RAYTEMP® 38
Infrared & Probe Thermometer
Operating Instructions

INSTRUMENT OPERATION - Simply aim the RayTemp 38 infrared (IR) thermometer at the target and depress the trigger to measure the surface temperature. The 'SCAN' icon will appear in the LCD display. When the trigger is released the reading is automatically held for 60 seconds and 'HOLD' is displayed, after which the thermometer will shut down.

MEASUREMENT ZONE/TARGET DISTANCE - The measurement zone is proportional to the distance the RayTemp is away from the target. The thermometer is equipped with a 50:1 lens. If the target is 1250 mm away, the measurement zone will be 25 mm across.

THERMOCOUPLE PROBE/SENSOR - To display the thermocouple probe temperature, press and hold the Mode button until 'PRB' is displayed. If the thermocouple breaks or is not connected, in addition the instrument will display 'noP'. The thermometer should only be used with thermocouple type K nickel-chromium/nickel-aluminium probes or sensors that meet BS EN 60584:1996 standard and are fitted with a suitable miniature thermocouple plug.

MAXIMUM, MINIMUM, DIFFERENTIAL & AVERAGE - To access the maximum reading, press the Mode button until 'MAX' is displayed. To access the minimum reading, press the Mode button again until 'MIN' is displayed. To access the differential readings, press the Mode button until 'dIF' is displayed. To access the average reading, press the Mode button again until 'AVG' is displayed. Maximum and minimum, differential and average readings will be reset when the instrument powers down.Max/min reading can also be displayed whilst using the probe function. To view the 'MIN' reading, press and hold the °C/°F button or to view the 'MAX' reading, press and hold the Lock button.

HIGH & LOW ALARMS - To access and set the high alarm, press the Mode button until 'HAL' is displayed. To adjust the high alarm value, use the °C/°F and the Lock buttons. To access and set the low alarm, press the Mode button until 'LAL' is displayed. To adjust the low alarm value, use the °C/°F and the Lock buttons. An audible warning will sound and the 'HI' or 'LOW' icon will be displayed in the LCD when the temperature measured is outside the high or low alarm parameters.

°C/°F - The °C/°F button toggles between celsius and fahrenheit measurements. Press and hold the °C/°F button without depressing the trigger until the °C or °F scale changes. **Please note:** the instrument's default is to start up in °C.

LOCK FUNCTION - The Lock button temporarily disables the auto power off, and is used for continuous monitoring of temperatures for up to 60 minutes. Press the Lock button without depressing the trigger until the 'LOCK' icon is displayed in the LCD. The unit will now continuously measure temperature without the need to depress the trigger. To turn off the lock function, press and hold the Lock button.

LCD BACKLIGHT - The LCD backlight function can be turned on or off by depressing the trigger and simultaneously pressing the Lock button.

EMISSIVITY - The RayTemp 38 has a default emissivity of 0.95 but is adjustable from 0.1 to 1.00. The closer the emissivity value is set to the actual emissivity value of the object being measured, the more accurate the readings will be. To adjust the emissivity press the Emis. button and use the °C/°F and the Lock buttons. **Please note:** non-contact infrared thermometers are not recommended for use in measuring shiny or polished metals.

LASER POINTERS - The dual laser pointer function can be turned on or off by depressing the trigger and simultaneously pressing the °C/°F button. For safety, the laser pointer will only activate when the trigger button is depressed. The laser module is a Class 2 device that has a maximum power output of less than 1 mW at a wavelength of 660 nm. Prolonged, continuous exposure such as staring at the beams can be harmful and should be avoided. Do not look at the beams with any optical instrument.

ERROR MESSAGES - If the measured temperature goes below or above the range of the instrument, 'Hi' or 'Lo' will appear in the LCD display. When the measured temperature returns within the range of the instrument, readings will automatically be displayed. Er2 will or Er3 will appear in the LCD display when the unit is exposed to rapid changes in ambient temperature. The thermometer should be allowed time to stabilise within its working environment, allow 30 minutes. For all other error messages, the user will need to reset the RayTemp 38 by removing the batteries, then reinsert the batteries. If the error message remains, contact the ETI service department.

STORAGE & CLEANING - The sensor lens is the most delicate part of the RayTemp 38. The lens should be kept clean at all times, care should be taken when cleaning the lens using only a soft cloth or cotton swab with water or medical alcohol, allowing the lens to fully dry before using the RayTemp 38, do not submerge any part of the unit. The instrument should be stored at room temperature between 10 to 40 °C.

BATTERIES - The low battery icon ⊏▭⊐ indicates that the batteries need replacing as soon as possible. The instrument will continue to function but to maintain accuracy new batteries are required. Replace both batteries with AAA or equivalent 1.5 volt batteries.

EMC/RFI - Instrument performance may be affected if operated within a high frequency radio field, such as near a mobile phone, or if subjected to an electrostatic shock.

GUARANTEE - This instrument carries a one-year guarantee against defects in either components or workmanship. During this period, products that prove to be defective will, at the discretion of ETI, be either repaired or replaced without charge. This guarantee does not apply to sensors/probes, where a six-month period is offered. The product guarantee does not cover damage caused by fair wear and tear, abnormal storage conditions, incorrect use, accidental misuse, abuse, neglect, misapplication or modification. Full details of liability are available within ETI's Terms & Conditions of Sale at etiltd.com/terms. In line with our policy of continuous development, we reserve the right to amend our product specification without prior notice.