

SPECIFICATIONS

Range: -50.00 to 70.00 °C

Update Rate: 1 second

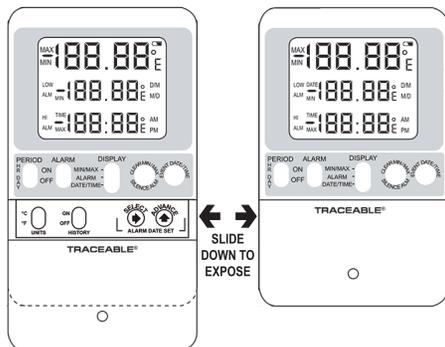
Battery: 2 each AAA (1.5V)

Probes Supplied:

Model 6408-- Supplied with 1 bottle probe, designed for use in refrigerators and freezers. Bottle probes are filled with a patented nontoxic glycol solution that is GRAS (Generally Recognized As Safe) by the FDA (Food and Drug Administration) eliminating concerns about incidental contact with food or drinking water.

The solution filled bottle simulates the temperature of other stored liquids. Velcro® and a magnetic strip are provided to mount the bottle inside a refrigerator/freezer. The included micro-thin probe cable permits refrigerator/freezer doors to close on it. (Do not immerse bottle probes in liquid).

Model 6409-- Supplied with standard plastic probe with cable. Designed for use in air and liquids, the sensor and cable may be completely immersed.



SETTING THE TIME-OF-DAY/DATE

Slide the DISPLAY switch to the DATE/TIME position, the display will show the time-of-day and date.

Place your thumb on the middle of the front of the unit and slide the top cover down to expose the controls (see image above). While in the time-of-day/date display, pressing the SELECT button or ADVANCE button will allow the date and time to be set. Pressing the SELECT button will cause the digits to flash in the following order Year→Month→Day→Hours→Minutes→12/24 hour time→No digits flashing (value set). Once the desired item is flashing, pressing the ADVANCE button will increment the value. Press and hold the ADVANCE button for <3 seconds for continuous incrementation.

With the desired time-of-day/date appearing on the display, press the SELECT button until no digits are flashing on the display. The time-of-day/date will be saved.

While in the time-of-day/date display, pressing the EVENT DATE/TIME button will switch the date display between Month/Day (M/D) and Day/Month (D/M) display modes.

Note: While in the time-of-day/date setting mode, if no button is pressed for fifteen (15) seconds, the unit automatically exits from the setting mode. All digits will stop flashing to indicate

setting mode has been exited.

VIEWING THE TIME-OF-DAY/DATE

To view the time-of-day/date, slide the DISPLAY switch to the DATE/TIME position.

DISPLAYING °F OR °C

To display the temperature readings in Fahrenheit or Celsius, slide the °C/°F switch to the desired position.

MINIMUM AND MAXIMUM MEMORY

The minimum temperature recorded into memory is the minimum temperature achieved since the last time the memory was cleared. The maximum temperature recorded into memory is the maximum temperature achieved since the last time the memory was cleared.

Minimum and maximum temperature memories are NOT programmable (see HI/LO ALARMS).

Below are the FOUR different memory features:

- **MIN/MAX:** Minimum (MIN) and maximum (MAX) temperature achieved with time-of-day and date occurred since the last time the memory was cleared.

—AND—

- **24-HOUR:** Minimum (MIN) and maximum (MAX) temperature achieved for each hour within a 24-hour period.
- **7-DAY:** Minimum (MIN) and maximum (MAX) temperature achieved for each day within a 7-day period.

—OR—

- **31-DAY:** Minimum (MIN) and maximum (MAX) temperature achieved each day during a 31-day period and the time-of-day it occurred.

TO TOGGLE BETWEEN 31-DAY AND 24-HOUR/7-DAY MEMORY MONITORING MODES

1. Slide the 'DISPLAY' switch to the MIN/MAX position.
2. Slide the 'HISTORY' switch to the ON position.
3. Press the 'EVENT DATE/TIME' button 3 times. The LCD will display the current history mode.
4. To toggle to the other mode press the 'SELECT' button. The LCD will change the display to the new history mode.

