LINSTRUMENT

THR-120

Digital dual-channels thermometer

User guide

CONTENT

I. INTRODUCTION

This instrument is a digital thermometer designed for use with any type of thermocouple as a temperature sensor. Temperature indication follows the National Bureau of Standards temperature/voltage tables and IEC584 standards for type K thermocouples.

II. SPECIFICATIONS

- **Digital Display :** 4-digit LCD display
- **Measurement Range:** -200°C ~ 1370°C/ -328°F ~ 2498°F
- **Resolution :**
  -200°C~ 200°C 0.1°C ; 200°C ~1370°C 1°C
  -200°F~ 200°F 0.1°F ; 200°F ~2498°F 1°F
- **Maximum Thermocouple Input Voltage :** 60V DC, ou 24Vrms AC
- **Environnement :**
  Operating temperature and humidity :
  0°C ~50°C (32°F ~ 122°F) ; 0 ~ 80% RH

  Storage temperature and humidity :
  -10°C to 60°C (14°F ~ 140°F); 0 ~ 80% RH

  Altitude: up to 2000 m
- **Sampling rate :** 0.6 times per second
- **Dimension :** 164 × 54 × 34 mm
- **Weight :** Approx. 180 g
- **Accessories :** Type K probe, battery, instruction manual
- **Power supply :** 9V battery
- **Battery life :** Approx. 150 hours with alkaline 9V battery

Accuracy (at 23 3 5°C)

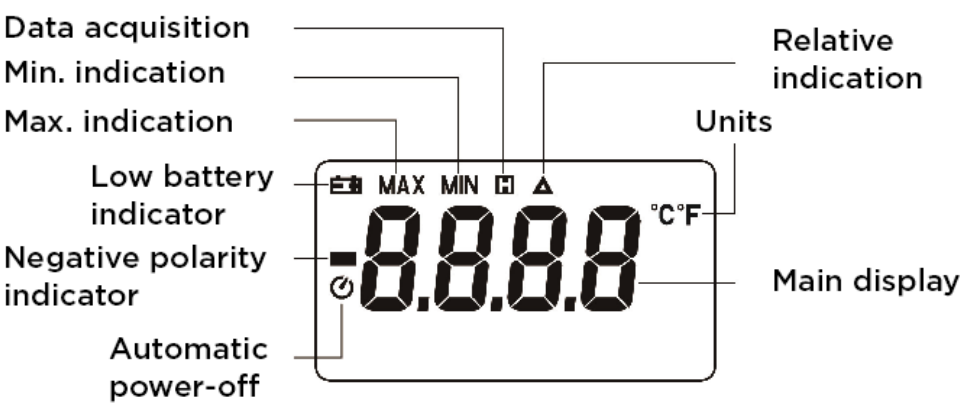
Range	Accuracy
-200°C ~ 200°C	±(0.3% lecture + 1°C)
200°C ~ 400°C	±(0.5% lecture + 1°C)
400°C~1370°C	±(0.3% lecture + 1°C)
-328°F ~ -200°F	±(0.5% lecture + 2°F)
-200°F ~ 200°F	±(0.3% lecture + 2°F)
200°F ~ 400°F	±(0.5% lecture + 2°F)
400°F ~ 2498°F	±(0.3% lecture + 2°F)

