

UT320D

Mini Single Input Thermometer

User Manual

I. Introduction

UT320D is a dual input thermometer that accepts Type K and J thermocouples.

Features:

- Wide measurement range
- High measurement accuracy
- Selectable thermocouple K/J.

Warning: For safety and accuracy, please read this manual before use.

II. Open Box Inspection

Open the package box and take out the device. Please check whether the following items are deficient or damaged and contact your supplier immediately if they are.

1. UT-T01----- 2 pcs
2. Battery: 1.5V AAA ----- 3 pcs
3. Plastic holder----- 1 set
4. User manual----- 1

III. Safety Instructions

If the device is used in a manner that is not specified in this manual, the protection provided by the device might be impaired.

- 1) If low power symbol  appears, please replace the battery.
- 2) Do not use the device and send it to maintenance if malfunction occurs.
- 3) Do not use the device if explosive gas, steam or dust surrounding.

- 4) Do not input overrange voltage (30V) between thermocouples or between thermocouple and the ground.
- 5) Replace parts with the specified ones.
- 6) Do not use the device when the rear cover is open.
- 7) Do not charge the battery.
- 8) Do not throw the battery to fire or it may explode.
- 9) Identify the polarity of the battery.

IV. Structure

- 1) Thermocouple jacks
- 2) NTC inductive hole
- 3) Front cover
- 4) Panel
- 5) Display screen
- 6) Buttons

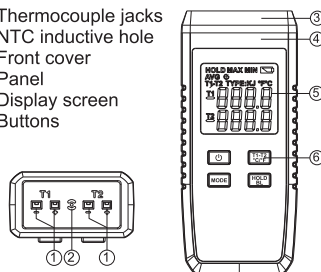


Figure 1

V. Symbols

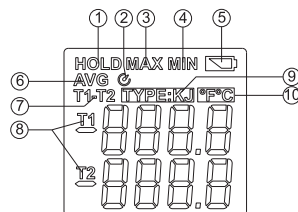


Figure 2

- 1) Data hold
- 2) Auto power off
- 3) Maximum temperature
- 4) Minimum temperature
- 5) Low power
- 6) Average value
- 7) Difference value of T1 and T2
- 8) T1, T2 indicator
- 9) Thermocouple type
- 10) Temperature unit

VI. Buttons and setup

-  : short press: power ON/OFF; long press: switch ON/OFF auto shutdown function.
-  : auto shutdown indicator.
-  : short press: temperature difference value T1-T2; long press: switch temperature unit.
-  : short press: switch between MAX/MIN/AVG modes. Long press: switch thermocouple type
-  : short press: switch ON/OFF data hold function; long press: switch ON/OFF backlight

VII. Operation instructions

- 1) Thermocouple plug 1
- 2) Thermocouple plug 2
- 3) Contact point 1
- 4) Contact point 2
- 5) Object being measured
- 6) Thermometer

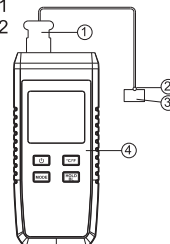


Figure 3

1. Connection

- A. Insert thermocouple into input jacks
- B. Short press  to turn on the device.
- C. Setup the thermocouple type (according to the type being used)

Note: If the thermocouple is not connected to input jacks, or in open circuit, "----" appears on the screen. If over range occurs, "OL" appears.

2. Temperature display

Long press  to select temperature unit.

- A. Place the thermocouple probe on object to be measured.

- B. Temperature is displayed on the screen.

Note: It takes several minutes to steady the readings if thermocouples are just inserted or replaced. The purpose is to ensure the accuracy of cold junction compensation

3. Temperature difference

Short press , temperature difference (T1-T2) is displayed.

4. Data hold

- A. Short press  to hold the data displayed. HOLD symbol appears.
- B. Short press  again to switch off data hold function. HOLD symbol disappears.

5. Backlight ON/OFF

- A. Long press  to turn on backlight.
- B. Long press  again to turn off backlight.

6. MAX/MIN/AVG value

Short press  to cycle switch between MAX, MIN, AVG or regular measurement. Corresponding symbol appears for different modes. E.g MAX appears when measuring maximum value.

7. Thermocouple type

Long press **mode** to switch thermocouple types (K/J). TYPE:K or TYPE: J are type indicators.

8. Battery replacement

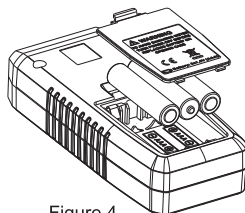


Figure 4

Please replace the battery as figure 4 shown.

VIII. Specifications

Range	Resolution	Accuracy	Remark
-50~1300°C (-58~2372°F)	0.1°C (0.2°F)	±1.8°C (-50°C~ 0°C) ±3.2°F (-58~32°F)	K-type thermocouple
		± [0.5%rdg+1°C] (0°C~1000°C) ± [0.5%rdg+1.8°F] (-32~1832°F)	
		± [0.8%rdg+1°C] (1000°C~1300°C) ± [0.8%rdg+1.8°F] (1832~2372°F)	
-50~1200°C (-58~2152°F)	0.1°C (0.2°F)	±1.8°C (-50°C~ 0°C) ±3.2°F (-58~32°F)	K-type thermocouple
		± [0.5%rdg+1°C] (0°C~1000°C) ± [0.5%rdg+1.8°F] (-32~1832°F)	
		± [0.8%rdg+1°C] (1000°C~1300°C) ± [0.8%rdg+1.8°F] (1832~2192°F)	

Table 1

Note: operating temperature: -0~40°C (32~102°F)
(thermocouple error is excluded in specifications listed above)

IX. Thermocouple specifications

Model	Range	Scope of application	Accuracy
UT-T01	-40~260°C (-40~500°F)	Regular solid	±2°C (-40~260°C) ±3.6°F (-40~500°F)

UT-T03	-50~600°C (-58~1112°F)	Liquid, gel	±2°C (-50~333°C) ±3.6°F (-58~631°F)
			±0.0075*rdg (333~600°C) ±0.0075*rdg (631~1112°F)
UT-T04	-50~600°C (-58~1112°F)	Liquid, gel (food industry)	±2°C (-50~333°C) ±3.6°F (-58~631°F)
			±0.0075*rdg (333~600°C) ±0.0075*rdg (631~1112°F)
UT-T05	-50~900°C (-58~1652°F)	Air, gas	±2°C (-50~333°C) ±3.6°F (-58~631°F)
			±0.0075*rdg (333~900°C) ±0.0075*rdg (631~1652°F)
UT-T06	-50~500°C (-58~932°F)	Solid surface	±2°C (-50~333°C) ±3.6°F (-58~631°F)
			±0.0075*rdg (333~500°C) ±0.0075*rdg (631~932°F)
UT-T07	-50~500°C (-58~932°F)	Solid surface	±2°C (-50~333°C) ±3.6°F (-58~631°F)
			±0.0075*rdg (333~500°C) ±0.0075*rdg (631~932°F)

Table 2

Note: Only K-type thermocouple UT-T01 is included in this package.
Please contact the supplier for more models if needed.

UNI-T

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