



351 / 352 AquaTuff™ IPX7-Waterproof Thermocouple

Instrument Warranty and User Guide

**Garantía y Manual de Instrucciones para Instrumento de Medición con
Termopar AquaTuff™ Resistente al Agua según Normas IPX7**

**Guide de l'utilisateur et garantie de l'appareil à thermocouple
imperméable - AquaTuff™ IPX7**

**AquaTuff™ IPX7-wasserdichtes Thermoelement-Messgerät Garantie
und Bedienungsanleitung**

AquaTuff™ IPX7-防水热电偶仪保修和用户指南

**AquaTuff™ IPX7-防水型熱電対温度計
保証書およびユーザーガイド**



351 AquaTuff™

352 AquaTuff™



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PRODUCT REGISTRY

Please register your **Cooper-Atkins** product today. It is the only way to notify you of future software/product up-grades. There is no fee to register.

Go to: **www.cooper-atkins.com**, select **Product Registry** and complete the on-line form.

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OPERATING INSTRUCTIONS

AquaTuff™ 351 THERMOMETER







Press to turn instrument ON or OFF.



Press to select Fahrenheit or Celsius temperature scale.

OPERATION:

- 1) Observing correct polarity, insert thermocouple probe into connector on top of instrument.
- 2) Press  key to turn instrument on.
- 3) Default temperature scale is Fahrenheit. To change temperature scale, press  key. **(NOTE: Display will toggle between “F” and “C” icons on right side of display with each press of the  key).**
- 4) The instrument has an auto-off feature that will turn off unit after 10 minutes of non-keypad activity to conserve battery life. To manually turn instrument off, press and hold  key momentarily.

AquaTuff™ 352 THERMOMETER



Press to turn instrument ON or OFF. When used in combination with SHIFT key, enables or disables AUTO-OFF feature.



Press to select FAHRENHEIT or CELSIUS temperature scale. When used in combination with SHIFT key, selects tenth degree or whole degree resolution.









Press to “FREEZE” current temperature reading on display. SHIFT function provides secondary user settings with other keys as noted.



Press to turn on BACKLIGHT for viewing temperatures in low lighting conditions. When pressed, BACKLIGHT will remain on for 5 seconds.

OPERATION:

- 1) Observing correct polarity, insert thermocouple probe into connector on top of instrument.
- 2) Press  key to turn instrument on.
- 3) Default temperature scale is Fahrenheit. To change temperature scale, press  key. **(NOTE: Display will toggle between “F” and “C” icons on right side of display with each press of the  key).**
- 4) The instrument has an AUTO-OFF feature that will turn off unit after 10 minutes of non-keypad activity to conserve battery life. To manually turn instrument off, press and hold  key momentarily. To disable AUTO-OFF feature, press and hold  key and then press  key. **(NOTE: “AUTO” icon at top of display will appear when AUTO-OFF feature is active).**

OPERATION - Continued:

- 5) The resolution default setting is tenth degree. To change resolution to whole degree, press and hold **HOLD (SHIFT)** key and then press **F/C (LOP)** key.
- 6) Press **☀** key to turn on backlight. When pressed, the backlight will remain on for 5 seconds and automatically turn off.






NOTE: USE OF BACKLIGHT WILL SIGNIFICANTLY DECREASE BATTERY LIFE DUE TO INCREASED POWER REQUIRED FOR BACKLIGHT OPERATION

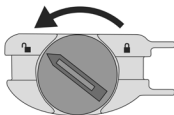
- 7) The instrument has a “HOLD” feature to capture the current temperature reading on the display. To activate the hold feature, press and release the **HOLD (SHIFT)** key. The current temperature reading will flash on the display and the hold icon will appear at top of display. Press the **HOLD (SHIFT)** key again to return to **STANDARD TEMPERATURE MODE**.

