# REED

## Model R2400
### Digital Thermocouple Thermometer



## Instruction Manual

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# Safety

*Read the safety and operation instructions before using this thermometer.*

## *Warning*

- Avoid electrical shock by not using this instrument when voltages at the measurement surface exceed 24V AC or 60V DC. Also do not disconnect the thermocouple connectors from the thermometer before removing the cover..
- To avoid damage or burns do not take 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 "**input protection**" in this manual

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# Features

- Compact single input thermocouple thermometer designed for field use
- Accuracy to 0.5%
- Display maximum reading plus Data Hold
- Large LCD display with backlight
- User selectable °C or °F or Kelvin
- User selectable 0.1°C or 1°C (0.1°F or 1°F) resolution
- Accepts K-type thermocouples
- Includes 9V battery and holster

# Specifications

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|---|---|---|
| Display: | 3 ½ digit liquid crystal display (LCD) with a maximum reading of 1999 | |
| Temperature Range: | -50 to 1300°C, -58 to 2000°F, 223 to 2000K | |
| Resolution: | 0.1 or 1°C/F, 1K | |
| Accuracy: | ±2°C | -50°C to 0°C |
| | ±4°F | -58°F to 32°F |
| | ±5K223K to 273K | |
| | ±(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 |
| | ±(1.0% rdg+2K) | 273K to 2000K |
| 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) |
| Storage Temperature: | -20 to 60°C (-4 to 140°F) |
| Battery: | Standard 9V battery (NEDA 1604, IEC 6F22) |
| Dimensions: | 162 × 76 × 38.5mm (6.37 x 2.99 x 1.52") |
| Weight: | 210g (7.4oz) |
| Optional Accessories: | Ribbon-style temperature probe (LS-109) |
| | Spring loaded high temperature probe (LS-139) |
| | Right angle surface temperature probe (LS-104) |
| | Perforated air/gas temperature probe (LS-103) |
| | Needle tip temperature probe (LS-134A) |
| | General purpose temperature probe (LS-107) |
| | Tripod (BS-6) |

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# Operating Instructions

## *Selecting the Temperature Scale*

Readings are displayed in either Celsius (°C), Fahrenheit (°F) or Kelvin (K). 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 °C, °F or K buttons.

## *Selecting the Display Resolution*

The thermometer allows two choices of resolution:

- High resolution: 0.1°C or 0.1°F
- Low resolution: 1°C or 1°F

## *Overload Display*

The digital display will indicate "1" when the input exceeds the measurement range selected. If measuring above 199.9°, change the resolution to 1°. Be certain to seat the thermocouple connector properly and that the leads are not broken.

## *Hold Mode*

Pressing the **HOLD** button to enter the Data Hold mode, the "HOLD" indicator is displayed. When "HOLD" mode is selected, the thermometer will "freeze" the present readings and stops all further measurements. Pressing the **HOLD** button again cancels "HOLD" mode, causing the thermometer to resume taking measurements.

## *Max Mode*

Press the **MAX** button to enter the "MAX" mode. The thermometer then records and updates the maximum values and the "MAX" indicator appears on the display. Press the **MAX** button again to exit the "MAX" recording mode. In the "MAX" mode, press the **HOLD** button to stop the recording, press **HOLD** again to resume recording.

## Backlight Mode

Press the **BACKLIGHT** button to turn on the LCD backlighting function. The LCD Backlighting will automatically turn off approximately 5 seconds after the Backlight button is released.

## Tc (Temperature Compensator) Checking Mode

Press and hold the **Tc** button to enter the Temperature Compensator Checking mode. The thermometer will display the inside temperature.

# Battery Replacement

To avoid possible electric shock, disconnect the thermocouple connectors from the thermometer before removing the cover.

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

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
5. Re-assemble the meter before operating

# Notes

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