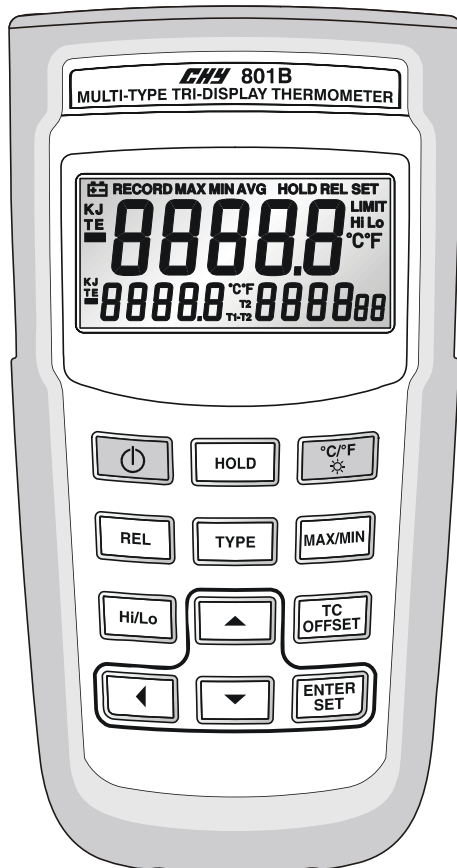# OPERATING INSTRUCTIONS
MODEL 801B CE
MULTI-TYPE TRI-DISPLAY THERMOMETER

SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the thermometer.

WARNING
To avoid electrical shock, do not use this instrument when working voltages at the measurement surface over 24V AC or DC.

WARNING
To avoid damage or burns, do not make temperature measurement in microwave ovens.

CAUTION
Repeated sharp flexing can break the thermocouple leads. To prolong lead life, avoid sharp bends in the leads, especially near the connector.

SPECIFICATIONS
ELECTRICAL
Temperature Scale: Celsius or Fahrenheit user-selectable
Measurement Range:

Thermocouple	Range
K-TYPE(0.1°C)	-200°C to 1372°C, -328°F to 2501°F
J-TYPE(0.1°C)	-210°C to 1050°C, -346°F to 1922°F
T-TYPE(0.1°C)	-200°C to 400°C, -328°F to 752°F
E-TYPE(0.1°C)	-220°C to 790°C, -364°F to 1454°F

Auto range: 0.1°C/1°C, 0.1°F/1°F
Accuracy: Accuracy is specified for operating temperatures over the range of 18°C to 28°C (64°F to 82°F), for 1 year, not including thermocouple error.
$\pm$(0.1%rdg+1°C) on -60°C to 1372°C
$\pm$(0.1%rdg+2°C) on -60°C to -220°C
$\pm$(0.1%rdg+2°F) on -76°F to 2501°F
$\pm$(0.1%rdg+4°F) on -76°F to -364°F

ENVIRONMENTAL
Ambient Operating Ranges:
0°C to 50°C (32°F to 122°F) <80% R.H.
Storage Temperature:
-20°C to 60°C (-4°F to 140°F) <70% R.H.

GENERAL
Polarity: Automatic, positive implied, negative polarity indication.
Overrange: "OL" or "-OL" is displayed.
Zero: Automatic.
Reading Rate: 1 time per second.
Battery Life: 200 hours typical with carbon zinc battery.
Low battery indication: The "⊟" is displayed when the battery voltage drops below the operating level.
Measurement rate: 1 times/second.
Accuracy: Stated accuracy at 23°C±5°C, <75% R.H.
Dimensions: 160mm(H) x 83mm(W) x 38mm(D).
Weight: Approx. 265g including batteries.

OPERATING INSTRUCTIONS
1. "⏻" Power Button
The "⏻" key turns the thermometer on or off. In the MAX/MIN record mode can not power off, must exit MAX/MIN record mode then power off. In power off status, push this key more than 4 seconds to disable auto power-off and turn on the power.

2. "HOLD" Button
Press the "HOLD" key to enter the Data Hold mode, the "HOLD" annunciator is displayed. When HOLD mode is selected, the thermometer held the present readings and stops all further measurements.

Press the "HOLD" key again to cancel HOLD mode, make thermometer to resume taking measurements. In the MAX/MIN recording mode, press "HOLD" key to stop the recording. Press "HOLD" key again to resume recording. (Previously recorded readings are not erased.)

3. "☼/°C/°F" Button
Press "☼" button to turn on or off backlight. The backlight will switch-off automatically after 30 seconds.

Readings is displayed in either degrees Celsius (°C) or degrees Fahrenheit (°F). When the thermometer is turned on, it is set to the temperature scale that was in use then the thermometer was last turned off. To change the temperature scale, pressing the "°C/°F" button more than 2 seconds to toggle the °C/°F.

4. "REL" Button
Press "REL" key to enter the Relative mode, zero the display, and store the displayed reading as a reference value and annunciator REL is displayed. Pressing "REL" key more than 2 seconds to exit the relative mode. The relative value can also be entered by the user. (See "SET mode" later in this manual). When the desired Relative value has been entered, press "SET" key use set Relative value as a reference value. Press "REL" key again to exit the relative mode.

In the Relative mode, the value (can not be ±2,000 counts) shown on the LCD is always the difference between the stored reference and the present reading.

