

## SPECIFICATIONS

**Range:** -328.00 to 932.000°F  
-200.00 to 500.000°C

**Resolution:** 0.001°, 0.01° or 0.1°  
(user selectable) from -99 to 932°F/-99 to 500°C  
0.01° or 0.1°  
from -328 to -100°F/-200 to -100°C  
0.0001° from -9.9999 to 99.9999 °F/°C

**Sampling Rate:** approximately 2 times per second

**Memories:** 48 Memories are stored in the History Mode (min/max for the past 24 hours)  
2 Memories are stored in the Min/Max Mode (min/max for the current hour)

## Probes Supplied:

**Model 6412** supplied with a fast response, handle-probe. The stainless steel portion of the probe is capable of measuring temperatures through the entire range (-328 to 932°F/-200 to 500°C)

**Model 6413** supplied with a fast response, bullet-probe with PTFE cable. The sensor and cable are capable of being subjected to temperatures of -148 to 392°F/-100 to 200°C

## BUTTON DESCRIPTION

<b>ON/OFF</b>	Turns unit on and off.
<b>°F/°C:</b>	Selects °Fahrenheit/°Celsius
<b>.0/.00/.000/.0000</b>	Selects decimal point on display
<b>HISTORY</b>	Displays history memories
<b>HOLD/CLEAR</b>	Press to hold reading also used in conjunction with HISTORY or MIN/MAX buttons to exit the mode or clear readings.
<b>MIN/MAX</b>	Displays the highest and lowest temperatures recorded for the current hour.

## OPERATION

1. Plug the probe into the receptacle located on the right side of the unit.
2. Press the ON/OFF button to turn the unit on.
3. Press the °F/°C button to change the display between Fahrenheit and Celsius.
4. Press the .0/.00/.000/.0000 button to change the display to read the desired resolution.
5. Use the probe to monitor temperatures in air/gas, liquids, and semi-solids. Place the stainless-steel portion of probe in contact with the material to be measured. In most instances the depth of the probe needs to be approximately ½ inch.
6. Press the ON/OFF button to turn the unit off when the thermometer is not in use to prolong battery life.

## HISTORY MODE

History provides an effortless method to observe when a temperature change takes place. It continuously displays for the past 24 hours starting with 1 hour ago. If left on for more than 24 hours, it displays only the most recent 24 hours. History may be reviewed at any time.

1. After 1 hour, press the HISTORY button once to show the current or first hour reading. The display will show “1” on the far right to indicate this is the first reading. After approximately two seconds, the display will show the temperature and “min” which indicates this is the minimum reading for the first hour. After approximately two more seconds, the display will again show “1”. The display continues to alternate between these two displays. While in the history mode, the °F/°C or .0/.00/.000 buttons may be used to select the desired format.
2. The second press of the HISTORY button shows the maximum temperature for the current or first hour. After approximately two more seconds, the display will show “1”.
3. With each press of the HISTORY button, the unit will scroll through all 48 minimum and maximum readings.
4. To exit the history mode, press the CLEAR button or MIN/MAX button. As long as the unit is in the history mode, pressing the CLEAR button alone will not clear the history.
5. To clear history, first exit the history mode and then press HISTORY and CLEAR buttons simultaneously. Turning the unit off does not clear the history.

## RECALL MINIMUM/MAXIMUM

1. Press MIN/MAX to view the minimum and maximum temperatures recorded since turning the unit on or since clearing min/max.
2. Press the MIN/MAX button once to display the minimum temperature. The lower portion of the display shows “MIN” indicating that this is the minimum reading. While in the MIN/MAX mode, select the desired format with the °F/°C or .0/.00/.000/.0000 buttons.
3. Press the MIN/MAX button again to display the Maximum temperature. The lower portion of the display shows “MAX” indicating that this is the maximum reading. A third press will return the display to the current reading.
4. MIN/MAX may be reviewed at any time.
5. To clear the MIN/MAX, place the unit in normal mode (not reviewing the MIN/MAX) and press MIN/MAX and CLEAR simultaneously. You may also clear MIN/MAX by turning the unit off.

