

ATKINS

Digital Thermocouple Thermometer
Warranty and User Guide

**AquaTuff™
351**



**AquaTuff™
352**



**AquaTuff™
353**



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Manufactured in the U.S.A. by Cooper-Atkins Corporation
An ISO 9001 Registered Facility
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AquaTuff™ 351 THERMOMETER







Press to turn instrument **ON** or **OFF**.



Press to select **Fahrenheit** or **Celsius** temperature scale.

OPERATION:

- 1) Observing correct polarity, insert Type K 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.

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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 Type K 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).**

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OPERATION - Continued:

- 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**).
- The resolution default setting is tenth degree. To change resolution to whole degree, press and hold  key and then press  key.
- 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**

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

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Press to turn instrument **ON** or **OFF**.



Press to select Standard, ITS™, or Memory mode of operation.



In ITS Mode, press to store ITS temperature readings. In Memory Mode, press to scroll forward. In User Mode, press to select temperature scale.



In Memory Mode, press to scroll backward. In User mode, press to enable/disable Auto Off feature.


OPERATION OVERVIEW:

There are **3 Main Modes** of operation:










- Standard Temperature Mode
- Intelligent Temperature Stabilization™ (ITS™) Mode
- Memory Mode

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OVERVIEW - Continued

In **STANDARD TEMPERATURE MODE**, the instrument functions like a normal thermometer. In **ITS™ Mode**, the instrument operates with the **Intelligent Temperature Stabilization™** feature. The 353 series instrument has a unique feature to display temperature of item being measured when the temperature has reached its final stabilized temperature. The purpose of this feature is to assist the user in determining when the final stabilized temperature has been reached. The **ITS** feature is dynamic, in that it operates continuously in real time. It can be used in **ITS Mode** with the option of recording stabilized temperature readings or simply as a thermometer with **ITS** functionality. The **MEMORY MODE** is for viewing **ITS** temperature data stored in memory and you can scroll in both directions. The  key easily allows the user to select desired mode of operation.

STANDARD TEMPERATURE MODE:



- Press **ON/OFF**  key to turn instrument **ON/OFF**.
- Default temperature scale is Fahrenheit. To change temperature scale, with instrument turned **OFF**, press and hold  key and then press  key to enter **USER MODE** (**NOTE: Display will show "USER"**). Press  key to switch between Fahrenheit and Celsius (**NOTE: Display will toggle between "F" and "C" icons on right side of display with each press of the REC key**). Press  key to exit **USER MODE** to use instrument in **STANDARD TEMPERATURE MODE**.
- The instrument has an auto off feature that will turn off unit after 10 minutes of non keypad activity to conserve battery life. To disable auto off feature, with instrument turned **OFF**, press and hold the **MODE**  key and then press  key to enter **USER MODE**. Press  key to enable or disable auto off feature. When active, the **AUTO** icon appears at the top of LCD display. Press  key to exit **USER MODE** to use instrument in **STANDARD TEMPERATURE MODE**.

ITS MODE (Intelligent Temperature Stabilization™):









- To use **ITS MODE**, press to turn instrument **ON**. On power up, the instrument is placed in **STANDARD TEMPERATURE MODE**. Press the  key to select and activate the **ITS** function. The **ITS** icon will appear at the top of the LCD when **ITS MODE** is selected.

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ITS MODE - Continued:

- 2) When **ITS MODE** is active, the display will show “- -” while the temperature is changing (**stabilization seek mode**). The final stabilized temperature reading will flash on the display when reached. The **ITS** temperature reading will remain flashing on the display until the probe is removed or temperature changes by approximately 5°F(3°C). When the temperature changes, the instrument will return to **ITS** stabilization seek mode and “- -” will be displayed until the next stabilized temperature is reached and that temperature reading will flash on the display.
- 3) The user has the option of storing the **ITS** temperature reading in memory. To store **ITS** temperature reading, press  key to store reading. The display will show reading number “r001-r250” and store reading in memory. Up to 250 readings can be stored in memory.
- 4) To return to **STANDARD TEMPERATURE MODE**, turn unit **OFF** and back **ON** or repeatedly press  key until both **ITS** and **MEM** icons are turned off at top of display.

