Temperature

# **Measuring Solutions for Your Application**

## **Thermocouple Meters**

Instruments amplify, linearize, and display the millivolt signal generated by the two dissimilar wires of the thermocouple probe. The signal is proportional to the temperature gradient between the measuring and reference junctions. Oakton offers many low-cost, fast-response probes in a wide variety of designs. Handheld probes are ideal for inspection and maintenance. Many types of probes can be permanently installed. Probes resist mechanical shock. Use probe within 2000 feet of the instrument. **See pages 67–77 for thermocouple meters and probes.** 

## **Platinum RTD Meters**

These instruments provide excellent accuracy, stability, and repeatability over a wide temperature range. Probes have an element with a characteristic resistance that increases as the temperature increases. Three-wire probe reduces effect of lead-length resistance on measurements, giving a more precise indication of temperature. **See pages 78–82 for RTD meters and probes.** 

# **Thermistor Meters**

Thermistors exhibit a greater sensitivity and accuracy in the biological range—32 to 212°F (0 to 100°C). Probes encase a ceramic element that generally decreases in resistance as the temperature increases. **See pages 83–87 for thermistor meters and probes.** 

## **Infrared Thermometers**

Provide fast response for surface temperatures. Models are available for both close- and farrange measurements. See pages 88–90 for infrared thermometers.

**OAKION**<sup>®</sup>



### **Temperature Instrument Range Guide**

The stated accuracy of any temperature measurement device is for the "Recommended Temperature Range" only. The narrow section of the temperature bar represents the widest range the instrument can be used in. Accuracy in this range is not guaranteed. Probe damage may occur at the extreme ends of the temperature range. Temperatures listed below are approximate.





#### Thermocouple

- Type J, K, and E probes: ±1.8 to 7.9°F or ±0.4% of reading above 32°F, whichever is greater Type T probes: ±0.9 to 3.6°F or ±0.4% of reading
- above 32°F, whichever is greater Type R and S probes: ±2.5°F or ±0.25% of reading, whichever is greater

Meters:  $\pm 0.1$  to 1% of reading and  $\pm 1.8^{\circ}F$  ( $\pm 1^{\circ}C$ )

Thermistor

 $\begin{array}{l} 400\text{-series probes: } \pm 0.36\,^\circ\text{F}\ (\pm 0.2\,^\circ\text{C})\\ \text{from 32 to } 167\,^\circ\text{F}\ (0\ to\ 75\,^\circ\text{C})\\ 500\text{-series probes: } \pm 0.2\,^\circ\text{F}\ (\pm 0.1\,^\circ\text{C})\\ 700\text{-series probes: } \pm 0.27\,^\circ\text{F}\ (\pm 0.15\,^\circ\text{C})\\ \text{Meters: } \pm 0.2\ to\ 0.4\,^\circ\text{F}\ (\pm 0.1\ to\ 0.2\,^\circ\text{C}) \end{array}$ 

Platinum RTD Probes: ±0.2 to 0.35% of reading Meters: ±0.1% of reading and ±1°F (±1°C) Infrared: ±1 to 3% of reading

# **OAKION**<sup>®</sup>

# Our **Rugged**, Versatile, User-Friendly **Handheld Thermometers**

# Main Features

Rugged ergonomic housing
Simple-to-use automatic field calibration ensures accurate readings

- Sealed keypad and ABS plastic case meet IP54 standards for splash resistance
- Min/Max and Hold functions
- Temperature units in °C or °F

### Quick connections for a variety of probes

- Mini-connectors on thermocouple meters, mini-din on RTD meters, and bayonet on thermistor meters
- Dual-input thermocouple datalogger version available





# PREDICTING A CHANGE IN TEMPERATURE

# Large, backlit display

- Custom LCD on basic meters
- Dot-matrix on advanced meter; simultaneously display individual probes and differential readings

# USB output available

 Advanced meters feature computer interface via USB

# Menu-driven operation on advanced meters

- Access easy-to-follow setup; intuitive on-screen menus
- Quick review of operations and functions

# Datalogging capabilities available

- Log up to 2000 points
- Review on the meter at the touch of a key



Available protective rubber armor

- Protects meter from accidental drops and dings
- Provides added grip in wet environments
- Built-in flip stand



 Flip stand for benchtop use



- Magnet mount; sticks to metal surfaces
- Hook-and-loop strap to hold on your belt or hang from a pipe



