

TC-250 DIGITAL THERMOMETER

Type K



Misuse of this device may lead to injury to the user or damage to the device.

Customer Service



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INSTRUCTION MANUAL

Thank you for purchasing our Digital Thermometer. Please read this instruction manual carefully before using to ensure the correct usage of this device. Please keep this instruction manual for future reference.

Safety Precautions

For safe usage of this device, please observe all statements regarding precautions and warnings in this instruction manual.

ATTENTION

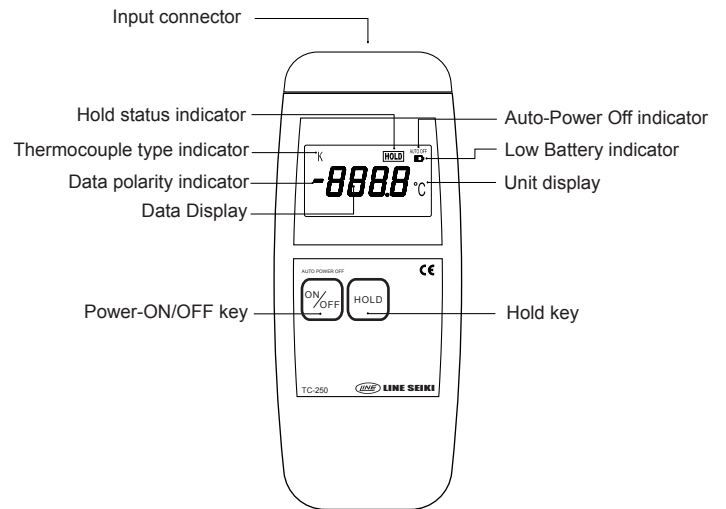
Operation

- Do not use this device near machines that emits strong electromagnetic field or object that store static electricity.
- Do not drop or subject this instrument into strong impact.
- Do not attempt to disassemble or modify this instrument.
- To ensure stable measurement, do not apply rapid temperature change to the instrument.
- Do not immerse the instrument in water. If it is immersed in water accidentally, immediately pull it out and then check and ensure that there is no water penetration.

Thermocouple Probe

- Do not drop the probe or strike into hard surface.
- Do not bend the probe connector by applying strong force from the upper and lower side.
- Do not measure beyond temperature limits of the thermocouple probe being used.
- Do not use the thermocouple probe in places where electric shock is suspected.
- Avoid using the thermocouple probe in measuring materials which can cause corrosion.
- Take a long time when measuring non-metallic surface temperatures due to poor thermal conductivity.
- When measuring surface temperature, make sure that the thermocouple probe is in contact with the surface perpendicularly for accurate measurement.

I. Panel System



Key Operation

ON / OFF Key



- Pressing this key will turn ON and OFF the instrument
- Since this instrument has the Auto-Power Off function, the power automatically turns OFF in approximately 10 minutes after the last key pressed.
- In any case, it is advisable to manually turning OFF the power after each measurement

HOLD Key



- To hold the measured value temporarily, press this key once
- Press again to unhold the measured value and returns the instrument to the measuring state.

Display

Burn Out
(----)

- When the probe is not properly connected to the instrument, or the probe itself is broken, the unit will be in Burn Out state and Burn Out display is shown.
- If the instrument is in Burn Out state, just connect the probe and turn the Power Off then On to return the instrument to normal operation.



- If the battery voltage decreases below the rated to the value, Low Battery indicator will appear.

AUTO OFF

- If this indicator is shown, Auto Power Off is enabled otherwise it is disabled.


HOLD

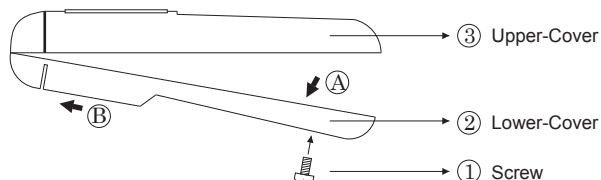
- If measured value is put on hold ,this indicator is displayed.

