DIGI-STEM®

Thermometer and Transmitter Systems

Measure Process Temperatures with Digital Accuracy

Rigid & Remote Sensor Systems

RTD or Thermocouple Output

303 °F

Wahl®

DIGI-STEM™ THERMOMETER

DST310   MADE IN U.S.A.

PALMER Wahl
INSTRUMENTATION GROUP

Continued Innovation Since 1836
ISO 9001:2008 CERTIFIED

303 °F

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DST310

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Measure Process Temperatures with Digital Accuracy

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RTD or Thermocouple Output

Digi-Stem®
Thermometers and Transmitters

*Digi-Stem Thermometer
with Brazed Stem*

- • Selectable Stems, Integral or Remote
- • Large 1 inch LCD Continuous Display
- • Easy to Read from Over 20 Feet
- • Battery Operated
- • Meter Accuracies from ±0.3°F (±0.2°C)
- • Factory Calibration Lot Traceable to NIST - Optional
- • Direct Replacement for Bimetal, Mercury-in-Glass, Bulb and Capillary Thermometers
- • Temperature Ranges from 0° to 800°F (-20° to 425°C)
- • Easy to Install
- • NEMA-4X Stainless Housing
- • Hose-Down Proof, Vibration Tolerant
- • Optional RTD or Thermocouple Output
- • 4-20mA Transmitter with Local Display, Loop Power

Wahl's Digi-Stem Thermometer and Transmitter Systems provide digital accuracy and reliability for temperature measurements in rugged industrial environments.

Our variety of rigid stems and remote interface connections accommodate most installations.

Note: as of 02/10/12 Models DSX310F and C have been Discontinued.

A Quick Look at Models Most Often Specified

Model	DST200	DST300	DST310
Range	0° to 199.9°F -20° to 130°C	0° to 300°F	200° to 800°F 100° to 425°C
Display Resolution	0.1°F or °C	0.1°F: 0 to 150°F 1°F: above 150°F	1°F or °C
Meter Accuracy	±0.3°F ±0.2°C	±1.1°F: 0 to 150°F ±2°F: above 150°F	±2°F: 200° to 600°F ±2°C: 100° to 425°C

Specifications subject to change

Approvals

3-A Sanitary Standard 74-03 Authorization	Intrinsically Safe FM Approved *FM is now Discontinued*	Housing per NEMA-4X

Calibration Services Available

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(800) 421-2853 • FAX (828) 658-0728 • www.palmerwahl.com

03/07 Rev E

Digi-Stem®
Thermometers and Transmitters

Remote Sensor Systems

Digi-Stem is offered in a variety of configurations to measure process temperatures remotely located from the meter. Optional remote sensor cables are available with different stem configurations. Stems can be specified for a variety of process connections or interfaces, including different thermowell adapters, penetration probes and immersion probes. See Ordering Guide on pages 5 and 6.

RTD or Thermocouple Output

Direct Connection: Wahl provides Digi-Stems with optional dual-element temperature sensors in the stem for direct connection to recorders and controllers. The primary sensor drives the local display while the dedicated secondary sensor (RTD or Thermocouple) provides access to a 3- or 4-wire RTD circuit or a Thermocouple system interface. The connecting port is 1/2" NPT.

In Situ Calibration: Specify option DSA392M or DSA392HP for in situ calibration of Digi Stem Model DST200 without removal from a process. This instrument has an RTD as the secondary sensor, which allows single-point calibration using Wahl's highly accurate platinum-RTD Heat Prober 392 Meter. This provides the accuracy of a laboratory calibration, and saves time as well as money.

Transmitter Systems

Wahl offers loop-powered transmitter versions of Digi-Stem with continuous, digital, local display. The transmitter is an integral meter and electronics assembly in NEMA-4X housing with a 4-20mA, 2-wire current loop. Model DSX300 has a temperature range of 0 to 300°F (-18 to 150°C), while Model DSX310's range is 200 to 800°F (100 to 425°C). The transmitters incorporate all Digi-Stem family features, including stainless steel construction, large digital display, reliability, and rugged construction.

Digi-Stem with Sanitary Stem

Note: as of 02/10/12 Models DSX310F and C have been Discontinued.

