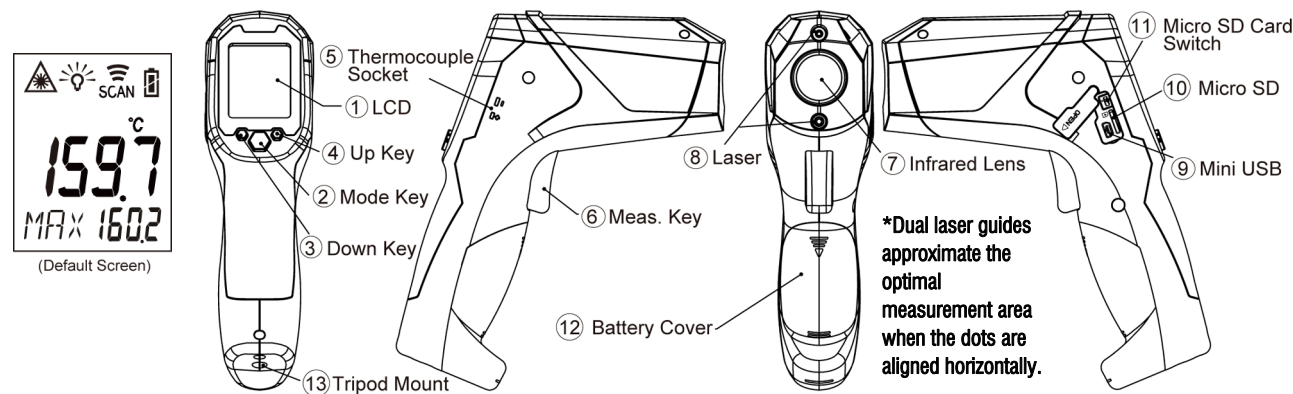# IR-PRO-75 Infrared Thermometer

This thermometer is a non-contact infrared thermometer with a thermocouple input. This unit is not designed for medical use.

(Default Screen)

⑤ Thermocouple Socket
① LCD
④ Up Key
② Mode Key
③ Down Key
⑧ Laser
⑥ Meas. Key
⑫ Battery Cover
⑬ Tripod Mount
⑪ Micro SD Card Switch
⑩ Micro SD
⑦ Infrared Lens
⑨ Mini USB

*Dual laser guides approximate the optimal measurement area when the dots are aligned horizontally.

To measure surface temperature, remove obstructions and simply aim the thermometer lens toward the target area and pull the measurement trigger (6). The distance to spot ratio is 75:1.

**This model includes a data capture/logging function that can be done via internal memory, included SD memory card and/or USB connection to a local PC using the free software available at www.thermoworks.com/software.

FUNCTION

Press Mode key (2) for scrolling more display function as follows.

E- / ▲E▼	This will show the emissivity setting. (The default emissivity is 0.95.)
	Press Mode key (2), then press Up key (4) or Down key (3) to **set the emissivity**, then press Mode key (2) to confirm it. The emissivity can be changed from 0.10 (10E) to 1 (100E).
MAX / MIN / DIF / AVG	Press Mode key (2) for the **Maximum (MAX), Minimum (MIN), Difference between MAX and MIN (DIF) and Average (AVG) modes. During the measurement, the corresponding reading will be displayed beside the mode icon.**
HAL / LAL	Press Up key (4) or Down key (3) to change the **High Alarm (HAL)** or **Lo Alarm (LAL)**, then press Meas. key (6) to confirm it. For example: With a low alarm set to 27°C and you measure a reading of 26.9°C, the Low icon will flash and you will hear a beep.
PRB	Connect the thermocouple with thermocouple socket (5) and put the probe in/on the target. The thermometer will display the temperature automatically without pressing any buttons. To see the minimum or maximum data during the probe measurement, hold down the Up key (4) or Down key (3). ⚠ After measuring a high temperature, the probe may remain HOT for a while. Handle with care.
M00	To save data to internal memory: After taking the temperature, press Mode key (2) for the **Memory (M00)**, then press Meas. key (6) to save the measurement. In **Memory (M00)** mode, press Up key (4) or Down key (3) key to display the recorded reading.

** The thermometer will automatically shut off if left idle for more than 60sec., unless in PRB mode. (In PRB mode, it will shut off if left idle for more than 12 minutes.)

ADD VALUE

In E, MAX, MIN, DIF, AVG mode:	Press the Up key (4) for **LOCK mode** ON/OFF. The lock mode is particularly useful for continuous monitoring of temperatures for up to 60 minutes.
	Press Down key (3) for **°C** or **°F**.
In all modes: First hold on the Meas. key (6)	and press Up key (4) to turn the **backlight function** ON/OFF. ☀
	and press Down key (3) for **laser function** ON/OFF. ☀

⚠CAUTION
1. WHEN DEVICE IS IN USE, DO NOT LOOK DIRECTLY INTO THE LASER BEAM–PERMANENT EYE DAMAGE MAY RESULT.
2. USE EXTREME CAUTION WHEN OPERATING THE LASER.
3. NEVER POINT THE DEVICE TOWARDS ANYONE'S EYES.
4. KEEP OUT OF REACH OF ALL CHILDREN.

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STORAGE & CLEANING
The IR-PRO-75 should be stored at room temperature. The sensor lens is the most delicate part of the thermometer. It 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 thermometer. Do not submerge any part of the thermometer.