TO VIEW THE MINIMUM/MAXIMUM MEMORY

1. Slide the DISPLAY switch to the 'MIN/MAX' position.
2. Press the 'EVENT DATE/TIME' once to view the minimum temperature achieved during the most recent monitoring period and the time/date it occurred.
3. The next press of the 'EVENT DATE/TIME' button will display the maximum temperature achieved during the most recent monitoring period and the time/date it occurred.
4. Holding the 'EVENT DATE/TIME' button continuously for 2 seconds or no button press for 15 seconds will return the display to the default min/max screen.

CLEARING THE MINIMUM/MAXIMUM MEMORY

1. Slide the 'DISPLAY' switch to the MIN/MAX position. The display will show the current temperature and minimum/maximum memory.
2. Press the 'CLEAR MIN/MAX' button to clear the minimum and maximum memories.

TO VIEW 24-HOUR MIN/MAX MEMORY (24-hour file)

1. Slide the 'DISPLAY' switch to the 'MIN/MAX' position.
2. Slide the 'HISTORY' switch to the 'ON' position.
3. Slide the 'PERIOD' switch to the 'HR'.
4. Press the 'EVENT DATE/TIME' button three times to begin viewing the hourly data. The LCD will display the current history viewing mode.
5. The next press of the 'EVENT DATE/TIME' button will display the minimum temperature achieved during the current hour.
6. Press the 'EVENT DATE/TIME' button again to view the maximum temperature achieved during the current hour.
7. Each subsequent press of the 'EVENT DATE/TIME' button will display an hourly minimum or maximum temperature reading for the previous hourly periods in descending chronological order.
8. Once all saved readings have been viewed, the display will return to the default min/max screen.
9. Holding the 'EVENT DATE/TIME' button continuously for 2 seconds or no button press for 15 seconds will return the display to the default min/max screen.

NOTE: All data for the 24-hour file will be lost when the memory is toggled to the 31-day file. Also, all data for the 7-day file will be lost when the memory is toggled to the 31-day file.

CLEARING THE 24-HOUR MINIMUM/MAXIMUM MEMORY

1. Slide the 'DISPLAY' switch to the MIN/MAX position. The display will show the current temperature and minimum/maximum memory.
2. Slide the 'PERIOD' switch to 'HR'.
3. Press the 'EVENT DATE/TIME' button three times to view the memory data.
4. Press 'CLEAR MIN/MAX' to clear the memory data. **Note:** Clearing the 24-hour MIN/MAX will NOT clear the 7-day MIN/MAX.

TO VIEW 7-DAY MIN/MAX MEMORY (7-day file)

1. Slide the 'DISPLAY' switch to the 'MIN/MAX' position.
2. Slide the 'HISTORY' switch to the 'ON' position.
3. Slide the 'PERIOD' switch to the 'DAY'.
4. Press the 'EVENT DATE/TIME' button three times to begin viewing the daily data. The LCD will display the current history viewing mode.
5. The next press of the 'EVENT DATE/TIME' button will display the minimum temperature achieved during the current day.
6. Press the 'EVENT DATE/TIME' button again to view the maximum temperature achieved during the current day.
7. Each subsequent press of the 'EVENT DATE/TIME' button will display a daily minimum or maximum temperature reading for the previous 7-day period in descending chronological order.
8. Once all saved readings have been viewed, the display will return to the default min/max screen.
9. Holding the 'EVENT DATE/TIME' button continuously for 2 seconds or no button press for 15 seconds will return the display to the default min/max screen.

CLEARING THE 7-DAY MINIMUM/MAXIMUM MEMORY

1. Slide the 'DISPLAY' switch to the MIN/MAX position. The display will show the current temperature and minimum/maximum memory.
2. Slide the 'PERIOD' switch to 'DAY'.
3. Press the 'EVENT DATE/TIME' button three times to view the memory data.
4. Press 'CLEAR MIN/MAX' to clear the memory data. **Note:** Clearing the 7-daily MIN/MAX will NOT clear the 24-hour MIN/MAX.