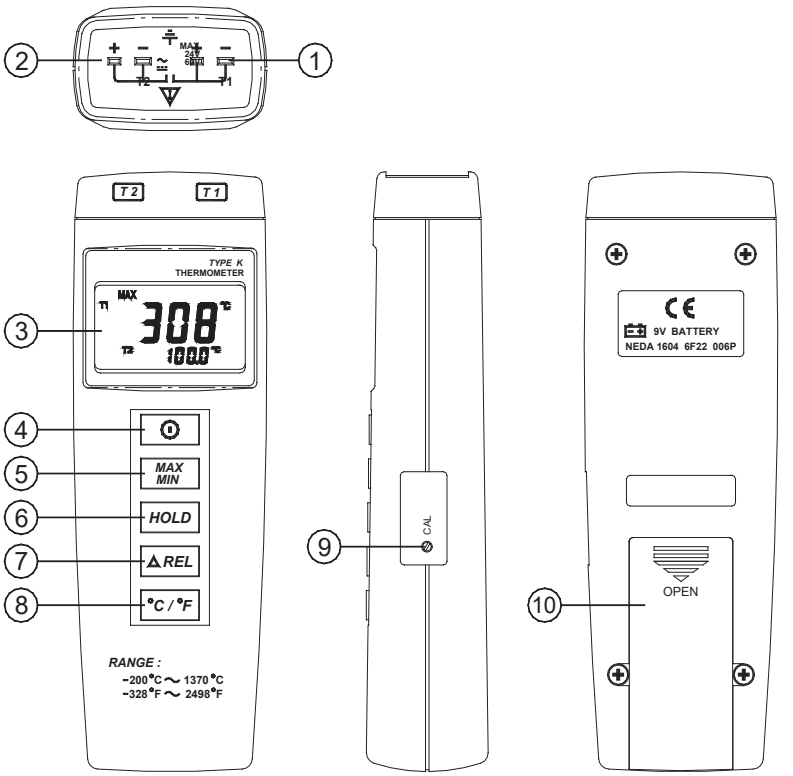
Temperature coefficient :

For ambient temperatures between 0°C–18°C and 28°C–50°C, add the following tolerance for each °C outside 18°C–28°C: 0.01% of reading + 0.03°C (0.01% of reading + 0.06°F)

⚠ Note:
Basic accuracy does not include probe error. Refer to the probe accuracy specification for details.

III. SYMBOLS AND KEY LOCATION





1. T1 Type K temperature sensor connector
2. T2 Type K temperature sensor connector
3. LCD display
4. Power button
5. MIN/MAX control button
6. HOLD button
7. Relative delta function button
8. °C / °F selection button
9. Calibration adjustment screw
10. Battery compartment cover

IV. OPERATING INSTRUCTIONS

4.1 Power On
Press button ⏻ to turn the thermometer on or off.

4.2 Thermocouple connection
For measurement, connect the thermocouple to the input connector.

4.3 Temperature unit selection
When powered on, the default unit is Celsius (°C). Press the "°C/°F" button to switch between Celsius and Fahrenheit.

4.4 HOLD function
- Press the HOLD button to freeze the current reading on the display.
- Press HOLD again to return to live measurement.
- When HOLD is active, the "**REL**", "**MAX/MIN**", and "**°C/°F**" buttons are disabled.

4.5 Relative DELTA function
Press the "△ REL" button to store the current value and display in real time the difference between the current reading and the stored value.
Press "△ REL" again to exit this function.

4.6 MAX/MIN function
- Press the MAX/MIN button to enter MAX/MIN mode. In this mode, maximum and minimum values are stored simultaneously and updated in real time.
- When the MAX symbol is displayed, the maximum value is shown.
- Press MAX/MIN again to display the MIN value.
- Press MAX/MIN again — MAX and MIN will flash together, and the current temperature is displayed while MAX and MIN values continue updating.

- Press MAX/MIN repeatedly to scroll through stored values.
- In MAX/MIN mode, the "**REL**" and "**°C/°F**" buttons are disabled.
- Press and hold MAX/MIN for 2 seconds to exit MAX/MIN mode.

4.7 Auto Power-Off

By default, the thermometer is in auto power-off mode. The device powers off automatically after 30 minutes of inactivity.

To disable auto power-off:
Press and hold the HOLD button while turning on the device. The auto power-off symbol will disappear, indicating the function is disabled.

4.8 Low battery status

When battery voltage drops below the required level, the symbol  appears and the battery must be replaced.

4.8 Calibration (Room Temperature 23 ± 3°C)

Input	Adjust VR	Tolerance
0 °C	VR3	± 0.1 °C
190 °C	VR2	± 0.1 °C
1000 °C	VR1	± 1 °C
190 °F	VR4	± 0.1 °F

Offset calibration using stabilized ice water adjusted with the VR3 indicator provides very accurate calibration results.

LINSTRUMENT
8 Chemin des Tards Venus
FR-69530 Brignais
T. +33 (0)952 912 000

www.linstrument.com

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