MEMORY MODE:

- 1) To view temperature readings stored in memory, turn instrument **ON** and press  key to select **MEMORY MODE**. When active, **MEM** icon will appear at top of LCD. (**NOTE: WITH NO TEMPERATURE DATA IN MEMORY, INSTRUMENT WILL NOT ENTER MEMORY MODE.**)
- 2) To view temperature data, press  key to scroll forward or  key to scroll backward through temperature data. The display will show reading number “r001-r250” followed by the temperature recorded. (**NOTE: TO ACCESS FAST SCROLL MODE, PRESS AND HOLD  KEY OR  KEY AND DISPLAY WILL QUICKLY SEQUENCE THROUGH TEMPERATURE READINGS.**)
- 3) The temperature data is a cyclical data system. When scrolling through data, the temperature readings will cycle through all readings either forward or backward and then repeat readings when either the first or last reading in memory is reached.
- 4) To clear temperature readings in memory, press and hold both the  and  keys at the same time until “CLr” is shown on display.
- 5) To return to **STANDARD TEMPERATURE MODE**, turn unit **OFF** and back **ON** or repeatedly press  key until both **ITS** and **MEM** icons are turned off at top of LCD display.

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MEMORY MODE - Continued:

USER TIP

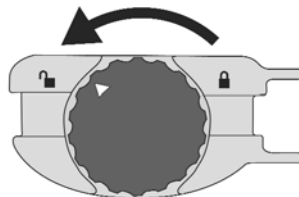
When temperature readings are cleared from memory, there is no facility to restore deleted temperature data. Ensure that temperature data is not needed before clearing memory contents.

351 / 352 / 353 BATTERY REPLACEMENT

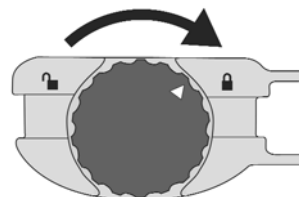
BATTERY REPLACEMENT:

- 1) Turn battery door knob **counter-clockwise** until rotation stops. The arrow on battery door knob will point towards unlock  icon.
- 2) Pull battery door knob 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 door knob is turned fully **counter-clockwise** and arrow on battery door is pointed towards unlock  icon. Push upward on battery door assembly until battery door knob is seated against housing. Rotate battery door knob **clockwise** until rotation stops. The arrow on battery door knob will point towards lock  icon.

TURN COUNTER-CLOCKWISE TO UNLOCK



TURN CLOCKWISE TO LOCK



351 / 352 / 353 SPECIFICATIONS

TEMPERATURE RANGES:

35100-K / 35200-K / 35300-K:
100° to 999°F (73° to 537°C)
35132 / 35135 / 35140 / 35141:
35232 / 35235 / 35240 / 35241:
35332 / 35335 / 35340 / 35341:
100° to 500°F (73° to 260°C)

ACCURACY:

35100-K / 35200-K / 35300-K:
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 / 35141:
35232 / 35240 / 35241:
35332 / 35340 / 35341:
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 / 35335:
Surface probe temperature errors for draft free, flat, 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-K / 35300-K:
35132 / 35135 / 35140 / 35141:
35332 / 35335 / 35340 / 35341:
Tenth degree (.1)
35200-K / 35232 / 35235 / 35240 / 35241:
Tenth degree / whole degree (.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 re calibration.

351 / 352 / 353 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 / 353 WARRANTY

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



5 YEAR WARRANTY

Any instrument which proves to be defective in material or workmanship within five years of original purchase will be repaired or replaced without charge upon receipt of the unit prepaid with proof of purchase. This Limited Warranty does not cover damage in shipment or failure caused by tampering, obvious carelessness, or abuse, and is the purchaser's sole remedy.

Manufactured in the U.S.A. by COOPER-ATKINS CORPORATION
An ISO 9001 Registered Facility

**injektor**
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Svensk återförsäljare

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