TO VIEW 31-DAY MIN/MAX MEMORY (31-day file)

1. Slide 'DISPLAY' switch to the 'MIN/MAX' position.
2. Slide the 'HISTORY' switch to the 'ON' position.
3. Press the 'EVENT DATE/TIME' button 3 times. The LCD will display the current memory mode.
4. The next press of the 'EVENT DATE/TIME' button will display the minimum temperature achieved during the current day.
5. Press the 'EVENT DATE/TIME' button again to view the maximum temperature achieved during the current day.
6. Each subsequent press of the 'EVENT DATE/TIME' button will display a daily minimum or maximum temperature reading for the previous 31-day period in descending chronological order.
7. Once all saved readings have been viewed, the display will return to the default min/max screen.
8. Holding the 'EVENT DATE/TIME' button continuously for 2 seconds or no button press for 15 seconds will return the display to the default min/max screen.

CLEARING THE 31-DAY MINIMUM/MAXIMUM MEMORY

1. Slide the 'DISPLAY' switch to the MIN/MAX position. The display will show the current temperature and minimum/maximum memory.
2. Press the 'EVENT DATE/TIME' button three times to view the 31-day memory.
3. Press 'CLEAR MIN/MAX' to clear the memory data.

HI/LO ALARMS

Alarm limits may be set in 0.1° increments.

With the alarm switch set to the ON position:

- The unit will sound an alarm and flash the LEDs when the temperature measured is outside the alarm limits that have been set (equal to or lower than the low alarm set point, or equal to or greater than the high alarm set point).
- The alarm will sound regardless of the display mode.

SETTING THE TEMPERATURE ALARM LIMITS

1. Slide the DISPLAY switch to the ALARM position. The display will show the current temperature and low/high alarm set points.
2. While in the alarm display mode, pressing the 'SELECT' button will allow the alarm limits to be set.

Pressing the SELECT button will cause the digits to flash in the following order: Low Alarm 1st Digits→Low Alarm 2nd Digit→Low Alarm Decimal Digit→High Alarm 1st Digits→High Alarm 2nd Digit→High Alarm Decimal

Digit→No digits flashing (value set).

- Once the desired item is flashing, pressing the ADVANCE button will increment the value.
- With the desired alarm set points appearing on the display, press the SELECT button until no digits are flashing on the display. The alarm settings will be saved.

Note: While in the alarm setting mode, if no button is pressed for fifteen (15) seconds, the unit automatically exits from the setting mode. All digits will stop flashing to indicate setting mode has been exited.

VIEWING THE TEMPERATURE ALARM LIMITS

Slide the DISPLAY switch to the ALARM position. The display will show the current temperature and low/high alarm set points.

ENABLE/DISABLE ALARMS

To enable the alarm, slide the ALARM switch to the ON position. When the alarm is enabled, both high and low alarm set points will be monitored. If the sensor achieves an alarm condition, the alarm will activate. It is not possible to enable the alarm for one set point and disable the alarm for the other set point.

To disable the alarm so that no alarm sounds when a temperature measured is outside the alarm limits, slide the ALARM switch to the OFF position.

ALARM SOUNDING

With the alarm enabled, the unit will sound an alarm, the corresponding alarm LCD segment will flash, and the red LEDs will flash when a temperature being measured is outside the alarm limits that have been set (equal to or lower than the low alarm set point, or equal to or greater than the high alarm set point). Until it has been acknowledged/silenced (see the "Acknowledge/Silence An Alarm" section), the alarm will sound, the LCD will flash, and the red LEDs will flash continuously for the first sixty (60) seconds. After 60 seconds, the alarm will sound and LEDs will flash for ten (10) seconds each minute. The LCD will flash continuously.

If the alarm is sounding based on the low alarm limit, "LO ALM" will flash on the display. If the alarm is sounding based on the high alarm limit, "HI ALM" will flash on the display.

The unit will continue to alarm, flash red LEDs, and flash the LCD until the alarm has been acknowledged/silenced by either pressing the SILENCE ALM button or by sliding the ALARM switch to the OFF position (see the "Acknowledge/Silence An Alarm" section). The unit will continue to alarm even if the temperature being measured returns to an in-range/non-alarm condition.

ACKNOWLEDGE/SILENCE AN ALARM

While alarming, the alarm may be acknowledged/silenced in one of the following ways:

- Slide the ALARM switch to the OFF position.
Setting the ALARM switch to the OFF position will silence the alarm, but when it is switched back to the ON position, if the temperature being measured is still in an alarm condition, the alarm will sound.
- Press the SILENCE ALM button. The alarm will not sound

again until the temperature being measured has returned to an in-range condition and then goes to an alarm condition.