Stainless Steel Stems

Cut-to-Length: Compression seal; for direct immersion in fluids and for thermowell applications.
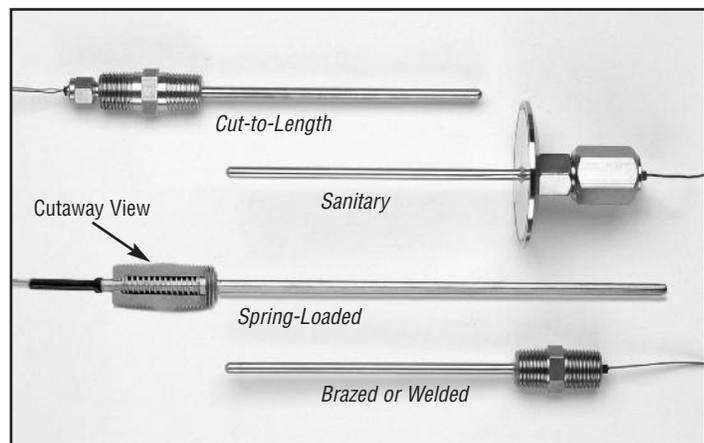
Sanitary: Authorized 3-A Sanitary Standard 74-03 for 1.5" to 3.0" diameter tube sizes with tri-clamp fitting for milk, food and pharmaceutical processing.

Spring Loaded: Maintains a positive force against the bottom of thermowells; not for direct immersion in fluids; assembly is not sealed.

Brazed*: For use in thermowells. (Discontinued)

Welded*: 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.

Cut-to-Length

Sanitary

Cutaway View

Spring-Loaded

Brazed or Welded

Stainless Steel Stems

Calibration Services Available

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3

Meter Specifications

Note: as of 02/10/12 Models DSX310F and C have been Discontinued.

		Battery Powered Display			Display Transmitters	
Model		**DST200**	**DST300**	**DST310**	**DSX300**	**DSX310**
Range	Standard °F or ˚C	0.0° to 199.9°F -20.0° to 130°C	0.0° to 300°F	200° to 800°F 100° to 425°C	0.0° to 300°F -18.0° to 150°C	200° to 800°F 100° to 425°C **Model Discontinued**
	Range Options	Option DSA20: 0.0° to 199.9°C Option DSA21: -20.0° to 150°C	Option DSA 30: 0.0° to 600°F	Option DSA 31: 0° to 800°F or 0° to 425°C	N/A	N/A
Display Resolution		0.1°F or °C	0.1°F : 0.0° to 150°F 1°F: above 150°F	1°F or °C	0.1°F : 0.0° to 150°F 1°: 150°F to 300°F 0.1°C	1°F or °C
Meter Accuracy Display & Loop @ 75˚F (±1 LSD included)		±0.3°F ±0.2°C	±1.1°: 0.0° to 150°F ±2°: above 150°F	±2°F: 200° to 600°F ±4°F: elsewhere ±2°C: 100° to 425°C	±1.1°F: 0° to 150°F ±2°F: 150° to 300°F ±0.7°C: -18.0° to 150°C	±2°: 200° to 600°F +4 / -2°: 600° to 800°F ±4° over entire range
	Accuracy Options	Option DSA21: ±0/0.4°C @ 150°C	N/A	N/A	N/A	N/A
Point Calibration		External	Internal			
Ambient Temp. Rated Accuracy Operating		0° to 130°F with Alkaline Batteries -67° to 185°F with Lithium Battery			20° to 158°F (-7° to 70°C)	
Ambient Temp. Coefficient		0.02° deg/deg from 75°F	0.04° deg/deg from 75°F			
Case Material		**Meter Case, Fittings, Stems:** 300 Series Stainless Steel **Window and Molding:** Polycarbonate **Gasket:** Silicone, O-Ring Sealed				
Battery Power Battery Life		2 - C Cell Alkaline 18 months	1 Lithium 2 years	2 - C Cell Alkaline 18 months	N/A	N/A
Loop Power		N/A			12/42 V DC Min/Max	
Loop Output		N/A			4-20 mA; fixed zero and span	
Housing		Rating NEMA 4-X. 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

Stems	
Diameter	1/4" Standard Other diameters available
Length	User cut-to-length: 12" standard Available to 60"
Wall	0.030" thickness
Temperature Rating	Low range: 400˚F High range: 900˚F
TC Isolation	Battery operated: Grounded Loop-powered: Ungrounded
Material	304 or 316 stainless steel
Sensor	Type K Thermocouple (special limits of error). Optional dual sensor stems available with independent RTD Series 385 (DIN 43760) or thermocouple outputs from 1/2" NPT fitting on case. See Meter Options

Stainless Steel Stems

When measuring the probe length for your Digi-Stem Rigid Stem Sensors or some Remote Stem Sensors the measurement includes 1/2" of the threads, depending on the connection.
Please contact Wahl Customer Service at 1-800-421-2853 for more information.
See Ordering Guide on pages 5 and 6.

1/2"

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Calibration Services Available

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Wahl
INSTRUMENTS, INC.

DST200, DST300, DST310, DSX300, DSX310 METER & PROBE ORDERING GUIDE

Insert Model Number Code in white boxes at bottom of table to construct Part Number for product desired.

Insert Price in white boxes at right to find Total price for product desired.

