

CEN-TECH

DIGITAL THERMOMETER

Model 92242

ASSEMBLY & OPERATING INSTRUCTIONS



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For technical questions and replacement parts please call 1-800-444-3353.

THANK YOU for choosing a **HARBOR FREIGHT TOOLS** product. For future reference, please complete the owner's record below:

Model _____ **Serial No.** _____ **Purchase Date** _____

SAVE THE RECEIPT, WARRANTY AND THESE INSTRUCTIONS. It is important that you read the entire manual to become familiar with the unit BEFORE you begin assembly.

Technical Specifications

Viewer Display: Large 3-1/2" digital liquid crystal with maximum reading of 1,999
Temperature Scale: Can be set to read in Celsius (C), Fahrenheit (F) or Kelvin (K)
Measurement Range: -50°Celsius to 1,300°Celsius; -58°Fahrenheit to 2000°Fahrenheit; 223 Kelvin to 1573 Kelvin
Resolution: 1° C or 1°F, 0.1°C or 0.1°F, 1K
Accuracy: Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F) for one year, not including thermocoupler error.
+2°C----- -50°C to 0° C
+4°F----- -58°F to 32°F
+5K----- 223K to 273K
±(0.5% reading +1°C)----0°C to 1000°C
±(0.8% reading +1°C)----1000°C to 1300°C
±(0.5% reading + 2°F)----32°F to 2000°F
±(1.0% reading + 2K)----273K to 1573 K

Power Supply: (1) 9V D/C battery



READ ALL INSTRUCTIONS BEFORE USING THIS PRODUCT!

Safety Warnings and Precautions

WARNING: When using product, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.

Read all instructions before using this product!

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Keep work area well lighted.
3. **Store idle equipment.** When not in use, the Digital Thermometer must be stored in a dry location to inhibit rust. Always lock up products and keep out of reach of children.
4. **Use the right product for the job.** There are certain applications for which the Digital Thermometer was designed. Do not modify the Digital Thermometer and do not use the Thermometer for a purpose for which it was not intended.
5. **Check for damaged parts.** Before using any product, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for any broken or damaged parts and any other conditions that may affect its operation. Replace or repair damaged or worn parts immediately.

6. **Do not operate product if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the product.
7. **Use only Batteries of the type recommended-size, 9V D/C.**
8. **Do not mix old and new batteries.** Do not use different types of batteries.
9. **Keep children away.** Children must never be allowed in the work area. Do not let them handle the Digital Thermometer.
10. **Remove the battery if the Thermometer is not used for a long period of time.**
11. **Repeated sharp flexing can break the thermocouple leads. Avoid sharp bends in the leads, especially near the connector.**

Note: Always switch to a fresh battery when tool performance begins to diminish. This is a delicate instrument, do not drop or jar the Digital Thermometer.

Warning: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Unpacking

When unpacking your Digital Thermometer, check to make sure the following parts are included. If any parts are missing or broken, please call **HARBOR FREIGHT TOOLS** at **1-800-444-3353**.

Assembly

Your Digital Thermometer requires only minor assembly. It is important that you read the entire manual to become familiar with the product BEFORE you assemble and use the Digital Thermometer. Before assembling and operating the Digital Thermometer be sure that you have all parts described in the Parts List and Assembly Diagram located on the last pages of this manual.

Turning the Thermometer “ON” and “OFF”

1. Insert the battery into the battery compartment. Refer to the section on page 5 titled, “Replacing the Battery.”
2. Turn on the Thermometer by pressing the “ON/OFF” Switch located at the top of the Thermometer-see Figure 1 on page 4.

Setting to the Desired Type of Measurement

The Thermometer readings can be set to be displayed in Celsius, Fahrenheit or Kelvin.