VIEWING ALARM EVENT VALUE DATE & TIME

When the thermometer achieves an alarm condition, the date and time for the most recent alarm condition is stored into memory. To view the most recent alarm event:

- Slide the 'DISPLAY' switch to the 'ALARM' position.
The display will show the current temperature and the low/high alarm set values.
- Press the 'EVENT DATE/TIME' button. The most recent alarm set value that was achieved along with the time-of-day/date the alarm occurred will appear on the display.
Note: The value that appears at the top of the display while displaying the event date/time, is the alarm set value that caused the alarm condition, not the actual temperature achieved while in the alarm condition. If an alarm has not yet been triggered, pressing the 'EVENT DATE/TIME' button, will display LL.LL. This indicates that either the unit has not achieved an alarm condition, or that the alarm set values have been changed since the unit last achieved an alarm condition.
- To exit from the alarm event display mode, press and release the 'EVENT DATE/TIME' button, or simply do not press any button for fifteen (15) seconds.

EXAMPLE - USING THE ALARM AND MEMORY TO MONITOR A REFRIGERATOR/FREEZER

The following is a simple example of how to use the alarm and memory to monitor the temperature inside a refrigerator or freezer. This example is provided only as a helpful guide and is not intended to replace existing facility requirements or procedures.

In this example, the refrigerator temperature must be monitored and logged for each 24 hour period and certain actions must be taken if temperature falls below 0°C or rises above 5°C at any time during the 24 hour period.

Unit Setup Example

- Plug the probe into the unit.
- Install the batteries.
- Place the probe sensor inside the refrigerator.
- Place the display outside the refrigerator.
At this point, if using a bottle probe, allow sufficient time for the bottle probe to reach equilibrium with the current temperature inside the refrigerator.
- Set the probe temperature low alarm limit to 0°C. (See the "Setting The Temperature Alarm Limits" section.)
- Set the probe temperature high alarm limit to 5°C. (See the "Setting The Temperature Alarm Limits" section.)
- Enable the alarms.
(See the "Enable/Disable Alarms" section.)
- Clear the minimum and maximum memory.
(See the "Clearing the Minimum/Maximum Memory" section.)
- Slide the DISPLAY switch to the MIN/MAX position. (See the "To View Min/Max Memory" section.)

The alarm limits have been set and the alarm has been enabled. The display has been set to show the current temperature AND the minimum and maximum temperatures achieved inside the refrigerator.

If the temperature inside the refrigerator goes outside the alarm limits (equal to or lower than the low alarm set point, or equal to or greater than the high alarm set point), the alarm will activate. The memory will provide a record of the single lowest and highest temperature achieved.

DISPLAY MESSAGES

If no buttons are pressed and LL.LL appears on the display, this indicates that the temperature being measured is outside of the temperature range of the unit, or that the probe is disconnected or damaged.

BENCH STAND

The unit is supplied with a bench stand located on the back. To use the bench stand, locate the small opening at the bottom back of the unit. Place your fingernail into the opening and flip the stand out. To close the stand, simply snap it shut.

ALL OPERATIONAL DIFFICULTIES

If this unit does not function properly for any reason, replace the batteries with new high-quality batteries (see the "Battery Replacement" section). Low battery power can occasionally cause any number of "apparent" operational difficulties. Replacing the batteries with new fresh batteries will solve most difficulties.

BATTERY REPLACEMENT

Erratic readings, a faint display, no display, or a battery symbol appearing on the display are all indications that the batteries must be replaced. Remove the battery cover, located on the back of the unit, by sliding it down. Remove the exhausted batteries and replace them with two (2) new AAA alkaline batteries. Insert the new batteries with the proper polarity as indicated by the illustration in the battery compartment. Replace the battery cover.

Replacing the batteries will clear the minimum/maximum memories, the high/low alarm settings, and the time-of-day/date.

TRACEABLE® PLATINUM HIGH-ACCURACY REFRIGERATOR THERMOMETER INSTRUCTIONS