Code	Meter Description (Select One)		
DST200	Meter, 0.0° to 199.9°F (-20.0° to 130.0°C), Battery Powered Display, (Battery included)		
DST300	Meter, 0.0° to 300°F, (Not available in C), Battery Powered Display, (Battery included)		
DST300NB	Meter, 0.0° to 300°F, (Not available in C), Battery Powered Display, (No Battery included [2])		
DST310	Meter, 200° to 800°F (100° to 425°C), Battery Powered Display, (Battery included)		
DST310NB	Meter, 200° to 800°F (100° to 425°C), Battery Powered Display, (No Battery included [2])		
DSX300	Meter, 0.0° to 300°F (-18.0° to 150.0°C), Loop Powered, 4-20mA Display Transmitter		
DSX310	Meter, 200° to 800°F (100° to 425°C), Loop Powered, 4-20mA Display Transmitter	Discontinued	
	Code	**Scale** ([2] International orders require a no battery unit due to shipping regulations regarding lithium batteries)	
	F or C	Fahrenheit or Celsius *Stop here if ordering Meter only. To order Meter with Rigid Stem Sensor -*	

continue below. To order Meter with Remote Stem Sensor see page 4, and order as a separate line item.

DIGI-STEM® RIGID STEM SENSORS

	Code	Rigid Probe *(This Code is not required if ordering complete unit)* (Select One)		
Start here → **if ordering Replacement Probe only**	DSTP	Grounded Stem (for DST Display Meters)		
	DSXP	Ungrounded Stem (for DSX Display Transmitters)		

	Code	Process Connections (Select One)		
Continue here → **if ordering complete unit**	12	1/2" NPT Fitting (Standard)		
	13	3/4" NPT Adapter		
	20	1-1/4" x 18 NEF2 Thermowell Adapter		
	30	1-1/2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	31	2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	32	2-1/2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	33	3" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	50	Union Thermowell Fitting, 1-1/4" x 18 NEF2		

Code	Stem Type (Select One)		
1	Cut to Length (User), 12" Std (Shipped in 6" increments thereafter)		
2	Cut to Length (Factory)		
3	Brazed		
4	Welded (included with all 3A Connections)		
5	Spring Loaded (not available with Connection Code 50)		

Code	Stem Material (Select One)		
1	304SS, Temp Rating 400°F (204°C) (Standard)		
2	316SS, Temp Rating 400°F (204°C)		
3	316SS, Temp Rating 900°F (482°C)		
4	304SS, Temp Rating 900°F (482°C)		

Code	Stem Tip Diameter (Select One)		
2	1/4" Diameter (Standard)		
3	3/8" Diameter with Stem Adapter		
4	1/2" Diameter with Stem Adapter		
5	7/16" Diameter with Stem Adapter, Tapered		
6	7/16" Diameter with Stem Adapter, not Tapered		

Code	Stem Lengths [1] (Select One)		
01-12	1" to 12" (12" Std) (Specify exact length desired)		
13-99	13" to 99" add per inches over 12" (Specify exact length desired)		
	over 99" in length (Specify exact length desired)		

Insert Model Number Code in white boxes below to construct Part Number for product desired.

* If choosing item with No Charge please check line to select.

[1] Fractional Lengths available: A =1/4", B =1/2", C = 3/4" Example: 08C = 8-3/4". [2] For International orders a no battery unit is recommended due to shipping regulations regarding lithium batteries.

DIGI-STEM REMOTE STEM SENSORS

Insert Model Number Code in white boxes at bottom of table to construct Part Number for product desired.

Insert Price in white boxes at right to find Total price for product desired.

