

QUICK SHEET

VERNIER Infrared Radiation Thermometer (IRT-BTA)

LOCATION of EQUIPMENT:

Hardware: See lab attendant

Software: Requires handheld Vernier LabQuest 2 unit; see lab attendant

INSTRUCTIONS FOR USE:

1. Plug sensor via the *Infrared Thermometer Cable* into one of the three side analog ports of the handheld unit (Vernier LabQuest 2)
2. The unit will automatically enter the appropriate screen to observe sound levels
 - a. If it does not, press the home button in the bottom right corner of the handheld unit's display, then press the LabQuest App option in the top left corner
3. Turn the sensor on and set it to the correct temperature units desired to be measured:
 - a. Press the MEAS button on the sensor to begin taking readings.
 - b. To accurately take readings on desired locations, you can press the laser button (left of the "HOLD" button) which will toggle a visual crosshair. This will allow for greater accuracy of the desired area of readings.
 - c. The HOLD button will maintain the existing reading on your LabQuest 2
4. When done recording/logging, turn the sensor off and unplug it from the handheld unit

OVERVIEW:

All objects emit infrared radiation. The amount emitted is proportional to the object's temperature and its ability to emit infrared radiation. This ability, called emissivity, is based on the material of the object and its surface finish. The Infrared Thermometer will be used to measure temperature differences between materials, joint details, and surfaces as a whole. The IR picks up on thermal changes in surfaces via the camera sensor.

SUGGESTED APPLICATIONS:

- Facade Studies - How heat transfers/flows through materials

RELEVANT TOPICS:

Temperature, Energy Consumption, Post Occupancy Studies