

## Operating Instructions

# A.W. Sperry Instruments, Inc.

## DIGI-THERMO™ DIGITAL THERMOMETER

### MODELS DT-15A, DT-20A



## Introduction:

Congratulations on your purchase. You have selected a high quality portable style AWS digital K-Type Thermocouple temperature meter. It is designed to be used for general purpose temperature measurements normally encountered in the Air Conditioning, Refrigeration, Heating and Appliance service type applications.

Both temperature meters models DT-15A and DT-20A are Hand Held portable style temperature meters capable of reading temperatures in C and F from -58° to 2000°F (-50° to 1300°C) using a standard K-Type thermocouple probe. Model DT-15A incorporates two K-Type inputs for monitoring two temperature locations, dual point measurements. DT-15A resolution is fixed at 0.1°C or 1°F. Model DT-20A features one K-Type input with selectable resolution of 0.1/1 degree in both °C and °F.

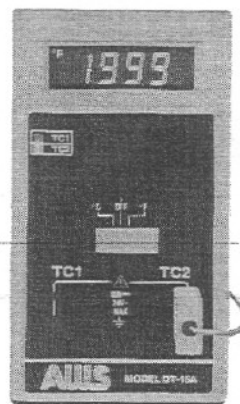
One Model TP-800K general purpose thermocouple probe is supplied with both models. TP-800K specifications are shown below. Any K-Type thermocouple probe can be used with these two temperature meters as long as it has a mini K-Type TC connector for proper connection to the meter and the probe characteristics meets the National Bureau of Standards and IEC 584 temp/voltage table standards for K-Type thermocouples.

## Features:

- Simple Operation
- Two temperature, dual point measurement model DT-15A only
- One input, selectable resolution model DT-20A only
- Smooth front membrane style switches reduce dirt contamination Model DT-20A only
- Uses standard K-Type temperature probes and mini style standard input jacks
- Conforms to National Bureau of Standards and IEC 584 temp/voltage table standards
- Built-in Tilt Stand
- Large LCD display Reads in Both Deg F/C
- 200 hours on 9Vdc battery
- Rugged ABS plastic housing

## Specifications:

- Display: 3.5 digit LCD, maximum reading 1999 with °C, °F annunciators.  
 Input Probe Type: Two input K-Type Thermocouple Switch selectable.  
 Temperature Range: F/C Selectable, -50° to 1300°C, -58° to 2000°F (DT-15A) -50° to 200/1300°C -58° to 200/2000°F (DT-20-A)  
 Temperature Measurement Accuracy\*: -50° to 1000°C ±(0.3% of rdg + 1°C) 1000°C to 1300°C ±(0.5% of rdg + 1°C) -58° to 2000°F ±(0.3% of rdg + 2°F)  
 Accuracy Temp: 18° to 28°C ambient temperature (64° to 82°F)  
 Temperature Coefficient: 0.1 times the applicable accuracy specification per °C (°F) from 0° to 18°C (32° to 64.4°F) and 28° to 50°C (82.4° to 122°F)  
 Resolution: 0.1°C, 1°F  
 Input Protection: Maximum thermocouple input of 60Vdc or 24Vac  
 Sampling Rate: 3 times per second  
 Operating Environment: Temperature: 0° to 50°C, 32° to 122°F  
 Humidity: <90% (0° to 35°C), <70% (35° to 50°C)  
 Storage Environment: Temperature: -40° to 60°C, -40° to 140°F Humidity: <90% (0° to 35°C), <70% (35° to 50°C)  
 Power Supply: One 9V Transistor Type Battery (NEDA #1604), AWS Part # B-4  
 Battery Life: 200 hours typical with carbon zinc cells.  
 Dimensions: 5.1" (H) x 2.8" (W) x 1.3" (D) 130mm x 72mm x 33mm Weight: 6.4 oz. (182 g)  
 Supplied Probe: TP-800K, K-Type thermocouple wire bead probe 0° to 800°C (32° to 1472°F) range: ±2.2 °C (±4°F) or 0.75% rdg (whichever is greater) Teflon insulated wire to max 260°C Wire length 4 feet with standard miniature K type connector.