Code	Remote Probe *Start here when ordering a Remote Stem Sensor separately or as part of a complete unit with a Meter.*							
DSTP	Grounded Stem (for DST Display Meters)							
DSXP	Ungrounded Stem (for DSX Display Transmitters)							
	Code	**Remote Cable Type (and/or Remote Probe) (add to Base price)**						
	40	PVC - Temperature Rating 221°F (105°C)						
	41	Teflon Covered						
	42	Armored						
	44	Coiled (TPE Insulated only)						
		Code	**Remote Cable Lengths [1] (add to Base price)**					
		01-06	Codes 40, 41 or 42, 6 foot length Standard (Code 06) (Specify exact length desired, 01 = 1 ft, etc)					
		07-99	Codes 40 or 41, PVC or Teflon, 7 to 99 ft - add per ft over 6' (Specify exact length desired, 07 = 7 ft, etc)					
		07-99	Code 42, Armored, 7 to 99 ft - add per foot over 6' (Specify exact length desired), 07 = 7 ft, etc					
		01	Code 44, Coiled only, (5:1 Expansion Ratio) 1 foot length Standard (Code 01)					
		02-04	Code 44, Coiled only, add per ft over 1 ft (Specify exact length desired 02 = 2 ft, etc)					
			Code	**Remote Stem Material (add to Base price)**				
			1	304SS, Temperature Rating 400°F (204°C) (Standard)				
			2	316SS, Temperature Rating 400°F (204°C)				
			3	316SS, Temperature Rating 900°F (482°C)				
			4	304SS, Temperature Rating 900°F (482°C)				
				Code	**Remote Stem Tip Diameter/Termination (add to Base price)**			
				2	1/4" Diameter (Standard)			
				3	3/8" Diameter with Stem Adapter			
				4	1/2" Diameter with Stem Adapter			
				5	7/16" Diameter with Stem Adapter, Tapered			
				6	7/16" Diameter with Stem Adapter, not Tapered			
				8	TC817 Style Piercing Probe w Handle (Note: if ordering this, Part Number ends here)			
					Code	**Remote Stem Connections/Fittings (insert 0 if not applicable) (add)**		
					1	1/2" NPT Compression		
					2	1/2" NPT Compression w/ 3/4" NPT Adapter.		
					3	1-1/4" x 18 NEF2 Thermowell Adapter		
					5	Union Thermowell Fitting, 1-1/4" x 18 NEF2		
					6A	1-1/2" Diameter 3-A Sanitary Std 74-03, Welded [2]		
					6B	2" Diameter 3-A Sanitary Std 74-03, Welded [2]		
					6C	2-1/2" Diameter 3-A Sanitary Std 74-03, Welded [2]		
					6D	3" Diameter 3-A Sanitary Std 74-03, Welded [2]		
					7	1/2" NPT - Brazed		
					8	1/2" NPT - Welded (Included w/ all 3A Connections)		
					9	1/2" NPT - Spring Loaded		
Insert Model Number Code in white boxes below to construct Part Number for product desired.					**Code**	**Remote Stem Lengths [3] (add to Base price)**		
					01-12	1" to 12" (12" Standard) Specify exact length desired : _____		
					13-99	13" to 99" (add per inches over 12") Specify length: _____		
						over 99" in length (Specify exact length desired)		
						* If choosing item with No Charge please check line to select.		

[1] 01= 1 foot, 02 =2 feet, 03 = 3 feet, etc. [2] Remote Stem Material Codes 2 or 3 only. [3] Fractional Lengths available: A =1/4", B =1/2", C = 3/4" Example: 08C = 8-3/4"

Prices and Specifications are subject to change without notice

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	ADDITIONAL OPTIONS FOR DIGI-STEM THERMOMETERS		
Order as separate line items from Meter Model Numbers			
Code	**Range Expansion Options**		
D1284-2	Range Expansion, DST310/DSA31, -30/125°C		
D1284-3	Range Expansion, DST200F, -50/200°F - FM Approved (Discontinued)		
D1284-4	Range Expansion, DST200F, -50/1450°F (Stem Material Codes 3 & 4 only)		
DSA20	Range Expansion, DST200C, 0/199.9°C		
DSA21	Range Expansion, DST200C, -20/150°C		
DSA30	Range Expansion, DST300F, 0.0/600°F (Stem Material Codes 3 & 4 only)		
DSA31F	Range Expansion, DST310F, 0/800°F (Stem Material Codes 3 & 4 only)		
DSA31C	Range Expansion, DST310C, 0/425°C (Stem Material Codes 3 & 4 only)		
Code	**Secondary Element Options**		
DSA204-3	Secondary Element Direct RTD Access 3-wire		
DSA204-4	Secondary Element Direct RTD Access 4-wire		
DSA205J	Secondary Element Type J Thermocouple		
DSA205K	Secondary Element Type K Thermocouple		
DSA392HP	Secondary Element Stem/Wahl 392HP Meter		
DSA392M	Secondary Element Stem/Wahl 392 Meter		
Code	**Cables**		
DSAC392HP	Interface Cable, Wahl 392HP Meter		
DSAC392M	Interface Cable, Wahl 392 Meter		
Code	**Batteries**		
DSA3060	Lithium Battery, Type C, 3.6V		
DSA3061	Alkaline Battery, Type C, 1.5V, Set of 2		
Code	**Certifications**		
DSAFMT	DST Intrinsically Safe Ratings: Class I, II, III, Division 1 & 2, Groups A, B, C, D, E, F, & G	Discontinued	
DSAFMX	DSX Intrinsically Safe Ratings: Class I, II, III, Division 1 & 2, Groups A, B, C, D, E, F, & G	Discontinued	
DSTNIST	NIST Calibration Test Report		
Code	**Miscellaneous Options**		
DSA3020	Tube Cutter 1/8" x 1-1/8"		
DSA3030	Wall Mount Bracket		
DSA3032	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)		
DSA3033	Security Wire Seals, 10/pack, Toolless, 8", SS Wire		
DSA3121	High Humidity/Moisture Resistant Conformal Coating for DST units (Standard on DSX units)		
DSA3130	Thermowell Adapter Kit		
13146	90 Degree Elbow Specify Back Connection(B), Left(L) or Right Side(R) Mount		

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PALMER Wahl
INSTRUMENTATION GROUP

The World's Finest Manufacturers of Industrial Temperature, Pressure, 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 ISO9001:2008. 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).

