

① LCD Display :

- Main display : Temperature reading.
- Secondary display : Temperature MAX, MIN, AVG reading and offset reference value.
- Memory display : 1 ~ 150 sets.
- Auto power off mark (P).

② **H** HOLD key : Press "**H** HOLD" key to freeze or unfreeze the display reading.

③ **1** Power key : Press **1** key to turn the meter on or off.

④ **MX/MN** key :

- Press "**MX/MN**" key to cycle through the maximum, minimum, and average readings.
- Press "**MX/MN**" key for 2 seconds to exit MX/MN mode.

⑤ **▲▼** Key :

Press **▲** or **▼** key to increase or decrease the READ mode memory location.

⑥ **MEM** key :

Press "**MEM**" key each time, stores one set of logged reading in memory.

⑦ **Δ** key : Press **Δ** key to enter the offset (Relative) mode, zero the displayed reading as a reference value. The offset mode annunciator OFFSET is displayed, and the reference value displayed on the secondary display. Press **Δ** key again to exit the offset mode.

⑧ **°C / °F** key : Press **°C / °F** key to select Celsius (°C) or Fahrenheit (°F) temperature scale.

⑨ **READ** key : Press "**READ**" key to show memory logged reading, press again to exit this mode.

⑩ **Input** : Thermocouple input.

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③ Press **▲** or **▼** key to scroll through the logged readings.

④ Press "**READ**" key again to exit READ mode.

⑤ To Clear the Memory Data

a). Press **1** key to turn off the meter.

b). Press and hold down "**MEM**" key then press **1** key to turn on the meter, LCD will show "ALL CLr" mark, press **▼** key select "YES" or "NO", then press "**MEM**" key exit this mode. If you select yes the all memory will be cleared.

4-4 How to Disable Auto Power off Function

The meter will enter to the sleep mode if no key pressed occurs for 30 minutes.

① Press **1** key to turn off the meter.

② Press and hold down "**H** HOLD" key then press **1** key to turn on the meter, the "P" and "OFF" indication one time, the auto power off function will be disabled.

The auto power off mark "P" on the memory display will disappeared.

Auto power off mode is enabled each time you turn on the meter and is automatically disabled in "MX/MN" mode.

5. MAINTENANCE

5-1 Cleaning :

Periodically wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Clean and dry as required.

5-2 Battery Replacement :

When LCD display shows "**BT**", the battery has had insufficient power to support an accurate test. At this moment, replace it with new battery from the battery compartment.

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4. OPERATION INSTRUCTIONS

WARNING

- To avoid electrical shock or personal injury, do not apply more than 20Vrms, between the thermocouple input, or between thermocouple and earth ground.

4-1 Temperature Measurement

- Press **1** key to turn on the thermometer.
- Plug the thermocouple into the thermocouple input. If no thermocouple is plugged into the input or the thermocouple is "open", the display will show "----".
- Press "**°C / °F**" key to the desired temperature scale.
- Perform measurements by contacting the object being measured with the probe sensor.
- Read the temperature on the display. The display shows "OL" (overload) when the temperature being measured is outside the meter valid range.

4-2 MAX, MIN and AVG Function Operations

- Press "**MX/MN**" key to enter to MX/MN mode, to cycle through the maximum (MAX), minimum (MIN) or the true average (AVG-true 4 hours recording average) readings, and disable auto power off function. If over 4 hours, will restart the average value compute.
- Press "**MX/MN**" key for 2 seconds to exit MX/MN mode.

4-3 To Trigger "One by One Datalogging" and Clear Stored Data

- Press "**MEM**" key each time, stores one set logged reading in memory, LCD will show "**MEM**" and memory location numbers (1 to 150).
- Press "**READ**" key to enter the reading memory data mode. LCD will show "**READ**" and memory location numbers.

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5-3 Prevention of Battery Fluid Leakage :

- When the battery power is low, replace the new battery in order to avoid the further battery fluid leakage possibility.
- When the meter will not be in use for the long period of time, please remove the batteries out of meter to prevent the possibility of battery fluid leakage damage.

6. OPTIONAL ACCESSORY

K (CA) type thermocouple.

