up to 10 years if set on 10 second update rate.	1+ year nominal at 2 second update interval. Up to 10 years if set on 10 second update rate.				
	Approvals	USDA, CE	–	–	–	IS/CL I, II, III / DIV 1 / GP ABCDEFG; T4A Ta = 70°C; Type 4X CL I, II, III / DIV 2 / GP ABCDEFG; T4A Ta = 70°C; Type 4X	USDA Meets FDA's Final Rule for 21 CFR Part 113.	Meets FDA's Final Rule for 21 CFR Part 113.		Meets FDA's Final Rule for 21 CFR Part 113.	
DISPLAY SPECIFICATIONS	Display Icons	°F and °C Low Battery Error Warnings	°F and °C Low Battery Error Warnings	°F and °C Low Battery Error Warnings	°F and °C Low Battery, Error Warnings MIN, MAX	°F and °C Low Battery Error Warnings	°F and °C Low Battery Self-Checking/Error Warnings Probe Mismatch	°F and °C Low Battery Self-Checking/Error Warnings Probe Mismatch		°F and °C Low Battery Self-Checking/Error Warnings Probe Mismatch	
	Display Resolution	0.1°F/C					0.1°F/C Optional User Selectable Resolution 1.0°F/C / 0.1°F/C	0.1°F/C			
	Sample/Display Rate	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds			User Selectable, 6 second or 60 second	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds	2 seconds standard, adjustable in .25 second intervals from .25 to 10 seconds				
TRANSMITTER SPECIFICATIONS	Transmitter Power Supply	–	Loop Powered 10-36 V DC with Meter		–	–	–	–	–	Loop Powered 10-36 V DC	
	Output Accuracy	–	Same as System Accuracy		–	–	–	–	–	± 0.08% of span	
	Programming	–	DSTCAL Software		–	–	–	–	–	PC Programming (Factory programmable or optional cable and software required.)	

Specifications subject to change without notice.

Optional DSTCAL Software allows the following functions for DST500 and DST600 Series:
- Set Sample/Display Rate - Optimizes sample rate to match your process speed and maximize battery life
- Tamper Resistance - DSTCAL software is required for all temperature adjustments, providing added security
- Probe R0 - allows programming of a probes R0 value into the meters memory, for increased accuracy
- Meter Calibration - Calibrates the resistance measurement electronics by use of known fixed resistances
- System Calibration - Automatically measures/programs the R0 value for connected probe by placing it into an ice bath

Optional DSTCAL Software allows additional functions for DSX500 Series:
- Current Transmitter Programming - Allows assignment of 4mA and 20mA values in °F or °C
- Burnout Setting - controls current direction in event of open probe. Upscale drives to 22.0mA and Downscale drives to 3.5mA
- Calibration of Current Output

Optional DSTCAL Software allows additional functions for DST600 Series:
- Capture Probe - Allows programming of a new Probe ID into the DST6XX meter for use as the authorized probe
- Enable/Disable of Probe ID
When used with INOR Transmitter Software and Interface (downloaded from INOR website):
- Current Transmitter Programming - Allows assignment of 4mA and 20mA values in °F/°C for the DST600 Transmitter models
- DST620, DST621, DST660, DST661 - Programmable High (> 21.6 mA), Programmable Low (< 3.5 mA)

Note: see important information regarding the shipping of Lithium Thionyl Chloride batteries on page 4 under the DST400 Series table.

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CALIBRATION TRACEABLE TO NIST

TWO YEAR 2 WARRANTY

ISO 9001:2015 CERTIFIED QUALITY MANAGEMENT SYSTEM

Wahl DIGI-STEM® Thermocouple Systems

CHOOSE THE DST400 SERIES METERS IF YOU:

- Are looking for mid level accuracy.
- Want a wide temperature measurement range.
- Need rugged thermocouple probes.
- Need fast response thermocouple probes.
- Want to use low-cost probes.
- Can use existing probes from other manufacturers as well as Wahl probes.