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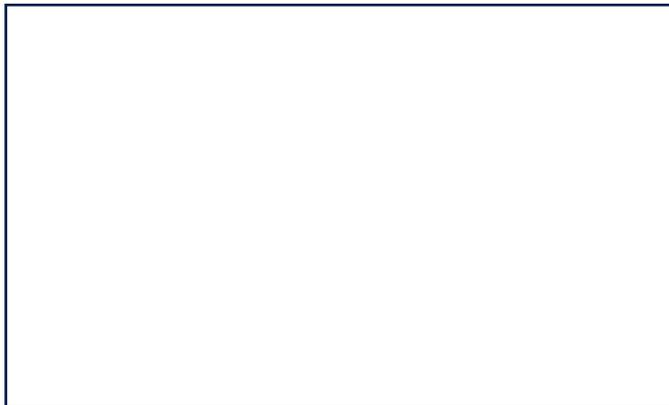
Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

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:

TRACEABLE TO NIST

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.**

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.

234 Old Weaverville Road • Asheville, North Carolina • 28804-1228
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PW1200 03/07 Rev E

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Digi-Stem Thermometer with Brazed Stem

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- Temperature Ranges from 0° to 800°F (-20° to 425°C)
- Easy to Install
- NEMA-4X Stainless Housing
- Hose-Down Proof, Vibration Tolerant
- Optional RTD or Thermocouple Output
- 4-20mA Transmitter with Local Display, Loop Power

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A Quick Look at Models Most Often Specified			
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Specifications subject to change

Approvals		
3-A Sanitary Standard 74-03 Authorization	Intrinsically Safe FM Approved *FM is now Discontinued*	Housing per NEMA-4X

A3 **PMO**

MADE IN THE USA

TWO YEAR **2** WARRANTY

TRACEABLE TO NIST

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03/07 Rev E

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Transmitter Systems

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Stainless Steel Stems

Cut-to-Length: Compression seal; for direct immersion in fluids and for thermowell applications.
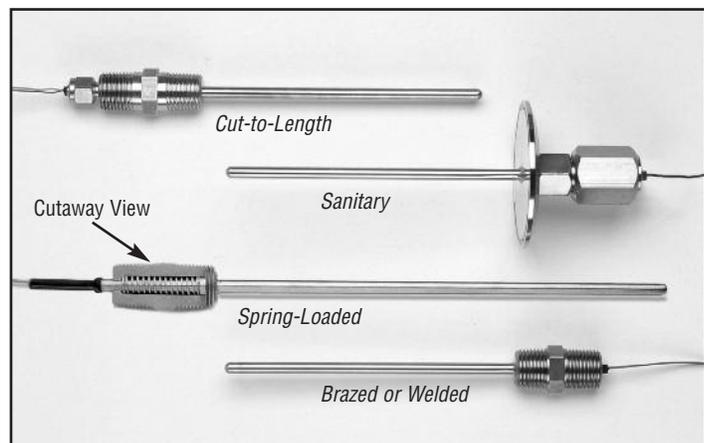
Sanitary: Authorized 3-A Sanitary Standard 74-03 for 1.5" to 3.0" diameter tube sizes with tri-clamp fitting for milk, food and pharmaceutical processing.

Spring Loaded: Maintains a positive force against the bottom of thermowells; not for direct immersion in fluids; assembly is not sealed.

Brazed*: For use in thermowells. (Discontinued)

Welded*: 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.

