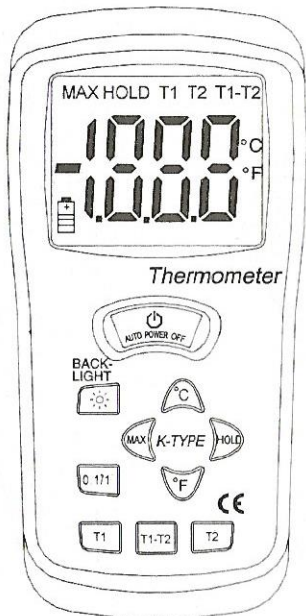


# OPERATING INSTRUCTIONS

## DIGITAL THERMOMETER



### INTRODUCTION

This instrument is a portable 3<sup>1</sup>/<sub>2</sub> digit., compact-sized digital thermometer designed to use external K-type thermocouple as temperature sensor. Temperature indication follows National Bureau of Standards and IEC584 temperature/voltage tables for K-type thermocouples. two K-type thermocouples is supplied with the 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 VOLTAGES AT THE MEASUREMENT SURFACE EXCEED 24V AC OR 60V DC.

#### WARNING

TO AVOID DAMAGE OR BURNS. DO NOT MAKE TEMPERATURE MEASUREMENTS 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.

The  symbol on the instrument indicates that the operator must refer to an explanation in this manual.

## SPECIFICATIONS ELECTRICAL

### Temperature Scale:

Celsius (°C), Fahrenheit (°F) user-selectable

### Measurement Range:

-50°C to 1300°C, -58°F to 2000°F

**Resolution:** 1°C or 1°F, 0.1°C or 0.1°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.

±2°C----- -50°C to 0°C

±4°F----- -58°F to 32°F

±(0.5% rdg+1°C)----- 0°C to 1000°C

±(0.8% rdg+1°C)----- 1000°C to 1300°C

±(0.5% rdg+2°F)----- 32°F to 2000°F

### Temperature Coefficient:

0.1 times the applicable accuracy specification per °C from 0°C to 18°C and 28°C to 50°C (32°F to 64°F and 82°F to 122°F).

### Input protection:

60V dc or 24V rms ac maximum input voltage on any combination of input pins.

**Reading Rate:** 2.5 times per second.

### Input Connector:

Accepts standard miniature thermocouple connectors (flat blades spaced 7.9mm, center to center).

## ENVIRONMENTAL

### Ambient Operating Range:

0°C to 50°C (32°F to 122°F)

Storage Temperature:

-20°C to 60°C (-4°F to 140°F)

### Relative Humidity:

0% to 80% (0°C to 35°C) (32°F to 95°F)

0% to 70% (35°C to 50°C) (95°F to 122°F)

## GENERAL

### Display:

3 1/2 digit liquid crystal display (LCD) with maximum reading of 1999

**Battery:**

Standard 9V battery (NEDA 1604, IEC 6F22)

**Dimensions:**

162mm (H)×76mm(W)×38.5mm(D)

**Weight:** 210g

**Supplied Probe:**

4 foot type "K" thermocouple bead probe (Teflon tape insulated).

Maximum insulation temperature 260°C (500°F )

Probe accuracy  $\pm 2.2^{\circ}\text{C}$  or  $\pm 0.75\%$  of reading (Whichever is greater) from 0° to 800°C

**OPERATING INSTRUCTIONS****Selecting the Temperature Scale**

Readings are displayed in either degrees Celsius ( $^{\circ}\text{C}$ ), degrees Fahrenheit ( $^{\circ}\text{F}$ ). When the thermometer is turned on, it is set to the temperature scale that was in use when the thermometer was last turned off. To change the temperature scale, press the For  $^{\circ}\text{C}$  or  $^{\circ}\text{F}$  key.

**Single-Thermocouple Temperature Measurement**

The thermometer displays the temperature of the thermocouple that is connected to the selected input. Press the T2 key to display the temperature of the

thermocouple connected to the T2 input. Press the T1 key to display the temperature of the thermocouple connected to the T1 input. The input selection cursor indicates which input is selected.

**Differential Temperature Measurement**

Differential temperature measurement is selected by pressing the T1-T2 key. This causes the thermometer to display the temperature difference between the two thermocouples (the temperature of thermocouple T1 minus the temperature of thermocouple T2). The selection is indicated by the input selection cursor.

**Selecting the Display Resolution**

The thermometer allows two choices of resolution:

High resolution:  $0.1^{\circ}\text{C}$  or  $0.1^{\circ}\text{F}$

Low resolution:  $1^{\circ}\text{C}$  or  $1^{\circ}\text{F}$

**OVERLOAD DISPLAY(1)**

The digital display will indicate 1 when the input exceeds the measurement range selected.

If measuring above  $199.9^{\circ}$ , change the resolution to  $1^{\circ}$ . Be certain to seat the thermocouple connector properly and that the leads are not broken.

## HOLD MODE

Pressing 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.

Pressing the HOLD key again cancels HOLD mode, causing the thermometer to resume taking measurements

## MAX MODE

Pressing the MAX key to enter the MAX mode. The thermometer then records and updates the maximum values and the MAX annunciator appears on the display.

Pressing the MAX key again to exit the MAX recording mode.

In the MAX mode, press HOLD key to stop the recording, press HOLD again to resume recording

## BACKLIGHT MODE


Pressing the Backlight key to turn on the LCD backlighting function. Pressing the Backlight key again to turn off the LCD backlighting function.

## OPERATOR MAINTENANCE

### WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, DISCONNECT THE THERMOCOUPLE CONNECTORS FROM THE THERMOMETER BEFORE REMOVING THE COVER

## BATTERY REPLACEMENT

The battery symbol  appears on the lower right of the LCD when the 9V battery needs to be replaced.

Replace the 9V battery as follows:

1. Turn the meter off and disconnect the temperature probe.
2. Remove the rubber holster that surrounds the entire meter by pulling it over the top of the meter.
3. Remove the small Phillips head screw on the rear of the meter.
4. Open the battery compartment and replace the 9V battery.

Re-assemble the meter before operating.