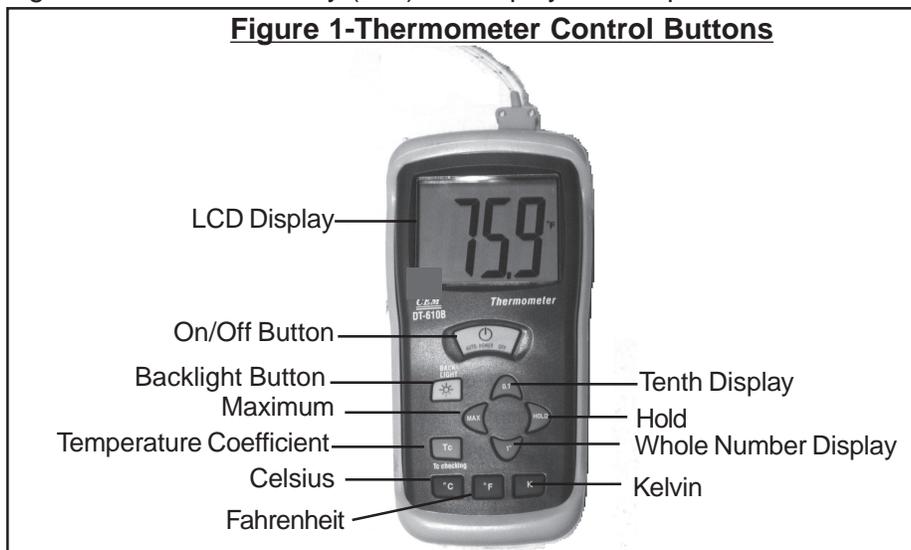
1. Turn on the Thermometer by pressing the "ON/OFF" Switch located at the top of the Thermometer-see Figure 1.
2. The Thermometer will display a temperature along with a letter showing the present degree setting. For example, a measurement of 70 degrees Fahrenheit will read 70 **F**. Degrees in Celsius will be followed by a small C and Kelvin by a small K.
3. Press the C-Celsius, F-Fahrenheit or K-Kelvin button located at the bottom of the Thermometer face-see Figure 2. The Thermometer will display the selected setting.

Displaying the Maximum Mode

1. The Thermometer can record and update the maximum values for the most recent readings. Press the MAX button, which is one of four buttons, located on the right side of the Thermometer face-see Figure 1.
2. Pressing the MAX button will cause the Thermometer to remember, record and display the most recent maximum temperature reached. The word "Max" will be displayed along with the temperature.
3. To turn off the Maximum function, press the MAX button again.

Selecting Display in 1 Degree or Tenths of a Degree

1. The Thermometer will allow you to choose to have the temperature displayed in increments of degrees for Celsius and for Fahrenheit. You can have the temperature displayed in tenths of a degree, such as 0.1°C or 0.1°F. You can have the temperature displayed in whole degrees such as 1°C or 1°F-see Figure 1.
2. Pressing the Tenth of a Degree Key ("0.1") will display the temperature in tenths of a degree-see Figure 1.
3. Pressing the Whole number key ("1°") will display the temperature in increments of 1 degree.



Holding a Temperature Display

1. The “**HOLD**” key is located on the right side of the Thermometer face and is one of the four buttons surrounding the “**TYPE**” button. Pressing the “**HOLD**” key will cause the Thermometer to display the present readings. It will display only the present reading and will stop all future measurements-see Figure 1.
2. To turn off the “**HOLD**” setting, press the “**HOLD**” key again. This will resume normal display on ongoing measurements-see Figure 1.

Backlighting the Display

The Thermometer has a backlight feature which allows you to read the Thermometer display in situations where there is not enough light-see Figure 1.

1. Press the Backlight key to light up the display.
2. Press the Backlight again to turn the backlight off.

Overload Display (1)

The digital display will indicate “1” when the input exceeds the measurement range selected-see Figure 1.

1. If the temperature you are measuring exceeds 199.9, change the display to read in increments of 1-see section on Selecting Display in 1 Degree or Tenths of a Degree.
2. Make certain that the thermocouple connector is seated properly and that the leads are not broken.