Cut-to-Length

Cutaway View

Sanitary

Spring-Loaded

Brazed or Welded

Stainless Steel Stems

Calibration Services Available

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03/07 Rev E

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3

Meter Specifications

		Battery Powered Display			Display Transmitters	
Model		**DST200**	**DST300**	**DST310**	**DSX300**	**DSX310**
Range	Standard °F or °C	0.0° to 199.9°F -20.0° to 130°C	0.0° to 300°F	200° to 800°F 100° to 425°C	0.0° to 300°F -18.0° to 150°C	200° to 800°F 100° to 425°C **Model Discontinued**
	Range Options	Option DSA20: 0.0° to 199.9°C Option DSA21: -20.0° to 150°C	Option DSA 30: 0.0° to 600°F	Option DSA 31: 0° to 800°F or 0° to 425°C	N/A	N/A
Display Resolution		0.1°F or °C	0.1°F : 0.0° to 150°F 1°F: above 150°F	1°F or °C	0.1°F : 0.0° to 150°F 1°: 150°F to 300°F 0.1°C	1°F or °C
Meter Accuracy Display & Loop @ 75˚F (±1 LSD included)		±0.3°F ±0.2°C	±1.1°: 0.0° to 150°F ±2°: above 150°F	±2°F: 200° to 600°F ±4°F: elsewhere ±2°C: 100° to 425°C	±1.1°F: 0° to 150°F ±2°F: 150° to 300°F ±0.7°C: -18.0° to 150°C	±2°: 200° to 600°F +4 / -2°: 600° to 800°F ±4° over entire range
	Accuracy Options	Option DSA21: ±0/0.4°C @ 150°C	N/A	N/A	N/A	N/A
Point Calibration		External	Internal			
Ambient Temp. Rated Accuracy Operating		0° to 130°F with Alkaline Batteries -67° to 185°F with Lithium Battery			20° to 158°F (-7° to 70°C)	
Ambient Temp. Coefficient		0.02° deg/deg from 75°F	0.04° deg/deg from 75°F			
Case Material		**Meter Case, Fittings, Stems:** 300 Series Stainless Steel **Window and Molding:** Polycarbonate **Gasket:** Silicone, O-Ring Sealed				
Battery Power Battery Life		2 - C Cell Alkaline 18 months	1 Lithium 2 years	2 - C Cell Alkaline 18 months	N/A	N/A
Loop Power		N/A			12/42 V DC Min/Max	
Loop Output		N/A			4-20 mA; fixed zero and span	
Housing		Rating NEMA 4-X. 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

Stems

Diameter	1/4" Standard Other diameters available
Length	User cut-to-length: 12" standard Available to 60"
Wall	0.030" thickness
Temperature Rating	Low range: 400˚F High range: 900˚F
TC Isolation	Battery operated: Grounded Loop-powered: Ungrounded
Material	304 or 316 stainless steel
Sensor	Type K Thermocouple (special limits of error). Optional dual sensor stems available with independent RTD Series 385 (DIN 43760) or thermocouple outputs from 1/2" NPT fitting on case. See Meter Options

Stainless Steel Stems

When measuring the probe length for your Digi-Stem Rigid Stem Sensors or some Remote Stem Sensors the measurement includes 1/2" of the threads, depending on the connection.
Please contact Wahl Customer Service at 1-800-421-2853 for more information.
See Ordering Guide on pages 5 and 6.

1/2"

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03/07 Rev E

Wahl INSTRUMENTS, INC.

DST200, DST300, DST310, DSX300, DSX310 METER & PROBE ORDERING GUIDE

Insert Model Number Code in white boxes at bottom of table to construct Part Number for product desired.

Insert Price in white boxes at right to find Total price for product desired.

Code	Meter Description (Select One)		
DST200	Meter, 0.0° to 199.9°F (-20.0° to 130.0°C), Battery Powered Display, (Battery included)		
DST300	Meter, 0.0° to 300°F, (Not available in C), Battery Powered Display, (Battery included)		
DST300NB	Meter, 0.0° to 300°F, (Not available in C), Battery Powered Display, (No Battery included [2])		
DST310	Meter, 200° to 800°F (100° to 425°C), Battery Powered Display, (Battery included)		
DST310NB	Meter, 200° to 800°F (100° to 425°C), Battery Powered Display, (No Battery included [2])		
DSX300	Meter, 0.0° to 300°F (-18.0° to 150.0°C), Loop Powered, 4-20mA Display Transmitter		
DSX310	Meter, 200° to 800°F (100° to 425°C), Loop Powered, 4-20mA Display Transmitter	Discontinued	
	Code	**Scale** ([2] International orders require a no battery unit due to shipping regulations regarding lithium batteries)	
	F or C	Fahrenheit or Celsius *Stop here if ordering Meter only. To order Meter with Rigid Stem Sensor -*	
continue below. To order Meter with Remote Stem Sensor see page 4, and order as a separate line item.			

