

# How to choose the right model for effective temperature measurement

Raytek offers a selection of portable thermometers to meet a wide range of diverse applications. Many are specially designed and calibrated to meet the exacting temperature measurement needs of industries from food safety, to electrical and mechanical system diagnostics, to glass and metals manufacturing.

## Here are a few tips to help you choose the right model:

### What is the temperature range of the target you will measure?

Raytek portable thermometers offer temperature ranges from as low as  $-50^{\circ}\text{C}$  ( $-58^{\circ}\text{F}$ ) to as high as  $3000^{\circ}\text{C}$  ( $5400^{\circ}\text{F}$ ). Choose the temperature range to meet your application requirements.

### How large is the target? How close can you get?

Raytek offers models that can accurately measure objects from as close as a few centimeters (inches) to as far away as 15 meters (50 feet). Optical resolution is defined by the ratio between the distance from the object being measured to the size of the object being measured (D:S). The greater the D:S ratio, the higher the optical resolution. A thermometer with a higher resolution allows you to measure smaller objects from greater distances. Choose the ratio that best meets your application requirements.

### What material will you be measuring?

Infrared thermometers work by measuring emitted infrared (IR) energy from a target object and translates the value into temperature. Emissivity is the ability of the material surface to emit IR

energy. Most organic, painted, or oxidized surfaces have emissivity values close to 0.95. Some of our thermometers have adjustable emissivity to ensure accuracy when measuring other materials such as metals, glass, and thin film plastics. Choose preset or adjustable emissivity.

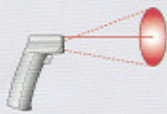
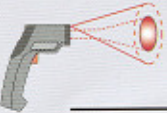

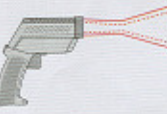


### Do you wish to keep records for audit or quality programs?

Some Raytek models offer data logging, and companion software for data storage, retrieval, graphing and analysis. Choose a model with data logging if recording is desired.

### Are you implementing a systematic predictive maintenance or asset management program?

Temperature measurement is a critical component of a comprehensive maintenance program. Some Raytek models use 100-point data logging (with user-customizable location names) for later download, analysis, and integration into your company's asset management program. Simply connect to a personal computer to access data recording, exporting, and graphing software. Choose the MX4+ model for this capability.

## Laser sighting options

|   | Raytek Model                             | Type of Sighting  |
|---|--|---|
|  | MT4, MTFS, ST20                          | <b>Laser Point™</b><br>Single-point laser indicates the approximate center of the target spot.  |
|  | ST30, ST60, ST80, ST80-IS                |  <b>Laser Guide™</b><br>8-point circle overlays measurement area for better accuracy.  |
|  | MX2, MX4+, MX4+NI                        |  <b>True Spot™</b><br>16-point coaxial sighting tracks the actual target spot at all distances. Ideal for the precise targeting of near, distant, and small objects. |
|  | 3i1M, 3i2M, 3iG5, 3iP7, 3iLT, 3iLR, 3iCL | The Raytek 3i product line for specialty applications offers single, dual, and crossed laser (for small target) sightings as well as a scope and a combination of laser and scope sighting.   |