Meter Selection Guide

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TWO YEAR **2** WARRANTY

CASE STYLE	Stainless Steel Case Polycarbonate H Frame/Window	DST400K	DST400J	DST400T	DST400E	DST400S
	Stainless Steel Case and H Frame/ Polycarbonate Window	DST440K	DST440J	DST440T	DST440E	DST440S
PROBES	Thermocouple Type	Type K	Type J	Type T	Type E	Type S
	Probe Accuracy	Special Limits of Error				
	Sensor Lead Resistance	1000 ohms Maximum				
METER SPECIFICATIONS	Meter Range	-40° to 2500°F (-40° to 1371°C)	-40° to 2192°F (-40° to 1200°C)	-40° to 752°F (-40° to 400°C)	-40° to 1832°F (-40° to 1000°C)	32° to 3200°F (0° to 1760°C)
		User Selectable for °F or °C				
	Meter Accuracy (@ Tamb = 23°C ±5°C) (includes CJC error)	< 1000 = ± 0.5°F, ± 0.3°C > 1000 = ± 2°F, ± 1°C	< 1000 = ± 0.5°F, ± 0.3°C > 1000 = ± 2°F, ± 1°C	± 0.5°F, ± 0.3°C	< 1000 = ± 0.5°F, ± 0.3°C > 1000 = ± 2°F, ± 1°C	Full Range = ± 2°F ± 1°C
	Ambient Operating Environment	-40° to 158°F (-40° to 70°C) 10% to 100% RH non-condensing				
	Vibration	Vibration Resistant				
	Ambient Temperature Coefficient From 23°C ± 5°C	Input: < 200°C, Maximum of: ± 0.02°C/°C Input: > 200°C, Maximum of: ± 0.05°C/°C				
	Meter Battery*	1 - C size, Lithium Thionyl Chloride, 3.6 V				
	Battery Life	Approximately 4 Years at 2 second sample rate, 1 to > 10 years (approximate) when set to .25 to 10 second sample/display rate				
DISPLAY SPECIFICATIONS	Display Icons	°F and °C Low Battery Error Warnings				
	Display Resolution	< 1000 = 0.1°; > 1000 = 1°			1°	
	Sample/Display Rate	2 Seconds, adjustable in .25 Second intervals to .25 to 10 seconds with software				

Note: Model DST400K replaces Models DST200 and DST300

Specifications subject to change without notice.

Optional DSTCAL Software allows the following functions for the DST400 Series:

- Set Thermocouple Type - Programs meter for use with J, K, T, E or S type thermocouples.
- Set Sample/Display Rate - Optimizes sample rate to match your process speed and maximize battery life.
- Tamper Resistance - DSTCAL software is required for all temperature adjustments, providing added security.
- Meter Calibration - Calibrates mV measurements of the meter.
- Cold Junction Compensation Calibration - Calibrates CJC sensor for the selected thermocouple type.

Notes for all Digi-Stems regarding the shipping of Lithium Thionyl Chloride batteries:
* All Meters come standard with a "C" cell Lithium Thionyl Chloride, ready for ground shipment in the contiguous 48 states and some areas of Canada. For air shipments, either an "I" model with a "AA" Lithium Thionyl Chloride 3.6 V battery, or "NB" model with no battery is required to avoid additional charges in compliance with transportation regulations regarding Lithium Thionyl Chloride batteries. Specify when ordering.
"I" Models set to 4 second update rate, adjustable in .25 second intervals from .25 to 10 seconds.

Wahl DIGI-STEM® THERMOMETER

Digi-Stem Meters can be mounted in any configuration needed for your application. Standard Digi-Stem mounting bracket shown above.

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Wahl DIGI-STEM® THERMOMETER
RTD AND THERMOCOUPLE SYSTEMS
Meter Selection Guide

Virtually every industry relies on temperature measurement in some manner. Measuring correctly can mean the difference in producing a high quality product, between safe and dangerous; between proper equipment function and down-time.

Use of precision digital temperature instrumentation from Palmer Wahl can make the difference in your business. With our Digi-Stem System, choose your meter, select or have us design the probe needed for your application and you're set.

Call us today - to learn the difference!

Features for All Digi-Stem Models:

- Large 1″ Digit LCD Display, readable from 30 Feet.
- Meter Accuracy from ± 0.1°F (± 0.1°C).
- User Selectable °F or °C.
- Quick Disconnect option (DST500 Series and DST600 Series only).
- Long-Life, Lithium Battery up to 10 years at 10 second update rate.
- Ambient operation from -40° to 158°F (-40° to 70°C).
- NEMA-4X Stainless Steel Housing.
- Vibration Resistant.
- Loop powered Transmitter models available at 10-36 V DC.
- Software-selectable Sample/Display Update Rate with optional Wahl DSTCAL Software.
- Optional NIST Traceable Certificate of Conformance.
- Optional User-Friendly Single Point Calibration Software.
- Multiple mounting methods available.
- PROBES ARE SOLD SEPARATELY! Choose from our extensive line of standard probes, or have our engineers design a custom solution for your application.
- Most Probes constructed of MgO packed MI cable (sold separately).
- Probes offering Direct Replacement for Bimetal, Bulb & Capillary and Mercury-in-Glass Thermometers available.

➜ **Choose an RTD system when higher accuracy and better stability are needed.**

➜ **Choose a Thermocouple system when a higher temperature range is needed and response time is critical.**

Probes are sold separately! Choose from our extensive line of standard probes, or have our engineers design a custom solution for your application.

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Digi-Stem is a registered trademark of Palmer Wahl Instruments, Inc.

CALIBRATION TRACEABLE TO NIST

TWO YEAR **2** WARRANTY

MADE IN THE USA

ISO 9001:2015 CERTIFIED QUALITY MANAGEMENT SYSTEM

September 2023