

R2400

REED INSTRUMENTS

Type K Thermocouple Thermometer



Instruction
Manual

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Introduction

Thank you for purchasing your REED R2400 Type K Thermocouple Thermometer. Please read the following instructions carefully before using your instrument. By following the steps outlined in this manual your meter will provide years of reliable service.

Product Quality

This product has been manufactured in an ISO 9001 facility and has been calibrated during the manufacturing process to meet stated product specifications. If a certificate of calibration is required please contact the nearest authorized REED distributor or authorized Service Center. Please note an additional fee for this service will apply.

Safety

- Never attempt to repair or modify your instrument. Dismantling your product, other than for the purpose of replacing batteries, may cause damage that will not be covered under the manufacturer's warranty. Servicing should only be provided by an authorized service center.
- Fully inspect the thermometer prior to first use. Do not use the thermometer if it appears damaged.
- Disconnect the thermocouple from the thermometer before removing the cover.
- Do not operate the thermometer in locations subject to flammable or explosive gases.
- Do not connect to voltages > 24 VAC (RMS) or 60 VDC from earth ground.
- To avoid damage or burns do not take temperature measurements in microwave ovens.
- To prolong thermocouple life avoid bending the leads, specifically near the probe connector.

Features

- Type K thermocouple thermometer
- Large, easy-to-read backlit LCD display
- User selectable °C, °F or Kelvin
- Max and Data Hold functions
- User selectable resolution of 0.1 or 1°F (0.1 or 1°C)
- Tripod mount for long-term monitoring
- Low battery indicator and auto shut off

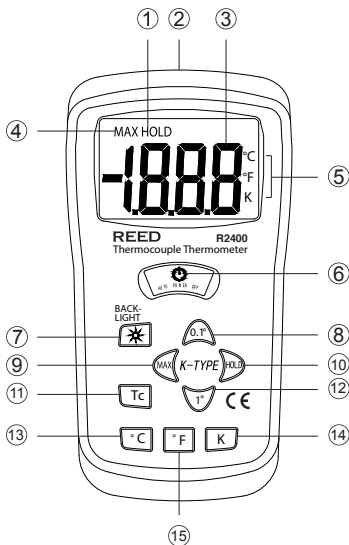
Included

- Protective Boot
- Beaded Wire Probe
- Carrying Case
- Battery

Specifications

Measuring Range:	-58 to 2000°F (-50 to 1300°C), 223 to 2000K
Accuracy:	-58 to 32°F: $\pm 4^{\circ}\text{F}$ 32 to 2000°F: $\pm(0.5\% \text{ rdg} + 2^{\circ}\text{F})$ -50 to 0°C: $\pm 2^{\circ}\text{C}$ 0 to 1000°C: $\pm(0.5\% \text{ rdg} + 1^{\circ}\text{C})$ 1000 to 1300°C: $\pm(0.8\% \text{ rdg} + 1^{\circ}\text{C})$ 223 to 273K: $\pm 5\text{K}$ 273 to 2000K: $\pm(1.0\% \text{ rdg} + 2\text{K})$
Resolution:	0.1 or 1°F/°C, 1K
Type:	Single Input, Thermocouple Type K
Response Time:	1x/second
Display:	3 1/2-Digit LCD
Backlit Display:	Yes
Data Hold:	Yes
Max:	Yes
Overrange Indicator:	Yes
Auto Shut-Off:	Yes (after 15 minutes)
Kick Stand:	Yes
Tripod Mountable:	Yes
Low Battery Indicator:	Yes
Power Supply:	1 x 9V Battery
Product Certifications:	CE
Operating Temperature:	32 to 104°F (0 to 40°C)
Storage Temperature:	14 to 140°F (-10 to 60°C)
Operating Humidity Range:	10 to 90%
Dimensions:	6.4 x 3.0 x 1.5" (162 x 76 x 38.5mm)
Weight:	7.4oz (210g)

Instrument Description



- | | |
|--------------------------------------|---------------------------------------|
| 1. Data HOLD Indicator | 9. MAX Button |
| 2. Thermocouple Input Jack | 10. Data Hold Button |
| 3. Temperature Measurement Indicator | 11. Temperature Compensation Button |
| 4. MAX Indicator | 12. 1° Resolution Button |
| 5. Temperature Unit of Measure | 13. °C Button |
| 6. Power Button | 14. Kelvin Unit of Measurement Button |
| 7. Backlight Button | 15. °F Button |
| 8. 0.1° Resolution Button | |

Operating Instructions

Connecting Thermocouples

This meter accepts K-type thermocouples with a mini plug.