Thermocouple Checking

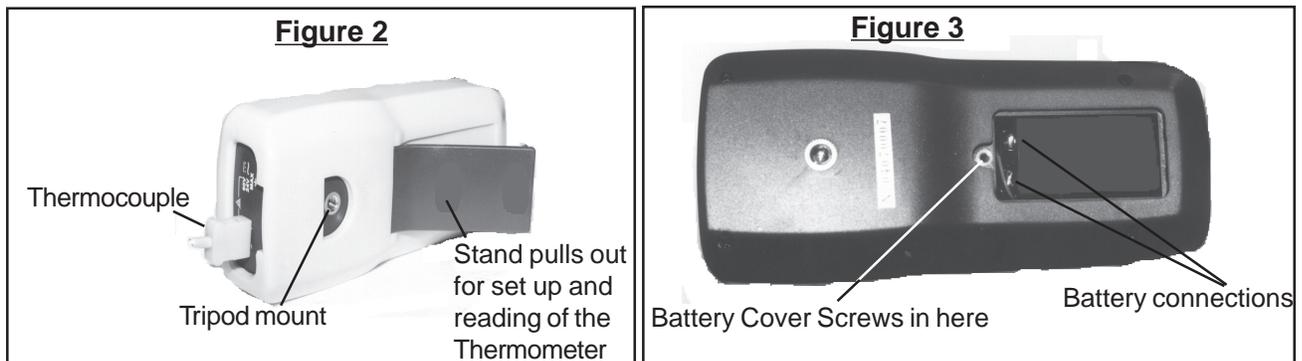
1. First, allow time for the Thermometer to adjust to the ambient temperature. To check the accuracy of the Thermocouple reading, place the end of the Thermocouple away from any object. Press the Thermocouple Checking button (**Tc**) button. With the button down, the Thermometer will display the temperature reading inside the unit. Record the temperature reading.
2. Release the button and allow time for the Thermometer to adjust to the ambient temperature. The Thermometer will display the exterior temperature. Record the temperature reading.
3. The Thermocouple is reading correctly if the two temperatures are reading within the accuracy range specified on page 2. For example, when the thermometer reads 74.7°F with the Tc button on, and 74.2°F with the button off. There is a .5 degree difference in temperature shown.
4. The degree of accuracy is $\pm 4^{\circ}\text{F}$, or $\pm .5\%$ reading plus 2° . The reading is within this range and is accurate. **Note that if accuracy is off it is generally a problem with the Thermocouple and not the Thermometer.**

Tripod

The Thermometer can be set onto a Tripod (not included). Thread the receptacle on the back of the Thermometer onto the screw of the Tripod-see Figure 2 next page. The thread on the tripod mount is 1/4”-20 and can be used with a tripod which fits this same size thread.

Replacing the Battery

1. A symbol of a battery will appear on the lower right LCD display when the 9V battery is running low and needs to be replaced.
2. Turn the Thermometer "OFF" by pressing the "OFF" button. Remove the thermocoupler.
3. Remove the rubber case which surrounds the Thermometer by gently pulling it off of the top of the Thermometer.
4. Unscrew the bolt holding the Battery Cover in place-see Figure 2. Remove the Battery Cover.
5. Insert a new 9V battery into the battery compartment. Attach the battery plug to the battery making certain that the polarity is correct.
6. Replace the Battery Cover and thread back in the Screw keeping the Cover in place. Replace the case covering the Thermometer.



Operation

1. Plug the Thermocoupler into the top of the Thermometer-see Figure 2.
2. Set the end of the Thermocoupler at the place where you desire to measure temperature.
3. Turn the Thermometer "ON."
4. The Thermometer has a stand which can be pulled out from the back and used to rest the Thermometer for easy reading of display.
5. Turn the Thermometer "OFF" when you are done using it. Disconnect the Thermocoupler.

Maintenance

1. Never immerse the Thermometer in any fluid.
2. Store in a dry and safe location out of the reach of children.
2. Remove dust or stains with a soft lightly dampened cloth.
3. Remove the battery if you are not going to use the Thermometer for a long period of time.

No replacement parts are available for the Thermometer.