## Packaging:

Models DT-15A and DT-20A both come complete with One 9V Transistor Type Battery, One TP-800K Temperature Probe and Form # 186 Operating Instructions.

Note: Second optional TP-800K K-Type thermocouple temperature probe is not included for the DT-15A.

\*Note: The basic accuracy specifications do not include the error of the K-Type Thermocouple probe. Please refer to the probe accuracy specification for additional details.

## Operation:

Model DT-15A and DT-20A

Insert the supplied TP-800K thermocouple probe or any K-Type TC probe into the input jack on the front face. If using model DT-15A either TC1 or TC2 input may be used or both may be used with the purchase of a second optional TP-800K. Select TC1 or TC2 using the selector switch on model DT-15A. Turn the power on and select either °C or °F. Select the desired resolution as 1° or 0.1° degree on model DT-20A. Model DT-15A has a fixed resolution of 0.1°C or 1°F depending upon your selection of °F or °C.

Insert the end of the K-Type TC probe into the area of temperature measurement. If using the TP-800K supplied, the teflon insulation on the probe wire should not be exposed to temperatures exceeding 260°C (500°F) or it may be damaged. The tip of the TC wire may be exposed to higher temperatures up to 1300°C (2000°F) but be careful of the insulation exposure temperature. The accuracy of your measurement is determined by the meter accuracy and the probe accuracy. For accurate temperature measurements the meter housing must also be within the specified operating temperature of 0° to 50°C. Do not expose the meter housing to the temperature being measured if outside of this range.

After taking a temperature reading never touch the probe since it may be extremely hot or cold and can cause personal injury. Let the probe settle to a safe temperature (40° to 100°F) before touching.

Warning The TP-800K K-Type TC probe is not approved for use on live electrical equipment or connections. Never touch a live electrical connection using the meter or probe since this may cause electrical shock, damage to the equipment under test and/or damage to the meter itself.

Battery Replacement: When the 'BAT' symbol shows on the LCD or nothing shows on the LCD, and when the power is on the battery needs to be replaced. Replace with a standard 9Vdc transistor type battery (NEDA # 1604) or AWS part # B-4.

## ONE YEAR LIMITED WARRANTY

A.W. Sperry Instruments, Inc., warrants that this AWS instrument has been carefully tested, inspected, and warranted for one (1) year from the date of purchase by the original end user purchaser provided the completed warranty card is returned within ten (10) days after purchase and the instrument has not been misused, damaged due to negligence, neglect or unauthorized repair, abused or used contrary to the operating instructions. Instruments and proof of purchase in the form of a legible copy or original of the sales receipt clearly identifying the distributor, model number and date of purchase must be returned to A.W. Sperry Instruments Inc., Attention: Customer Service Center, 245 Marcus Boulevard, Hauppauge, New York 11788, postage prepaid for examination and verification of manufacturing defect under warranty. A.W. Sperry Instruments Inc., shall be the sole judge of such defect. The liability of A.W. Sperry Instruments Inc., shall be limited to the repair or replacement at its sole option of any defective product.

THIS WARRANTY AND THE OBLIGATIONS AND LIABILITIES OF SELLER THEREUNDER ARE EXCLUSIVE AND IN LIEU OF AND BUYER HEREBY WAIVES ALL OTHER REMEDIES, EXPRESS WARRANTIES, GUARANTEES OR LIABILITIES, OF AND FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OR WHETHER OR NOT OCCASIONED BY SELLER'S NEGLIGENCE. THIS WARRANTY SHALL NOT BE EXTENDED, ALTERED OR VARIED EXCEPT BY A WRITTEN INSTRUMENT SIGNED BY SELLER AND BUYER. SOME STATES ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. THIS WARRANTY GIVES YOU SPECIFIED LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

### WARRANTY REGISTRATION

To validate warranty, please complete the warranty registration card enclosed with your instrument and return to A.W. Sperry Instruments Inc., 245 Marcus Blvd., Hauppauge, N.Y. 11788 within 10 days of purchase. No postage required.

### WARRANTY RETURN

Refer to section "Return for Repairs" for complete instructions. All warranty returns must include a legible copy or original of the sales receipt clearly identifying the model number, serial number and date of purchase.

## A.W. Sperry Instruments, Inc.

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