DIGI-STEM® RIGID STEM SENSORS

	Code	Rigid Probe *(This Code is not required if ordering complete unit)* (Select One)		
Start here → *if ordering Replacement Probe only*	DSTP	Grounded Stem (for DST Display Meters)		
	DSXP	Ungrounded Stem (for DSX Display Transmitters)		

	Code	Process Connections (Select One)		
Continue here → *if ordering complete unit*	12	1/2" NPT Fitting (Standard)		
	13	3/4" NPT Adapter		
	20	1-1/4" x 18 NEF2 Thermowell Adapter		
	30	1-1/2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	31	2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	32	2-1/2" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	33	3" Diameter 3-A Sanitary Std. 74-03, Welded (Stem Material Codes 2 or 3 only)		
	50	Union Thermowell Fitting, 1-1/4" x 18 NEF2		

	Code	Stem Type (Select One)		
	1	Cut to Length (User), 12" Std (Shipped in 6" increments thereafter)		
	2	Cut to Length (Factory)		
	3	Brazed		
	4	Welded (included with all 3A Connections)		
	5	Spring Loaded (not available with Connection Code 50)		

	Code	Stem Material (Select One)		
	1	304SS, Temp Rating 400°F (204°C) (Standard)		
	2	316SS, Temp Rating 400°F (204°C)		
	3	316SS, Temp Rating 900°F (482°C)		
	4	304SS, Temp Rating 900°F (482°C)		

	Code	Stem Tip Diameter (Select One)		
	2	1/4" Diameter (Standard)		
	3	3/8" Diameter with Stem Adapter		
	4	1/2" Diameter with Stem Adapter		
	5	7/16" Diameter with Stem Adapter, Tapered		
	6	7/16" Diameter with Stem Adapter, not Tapered		

	Code	Stem Lengths [1] (Select One)		
Insert Model Number Code in white boxes below to construct Part Number for product desired.	01-12	1" to 12" (12" Std) (Specify exact length desired)		
	13-99	13" to 99" add per inches over 12" (Specify exact length desired)		
		over 99" in length (Specify exact length desired)		
		* If choosing item with No Charge please check line to select.		

[1] Fractional Lengths available: A =1/4", B =1/2", C = 3/4" Example: 08C = 8-3/4". [2] For International orders a no battery unit is recommended due to shipping regulations regarding lithium batteries.

DIGI-STEM REMOTE STEM SENSORS

Insert Model Number Code in white boxes at bottom of table to construct Part Number for product desired.

Insert Price in white boxes at right to find Total price for product desired.

Code	Remote Probe *Start here when ordering a Remote Stem Sensor separately or as part of a complete unit with a Meter.*			
DSTP	Grounded Stem (for DST Display Meters)			
DSXP	Ungrounded Stem (for DSX Display Transmitters)			

	Code	Remote Cable Type (and/or Remote Probe) (add to Base price)			
	40	PVC - Temperature Rating 221°F (105°C)			
	41	Teflon Covered			
	42	Armored			
	44	Coiled (TPE Insulated only)			

		Code	Remote Cable Lengths [1] (add to Base price)			
		01-06	Codes 40, 41 or 42, 6 foot length Standard (Code 06) (Specify exact length desired, 01 = 1 ft, etc)			
		07-99	Codes 40 or 41, PVC or Teflon, 7 to 99 ft - add per ft over 6' (Specify exact length desired, 07 = 7 ft, etc)			
		07-99	Code 42, Armored, 7 to 99 ft - add per foot over 6' (Specify exact length desired), 07 = 7 ft, etc			
		01	Code 44, Coiled only, (5:1 Expansion Ratio) 1 foot length Standard (Code 01)			
		02-04	Code 44, Coiled only, add per ft over 1 ft (Specify exact length desired 02 = 2 ft, etc)			

			Code	Remote Stem Material (add to Base price)			
			1	304SS, Temperature Rating 400°F (204°C) (Standard)			
			2	316SS, Temperature Rating 400°F (204°C)			
			3	316SS, Temperature Rating 900°F (482°C)			
			4	304SS, Temperature Rating 900°F (482°C)			

				Code	Remote Stem Tip Diameter/Termination (add to Base price)			
				2	1/4" Diameter (Standard)			
				3	3/8" Diameter with Stem Adapter			
				4	1/2" Diameter with Stem Adapter			
				5	7/16" Diameter with Stem Adapter, Tapered			
				6	7/16" Diameter with Stem Adapter, not Tapered			
				8	TC817 Style Piercing Probe w Handle (Note: if ordering this, Part Number ends here)			

					Code	Remote Stem Connections/Fittings (insert 0 if not applicable) (add)			
					1	1/2" NPT Compression			
					2	1/2" NPT Compression w/ 3/4" NPT Adapter.			
					3	1-1/4" x 18 NEF2 Thermowell Adapter			
					5	Union Thermowell Fitting, 1-1/4" x 18 NEF2			
					6A	1-1/2" Diameter 3-A Sanitary Std 74-03, Welded [2]			
					6B	2" Diameter 3-A Sanitary Std 74-03, Welded [2]			
					6C	2-1/2" Diameter 3-A Sanitary Std 74-03, Welded [2]			
					6D	3" Diameter 3-A Sanitary Std 74-03, Welded [2]			
					7	1/2" NPT - Brazed			
					8	1/2" NPT - Welded (Included w/ all 3A Connections)			
					9	1/2" NPT - Spring Loaded			

Insert Model Number Code in white boxes below to construct Part Number for product desired.					Code	Remote Stem Lengths [3] (add to Base price)			
					01-12	1" to 12" (12" Standard) Specify exact length desired : _____			
					13-99	13" to 99" (add per inches over 12") Specify length: _____			
						over 99" in length (Specify exact length desired)			
						* If choosing item with No Charge please check line to select.			