II. Operation Procedure

- 1.) Connect the probe to the instrument through the Input Connector
 - Probe can be checked if properly connected with the Burn Out feature of this instrument.
- 2.) Turn the power ON.
 - Upon turning ON the instrument, all the display and indicators will light up for several seconds. This is to check if all segments of the display are working properly. Afterwards, it will shift to its normal operating mode with the following default items and features.
 - > Set at measuring mode.
 - > Thermocouple type indicator is displayed.
 - > Auto-Power Off indicator is displayed.
 - > Other indicators are not displayed.
 - Auto-Power Off function is automatically enabled upon turning ON the instrument . To disable Auto -Power Off, turn ON the device while pressing the HOLD key
 - If the burnout display (----) is shown, the probe is not inserted properly. In this case, check the probe side.
- 3.) Attach the sensor part of the thermocouple probe to the object you want to measure.
 - Wait until the measured value becomes stable.
- 4.) Turn OFF the instrument after using.
 - After every use, always turn OFF the instrument.

III. Battery Replacement

If the "  " indicator is displayed, it indicates a Low Battery condition and the battery needs to be replaced. Please follow carefully the procedure below for replacing battery.




1. Unscrew Screw ①, and then open the unit by pulling the Lower-Cover ② in arrow A direction.
2. Remove the battery on the printed circuit board.
3. Replace the battery with new one. Make sure the battery is properly connected to the terminals.
4. Place back the Lower-Cover ② by inserting its front end first on arrow B direction and then push it closely to the Upper-Cover ③ until it snaps.
5. Make sure the rubber gasket is properly located when the unit is closed.
6. Lock the unit with the Screw ①.

- Use only suitable battery written on the specification.
- Do not dispose battery on household waste, fire or water.
- Remove the battery when the device will not be used for long period of time.
- The instrument cannot measure accurately after low battery indicator is displayed. Please replace the battery immediately.

IV. Storage and Cleaning

- Storage Temperature: -10 - +50°C (14 - +122°F)
- Storage Humidity: Less than 85% RH.
- When storing the instrument, avoid the following locations where:
 1. Humidity is high.
 2. The instrument is exposed to direct sunlight.
 3. The instrument is exposed to a extreme temperature.
 4. Large vibration exist.
 5. Dust, salt, and/or corrosive gas exist.
- Keep the instrument clean at all times.
- Wipe off stains using a moist and soft cloth. Do not use any cleaning agents or solvents.

V. General Specifications

● Main Unit	
MODEL	TC-250
NO. OF INPUT	1
SENSOR TYPE	Thermocouple Probe Type K
MEASURING RANGE	-160°C - +1,372°C
RESOLUTION	199.9°C and below: 0.1°C 200°C and above: 1°C
ACCURACY (at 25°C ±5°C)	0 - 199.9°C: ±0.1% of reading + 0.7°C -0.1°C or less: ±0.2% of reading + 1°C 200°C above: ±0.2% of reading + 1°C
TEMPERATURE COEFFICIENT	±0.015% of reading + 0.06°C/ °C
SAMPLING TIME	Approx. 1.2 sec.
LINEARIZE METHOD	Digital Linearize
FUNCTIONS	Auto-Power Off, Data Hold,
DISPLAY	K Thermocouple Type ---- Burn-out  Low Battery AUTO OFF Auto-Power Off HOLD Data Hold °C Unit Measurement
OPERATING TEMP./HUMIDITY	0 - 50°C 0 - 90%RH at 0 - 35°C
POWER SUPPLY	006P (9V) Battery
BATTERY LIFE	Approx. 500 Hours
SIZE / WEIGHT	Approx. 166(H) x 68(W) x 35(D)mm Approx. 200g
SENSOR CONNECTOR	Thermocouple Connector
COMPLIANCE	CE and RoHS

VI. Accessories (Sold Separately)

- Carrying Case (HM-818)
- Thermocouple Probes (See catalog for probes)