Measuring Procedure

1. Turn the meter on by pressing the power button.
2. To change the temperature unit of measure, press the °C, °F, or K buttons.

Note: The meter will automatically save the last selected temperature unit when powered off.

3. If a thermocouple probe is not connected to the meter, the LCD will display "1".
4. To take a measurement, make direct contact with the surface being tested.
5. The LCD will display the measured temperature value.

Selecting the Display Resolution

The meter offers two resolution types:

1. High resolution: 0.1°F or 0.1°C
2. Low resolution: 1°F or 1°C

Overload Display

The LCD display will indicate "1" when the measurement exceeds the selected resolution. If the measurement is above 199.9°, the resolution should be set to 1°.

Note: If switching the resolution does not resolve the issue verify that the thermocouple probe is properly connected and the leads are not damaged.

Data Hold

- Press the **HOLD** button to freeze the displayed reading.
- Press the button again to resume normal operation.

continued...

MAX Value

1. While taking a measurement, press the **MAX** button to enter the Max Value Mode.
2. The **MAX** Indicator will appear on the display.
3. Under this mode the maximum value is recorded and updated when a new maximum temperature measurement has been taken.
4. Press the **HOLD** button to stop the recording the maximum value
5. Press the **HOLD** button again to resume recording the maximum value.
6. To exit Max Value Mode, press the **MAX** button.

Auto Power Off

To preserve battery life, the meter is programmed to turn off after 15 minutes of inactivity.

Backlight

Press the Backlight Button to turn the LCD Backlight on and off.

Tc (Indoor Temperature Compensation)

The meter has a built-in temperature sensor to verify the internal temperature is within the recommended Operating Temperature. Press and hold the **Tc** button to display the internal temperature of the meter. Temperature measurements may be inaccurate if the meter has been exposed to ambient temperatures outside the recommended Operating Temperature. To resume normal operation, release the **Tc** button.

Battery Replacement

When the low battery symbol " " appears on the lower right of the LCD, replace the 9V battery.

1. Turn the meter off and disconnect the thermocouple probe.
2. Remove the protective boot 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.

Accessories and Replacement Parts

- **TP-01** Beaded Thermocouple Wire Probe
- **R2920** Surface Thermocouple Probe
- **R2930** Right Angle Thermocouple Probe
- **R2940** Air/Gas Thermocouple Probe
- **R2950** Immersion Thermocouple Probe
- **R2960** Needle Tip Thermocouple Probe
- **R1500** Tripod
- **CA-05A** Soft Carrying Case

Don't see your part listed here? For a complete list of all accessories and replacement parts visit your product page on www.reedinstruments.com.

Applications

- Medical
- Pharmaceutical
- Industrial and Commercial Temperature Applications
- R&D and Educational Establishments
- Food Service

Product Care

To keep your instrument in good working order we recommend the following:

- Store your product in a clean, dry place.
- Change the battery as needed.
- If your instrument isn't being used for a period of one month or longer please remove the battery.
- Clean your product and accessories with biodegradable cleaner. Do not spray the cleaner directly on the instrument. Use on external parts only.

Product Warranty

REED Instruments guarantees this instrument to be free of defects in material or workmanship for a period of one (1) year from date of shipment. During the warranty period, REED Instruments will repair or replace, at no charge, products or parts of a product that proves to be defective because of improper material or workmanship, under normal use and maintenance. REED Instruments total liability is limited to repair or replacement of the product. REED Instruments shall not be liable for damages to goods, property, or persons due to improper use or through attempts to utilize the instrument under conditions which exceed the designed capabilities. In order to begin the warranty service process, please contact us by phone at 1-877-849-2127 or by email at info@reedinstruments.com to discuss the claim and determine the appropriate steps to process the warranty.

Product Disposal and Recycling



Please follow local laws and regulations when disposing or recycling your instrument. Your product contains electronic components and must be disposed of separately from standard waste products.

Product Support

If you have any questions on your product, please contact your authorized REED distributor or REED Instruments Customer Service by phone at 1-877-849-2127 or by email at info@reedinstruments.com.

Please visit www.REEDINSTRUMENTS.com for the most up-to-date manuals, datasheets, product guides and software.

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