[1] 01= 1 foot, 02 =2 feet, 03 = 3 feet, etc. [2] Remote Stem Material Codes 2 or 3 only. [3] Fractional Lengths available: A =1/4", B =1/2", C = 3/4" Example: 08C = 8-3/4"

Prices and Specifications are subject to change without notice

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Code	ADDITIONAL OPTIONS FOR DIGI-STEM THERMOMETERS		
Order as separate line items from Meter Model Numbers			
Code	**Range Expansion Options**		
D1284-2	Range Expansion, DST310/DSA31, -30/125°C		
D1284-3	Range Expansion, DST200F, -50/200°F - FM Approved (Discontinued)		
D1284-4	Range Expansion, DST200F, -50/1450°F (Stem Material Codes 3 & 4 only)		
DSA20	Range Expansion, DST200C, 0/199.9°C		
DSA21	Range Expansion, DST200C, -20/150°C		
DSA30	Range Expansion, DST300F, 0.0/600°F (Stem Material Codes 3 & 4 only)		
DSA31F	Range Expansion, DST310F, 0/800°F (Stem Material Codes 3 & 4 only)		
DSA31C	Range Expansion, DST310C, 0/425°C (Stem Material Codes 3 & 4 only)		
Code	**Secondary Element Options**		
DSA204-3	Secondary Element Direct RTD Access 3-wire		
DSA204-4	Secondary Element Direct RTD Access 4-wire		
DSA205J	Secondary Element Type J Thermocouple		
DSA205K	Secondary Element Type K Thermocouple		
DSA392HP	Secondary Element Stem/Wahl 392HP Meter		
DSA392M	Secondary Element Stem/Wahl 392 Meter		
Code	**Cables**		
DSAC392HP	Interface Cable, Wahl 392HP Meter		
DSAC392M	Interface Cable, Wahl 392 Meter		
Code	**Batteries**		
DSA3060	Lithium Battery, Type C, 3.6V		
DSA3061	Alkaline Battery, Type C, 1.5V, Set of 2		
Code	**Certifications**		
DSAFMT	DST Intrinsically Safe Ratings: Class I, II, III, Division 1 & 2, Groups A, B, C, D, E, F, & G	Discontinued	
DSAFMX	DSX Intrinsically Safe Ratings: Class I, II, III, Division 1 & 2, Groups A, B, C, D, E, F, & G	Discontinued	
DSTNIST	NIST Calibration Test Report		
Code	**Miscellaneous Options**		
DSA3020	Tube Cutter 1/8" x 1-1/8"		
DSA3030	Wall Mount Bracket		
DSA3032	Security Screw Kit (Screws, washers, security wire seal, instructions. Installed when purchased with meter)		
DSA3033	Security Wire Seals, 10/pack, Toolless, 8", SS Wire		
DSA3121	High Humidity/Moisture Resistant Conformal Coating for DST units (Standard on DSX units)		
DSA3130	Thermowell Adapter Kit		
13146	90 Degree Elbow Specify Back Connection(B), Left(L) or Right Side(R) Mount		

Prices and Specifications are subject to change without notice

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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 ISO9001:2008. 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).

TRACEABLE TO NIST

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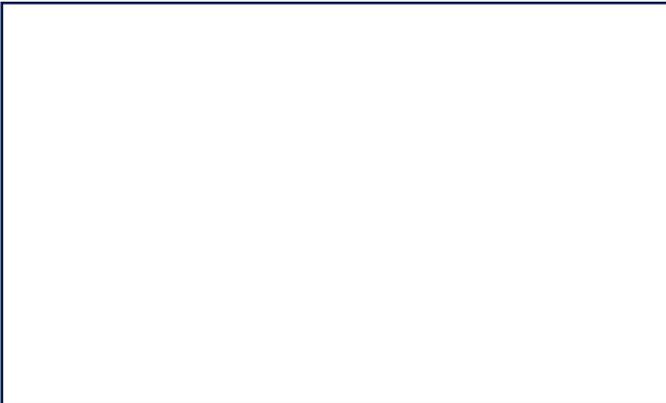
Detailed Repair Report - Available upon request, this report provides details of evaluation and repairs made.

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:

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.**

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.