Model	Range	Tolerances	Description
TP-K01 Bead probe	-50°C to 200°C -58°F to 392°F	±2.2°C or ±0.75% (±3.6°F or ±0.75%)	with Teflon tape insulation. Maximum insulating temperature: 200°C
TP-K02 immersion probe	-50°C to 600°C -58°F to 1112°F	±2.2°C or ±0.75% (±3.6°F or ±0.75%)	130mm handle with 100cm Compensating wire
TP-K03 Surface probe	-50°C to 400°C -58°F to 752°F	±2.2°C or ±0.75% (±3.6°F or ±0.75%)	100mm handle with 100cm Compensating wire

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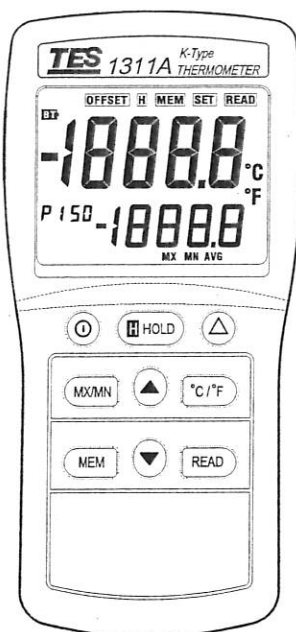
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May-2018-3

TES K-Type THERMOMETER

TES-1311A

INSTRUCTION MANUAL



TES ELECTRICAL ELECTRONIC CORP.

NOTE

This basic accuracy specification does not include the error of the temperature probe. Please refer to the temperature probe accuracy specification for additional details.

Temperature Coefficient :

0.1% of reading +0.1°C per °C (0.2°F per °F)
outside the specified +18°C to 28°C (+64°F to 82°F) range.

Input Protection : 20V maximum input voltage.

Manual Data Memory capacity : 150 sets.

2-2 General Specifications

Power Supply : 6 pcs size AAA battery.

Battery life : approx. 110 hours (carbon zinc battery).

Auto Power off : 30 minutes. (If no key is pressed).

Low Battery Indication : The **(BT)** is displayed when the battery voltage drops below the operating voltage.

Measurement Rate : 4.5 time per second.

Weight : 235 gm (8.29 oz)

Dimension : 5.91"Lx 2.83"Wx 1.38"H (150x72x35mm)

Operating Temperature : 0 to 50°C (32 to 122°F)
and Humidity below 80% RH

Storage Temperature : -10 to 60°C , 14 to 140°F
and Humidity below 70% RH

Accessories: 6 pcs Battery, Instruction Manual.

1. INTRODUCTION

This instrument is a digital thermometer for working with any K-type thermocouple as temperature sensor.

Temperature indication follows the international temperature scale of 1990. (ITS-90)

- ❑ Read the following safety information carefully before attempting to operate or service the meter.
- ❑ Use the meter only as specified in this manual; otherwise, the protection provided by the meter may be impaired

Environment conditions

- ① Altitude up to 2000 meters
- ② Relatively humidity 80% max.
- ③ Operation Ambient 0~50°C (32°F~122°F)

U.S. Pat. No. Des. 446,135

Safety symbols

When servicing, use only specified replacement parts.



Comply with EMC

2. SPECIFICATIONS

2-1 Electronical Specifications

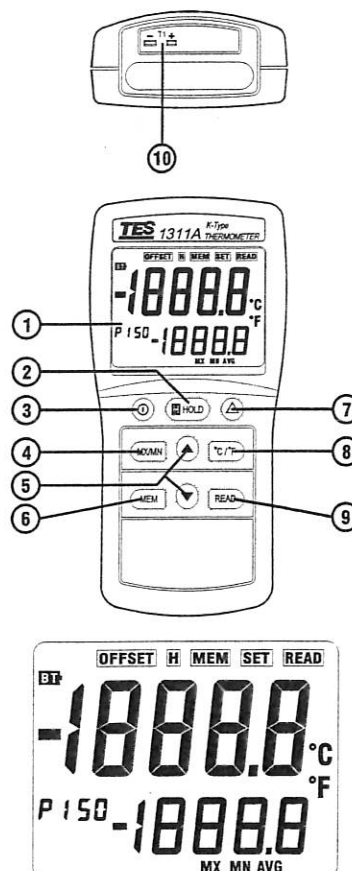
Measurement Range : -73°C to +1370.0°C
-100.0°F to +2498°F

Display Effect Resolution : 0.1°C/°F < 2000° , 1.0°F ≥ 2000°

Measurement Accuracy : ±[0.1% of reading +1°C (2°F)]

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3. FRONT PANEL DESCRIPTION



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