## HOLD FUNCTION

1. Press the HOLD button once to “freeze” the display at the current temperature reading. “HOLD” appears on the lower portion of the display indicating that the unit is in hold mode.
2. While in the HOLD mode, select the desired format with the °F/°C or .0/.00/.000 buttons.
3. Press the HOLD button a second time to return to the current temperature reading. “HOLD” will no longer appear on the display.

## POWER

Do not turn the unit on and off rapidly. It may lock the display. When turning the unit on/off the microprocessor may become locked, inoperable, or the display may read “888888.” If this occurs, reset the thermometer by removing the battery, waiting 15 seconds, and replacing the battery.

## DISPLAY MESSAGES

- ▲ Appearing indicates temperature is rising.
- ▼ Appearing indicates temperature is falling.
- “LLL” Displayed when the temperature being measured is below the range of the unit or when there is an open probe or no probe.
- “HHH” Displayed when the temperature being measured is above the range of the unit or when there is a shorted probe.
- “BAT” Displayed when the battery is low and needs to be replaced. See Battery section for battery replacement instructions.

## RECEPTACLES

The receptacle on the right side of the unit is for the probe. The upper left side receptacle is for an accessory AC Adaptor. The lower left side receptacle is for the accessory Data Acquisition System data cable.

## DATA OUTPUT

In order to use the data output, the **Accessory Data Cable Cat No. 4099** is required. See Accessories section for ordering information.

With the accessory data cable attached, to toggle the RS232 output on/off, press and hold the °F/°C and .0/.00/.000/.0000 simultaneously ( 2 3 2 F indicates RS232 output is “on”, 2 3 2 F indicates RS232 output is “off”).

## BATTERY

If “BAT” appears on the display, it indicates the batteries are low and need to be replaced. To replace the battery, slide the battery cover located on the back of the unit away from the unit. Remove the old battery and replace it with a new 9-Volt alkaline battery. Use an alkaline battery, NOT a regular or heavy duty battery. Properly connect the battery. Replace the battery cover. Incorrectly installed batteries may damage electronics.

## ALL OPERATIONAL DIFFICULTIES

If this thermometer does not function properly for any reason please replace the battery with a new 9-Volt alkaline battery (Battery section, above). Low battery power can occasionally cause any number of “apparent” operational difficulties. Replacing the battery with a new fresh battery will solve most difficulties.

## ACCESSORIES

### **Cat. No. 6422 Replacement Handle-Probe**

Fast response, handle-probe. The stainless steel portion of the probe is capable of measuring temperatures through the entire range (-328 to 932°F/-200 to 500°C).

### **Cat. No. 6423 Replacement Bullet-Probe**

Fast response, bullet-probe with PTFE cable. The sensor and cable are capable of being subjected to temperatures of -148 to 392°F/-100 to 200°C.

### **Cat. No. 4236 AC Adaptor**

Allows for continuous AC operation.

### **Cat. No. 4099 Data Acquisition System Accessory**

Powerful and easy to use computer data capture/data logging program works with Traceable® Instruments with computer output. Records interval readings from 1 to 10,000 seconds; displays minimum/maximum readings; and utilizes an alarm mode that permits the user to be notified visually, audibly, and by email when an alarm is triggered. Data is stored to a file that can be printed in any report or spreadsheet format. Networking server/client capability allows the captured data to be monitored on a remote workstation and/or by email. It is designed to work with Windows® 98/Me/NT/2000/XP/Vista/7. Includes a CD, data cable (supplied USB and serial connections) that plugs into the instrument and computer.

## WARRANTY, SERVICE, OR RECALIBRATION

For warranty, service, or recalibration, contact:

### **CONTROL COMPANY**

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Friendswood, Texas 77546 USA  
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Control Company is ISO 9001  
Quality-Certified by DNV and  
ISO 17025 accredited as a  
Calibration Laboratory by A2LA.

**Cat. No. 6412 and 6413**

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