LCD ERROR MESSAGES
The thermometer incorporates visual diagnostic messages as follows:

HI / LOW   'Hi' or 'Lo' is displayed when the temperature being measured is outside of the settings of HAL and LAL. 'Er2' is displayed when the thermometer is exposed to rapid changes in the ambient temperature. 'Er3' is displayed when the ambient temperature exceeds 0°C (32°F) or 50°C (122°F). The thermometer should be allowed plenty of time (minimum 30 minutes) to stabilize to the working/room temperature. **Error 5~9**, for all other error messages it is necessary to reset the thermometer. To reset it, turn the instrument off, remove the batteries and wait for a minimum of one minute, reinsert the batteries and turn it on. If the error message remains please contact technical support for further assistance (see below).

Er2   Er3   Er

Hi Lo   'Hi' or 'Lo' is displayed when the temperature being measured is outside of the measurement range.

BATTERIES
The thermometer incorporates visual low battery indication as follows:

'Battery OK': measurements are possible.   **'Battery Low'**: batteries need to be replaced, measurements are still possible.   **'Battery Exhausted'**: measurements are not possible.

⚠ When the 'Low Battery' icon indicates the batteries are low, the batteries should be replaced immediately with 2x AA, 1.5V batteries. Please note: It is important to turn the instrument off before replacing the batteries, otherwise the thermometer may malfunction.

⚠ Dispose of used batteries properly and keep away from children.

*To use the software, download the file and click on 'Data Logger Software' and follow on-screen prompts.

SPECIFICATION

Item	Infrared	Thermocouple Probe (K type; probe not included.)
Measurement Range	–31 to 2912°F (–35 to 1600°C)	–83.2 to 2552°F (–64 to 1400°C)
Operating Range	32 to 122°F (0 to 50°C)	
Accuracy (Tamb=23±3°C)	Tobj=−35~0: ±(2°C+0.05/degC)°C, Tobj=0~1600: ±2% of reading or 4°F (2°C) whichever is greater	±1% of reading or 1°C (1.8°F) whichever is greater (Test under Tamb=23±6 C)
Emissivity Range	0.95 default – adjustable 0.1 to 1 step .01	
Resolution	0.1°C/0.1°F at –83.2 to 999.9(°C/°F), otherwise 1°C/1°F	
Spectral Range	8~14µm	
Response Time (90%)	1 sec (infrared). Probe response time is probe dependent	
Distance:Spot	75:1 (90% energy covered)	
Internal Memory Capacity	24 readings with Temperature & Emissivity	
External Memory Type	Included SD memory card. Move memory switch (11) up to save data to the SD card.	
USB Function	Data logging communication. Please download the program from CD. (CD & USB cable included in package)	
Output Interface	USB, SD card	
Battery Life	2 x AA batteries included, typical battery life is 100 hours of continuous use (without laser or backlight)	
Dimensions	7.99×6.93×2.30 inch (202.99×176.07×58.31 mm)	
Weight	401 grams (14.14 oz) including batteries	
Note: Under the electromagnetic field of 3V/m from 180 to 600 MHz range, the maximum error is 18°F (10°C).		

⚠ Caution: The measurement range listed above only references the capacity of the unit to read the IR or thermocouple temperatures. The operating range of the unit, or how hot or cold the air temperature around the unit can be, is listed above. The user should take care to select suitable probes to accommodate specific temperature testing. Please make sure the target to be measured will not exceed the temperature range of the probe to avoid permanent damage of the thermocouple probe.

⚠ Caution: To avoid electric shock and thermometer damage, do not measure live circuits where voltage exceeding 24V AC RMS or 60V DC with the thermocouple probe.

⚠ **EMC/RFI:** Readings may be affected if the unit is operated within radio frequency electromagnetic field strength of approximately 3 volts per meter, but the performance of the instrument will not be permanently affected.

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CERTIFICATE OF CONFORMANCE

The manufacturer of this instrument has implemented a quality assurance system under ISO 9001 certified quality system and fully follow ISO GUM (Guide to the Expression of Uncertainty in Measurement) to evaluate the uncertainty of temperature and resistance standards, guarantee performance as below:

Calibration Temperature	Max Error	Target Accuracy	Target Stability
−30°C	±2.0°C	±0.3°C	0.3°C
0°C	±2.0°C	±0.4°C	0.1°C
100°C	±2.0°C	±0.4°C	0.1°C
200°C	±4.0°C	±0.5°C	0.1°C
400°C	±8.0°C	±0.5°C	0.1°C
900°C	±18.0°C	±1.0°C	0.2°C

Note: Assume the operation ambient temperature under 23 ± 3°C

Furthermore, we certify that this infrared thermometer has been inspected and found to comply with published specifications. This device has been calibrated by temperature and/or resistance standards that are traceable to NML (National Measurement Laboratory), and the calibration procedure corresponds with generally accepted regulations and standards.

ThermoWorks, Inc.
Utah, U.S.A.
www.thermoworks.com

IR-PRO-75
Professional High Temp Recording Infrared Thermometer

Operating Instructions

Includes
IR unit, hard carrying case, SD memory card, battery, operating instructions, certificate of conformance, USB cable, software CD

For tips on using infrared thermometers visit the Learning Center at www.thermoworks.com.