351 / 352 BATTERY REPLACEMENT

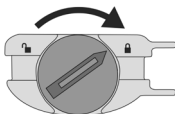
BATTERY REPLACEMENT:

- 1) Turn battery doorknob counter-clockwise until rotation stops. The arrow on battery door knob will point towards unlock  icon.
- 2) Pull battery doorknob to remove battery door assembly. Remove batteries.
- 3) Referring to battery polarity drawing on rear label, install (2) AAA alkaline batteries as shown.
- 4) To install battery door assembly, ensure that battery doorknob is turned fully counter-clockwise and arrow on battery door is pointed towards unlock  icon. Push inward on battery door assembly until battery doorknob is seated against housing. Rotate battery doorknob clockwise until rotation stops. The arrow on battery doorknob will point towards lock  icon.

TURN COUNTER-CLOCKWISE TO UNLOCK



TURN CLOCKWISE TO LOCK



351 / 352 SPECIFICATIONS

TEMPERATURE RANGES:

35100-K / 35200-K: -100° to 999°F (-73° to 537°C)

35100-J / 35200-J: -100° to 1382°F (-73° to 750°C)

35100-T / 35200-T: -100° to 752°F (-73° to 400°C)

35132 / 35135 / 35140: -100° to 500°F (-73° to 260°C)

35232 / 35235 / 35240: -100° to 500°F (-73° to 260°C)

ACCURACY:

35100-J,K,T / 35200-J,K,T:

With factory calibration, $\pm 0.5^{\circ}\text{F}$ ($\pm 0.3^{\circ}\text{C}$) over entire measurement range at ambient temperatures between 68° to 86°F (20° to 30°C)

35132 / 35140 / 35232 / 35240:

With factory calibration, $\pm 0.9^{\circ}\text{F}$ ($\pm 0.5^{\circ}\text{C}$) Total System Accuracy over entire measurement range at ambient temperatures between 68° to 86°F (20° to 30°C)

35135 / 35235:

Instrument Only: With factory calibration, $\pm 0.5^{\circ}\text{F}$ ($\pm 0.3^{\circ}\text{C}$) over entire measurement range at ambient temperatures between 68° to 86°F (20° to 30°C).

Total System Accuracy: Surface probe temperature errors for draft-free, clean oiled surfaces with 2.2 lbs (1 Kg) of pressure are typically within $+2.7^{\circ}\text{F}$ and -6.3°F ($+1.5^{\circ}\text{C}$ and -3.5°C) without thermostat recycling.

RESOLUTION:

35100-J,K,T / 35132 / 35135 / 35140:

Tenth degree (0.1)

35200-J,K,T / 35232 / 35235 / 35240:

Tenth degree / whole degree (0.1/1), user selectable

BATTERY LIFE:

1800 Hours (2) AAA Alkaline batteries

AMBIENT TEMPERATURE LIMITS:

32° to 122°F (0° to 50°C)

TRACEABILITY:

We certify that this instrument has been calibrated to temperature and/or electrical standards traceable to the U.S. Department of Commerce National Institute of Standards and Technology.

CALIBRATION:

Under normal operating conditions, the unit should not require recalibration.

351 / 352 TROUBLESHOOTING

TROUBLESHOOTING

Our Customer Service Department is available Monday through Friday 8:00 AM to 5:00 PM EST at 800-835-5011.

- 1) Unit Does Not Turn On:** Batteries are installed incorrectly or dead. Check batteries are installed according to picture on rear label. Replace batteries.
- 2) Display Shows “Prob”:** Probe is broken (**Open thermocouple. See “Test for Broken Probe” below**).
- 3) Test for Broken Probe:** Pull the probe connector out partially to expose the blade contacts. Place a metal paper clip across connector blades to short contacts. If instrument displays temperature, the probe is broken. Replace Probe.
- 4) Battery Icon Appears on Display:** Low battery. Replace batteries.
- 5) Display Shows “bAtt” and Instrument Shuts Off:** Replace batteries.
- 6) Display Shows “LO” or “HI”:** Temperature measured is outside measurement range of instrument.

351 / 352 WARRANTY

WARRANTY:

Cooper-Atkins thermometers are backed by a 5-year Instrument Warranty and 1-year Probe Warranty on defects in workmanship and materials.