5. "Type" Button: K/J/T/E Input Thermocouple Type
The "TYPE" key switch the input circulating selects the K/J/T/E type thermocouple as input. When the thermometer is turned on, it is set to the type selected that was in use when the thermometer was last turned off.

6. "MAX/MIN" Button: Record mode
Press "MAX/MIN" key to enter the MAX/MIN Recording mode, (Displays the Maximum reading, Minimum reading, "MAX-MIN" reading and Average reading stored in record mode). In this mode the automatic power-off feature is disabled and "⏻" key and all function key are disabled. The beeper emits a tone when a new maximum or minimum value is recorded.

Push "MAX/MIN" key to cycle through the MAX, MIN, MAX-MIN and AVG readings. If overload is recorded, the averaging function is stopped and average value display "-OL". In this mode, press "HOLD" key to stop the recording of readings, all values are frozen, press again to restart recording. To prevent accidental loss of MAX, MIN, "MAX-MIN" and AVG data, in this mode can only be cancelled by pressing and hold down the MAX/MIN key for 2 seconds to exit and erased recorded readings.

7. "Hi/Lo" Button: LIMITS mode
Press "Hi/Lo" key to enter the Hi/Lo LIMITS comparative mode, "LIMIT" is displayed. When the input temperature value more than Hi value, the beeper emits a continuity pulse tone and "Hi" is displayed, and when input temperature value less than Lo value. The beeper emits a discontinuous pulse tone and "Lo" is displayed. Press "Hi/Lo" LIMIT key again to exit the Hi/Lo LIMIT mode.

8. "▲" Button
The "▲" key increases the setting value. (See "SET mode" later in this manual.)

9. "TC OFFSET" Button
Set the Cool Junction Compensation. User can adjustment the measurement readings in ±5.0 counts. This value is used to compensate the thermocouple sensor. If this value has been entered, the readings displayed on LCD would be auto plus or subtract this setting value. (See "SET mode" later in this manual.)

10. "◄" Button
The "◄" key changes setting digit. (See "SET mode" later in this manual.)

11. "▼" Button
The "▼" key decreases the setting value. (See "SET mode" later in this manual.)

12. "SET" Button
Relative value set, Hi/Lo Limits value set and Cool Junction Compensation value set. Press "SET" key to enter SET mode. The LCD displayed "SET" and set annunciator is displayed.
Set Relative value:
Press "SET" key to enter SET mode, then Press "REL" button to set relative value. First, "REL" displayed on LCD and wait for one second to enter SET REL mode. SET", "REL" and "T1" annunciator are displayed.

Press "▲", "▼" to increase or decrease blink digit, press "◄" to change blink digit. If have no blink digit, press "▲", "▼" to set the positive or negative for this relative value. Then press "ENTER" key, stored the relative value for T1, enter set relative value for T2. In this Relative SET mode, the value can not be ±1999.9 counts. If this value more than ±1999.9 counts, "Err" displayed and re-input.

Set Hi/Lo Limit value:

Press "SET" key to enter SET mode, then press Hi/Lo button to set Hi/Lo Limit value. "SET", "LIMIT", "Hi" and "T1" annunciator are displayed.

Press "▲", "▼" to increase or decrease blink digit, press "◄" to change blink digit. If have no blink digit, press "▲", "▼" to set the positive or negative for this Hi/Lo Limit value. Then press "ENTER" key, stored the Hi Limit value for T1, enter set Lo Limit value for T1. In this Hi/Lo Limit SET mode, the value can not be ±1999.9 counts. If this value more than ±1999.9 counts, "Err" displayed and re-input.

Set Cool Junction Compensation (TC OFFSET):

Press SET key to enter SET mode, then press TC OFFSET button to set TC OFFSET value. First, "CJC" displayed on LCD and wait for one second to enter SET TC OFFSET mode. "SET" and "T1" annunciator are displayed.

Press "▲", "▼" to increase or decrease blink digit, press "◄" to change blink digit. If have no blink digit, press "▲", "▼" to set the positive or negative for this TC OFFSET value. Then press "ENTER" key, stored the TC OFFSET value for T1, enter set TC OFFSET value for T2. In this TC OFFSET SET mode, the value can not be ±5.0 counts. If this value more than ±5.0 counts, "Err" displayed and re-input.

MAINTENANCE

<div style="border:1px solid black; padding:4px;">

WARNING

To avoid possible electrical shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

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Installing and Replacing Battery
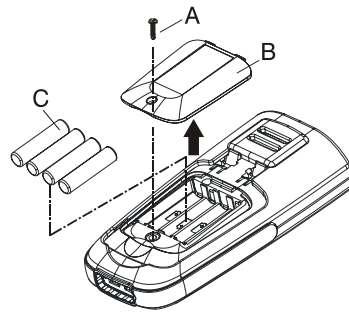
A. Screw
B. Battery Cover
C. Battery

1. Power is supplied by 4pcs 1.5V (SIZE AAA) UM-4 R03.
2. The "▭" appears on the LCD display when replacement is needed. To replace battery remove screw from back of meter and lift off the battery cover.
3. Remove the battery from battery contacts and replace.
4. When not use for long time remove battery.
5. Don't keep in place with high Temp, or high humidity.

Cleaning

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.