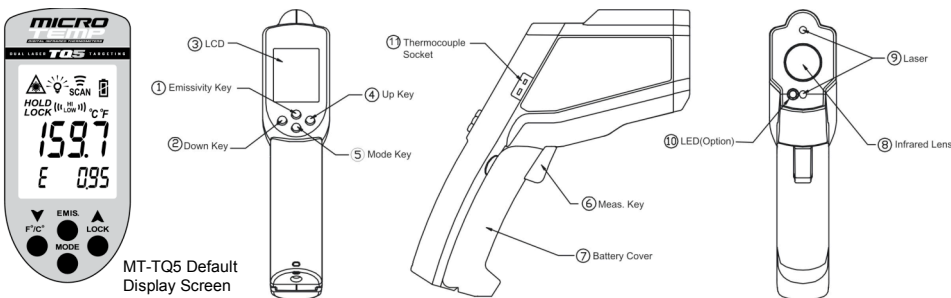


# MT-TQ5 Thermometer Operating Instructions

INCLUDING: Thermocouple Socket, Laser Sight, and LED Flashlight

The MT-TQ5 is a non-contact Infrared Thermometer (IRT)



MT-TQ5 Default Display Screen

## USE:

- Simply aim the thermometer at the target with the Lens (8) and press the Scan Button (6) to display the surface temperature.
- The Distance-to-Sight Ratio is 50:1. This means at a distance of 50" from the measured surface, the MT-TQ5 is measuring a 1" spot. At a distance of 25", a 0.5" spot is measured, and at 100" from surface, a 2" spot is measured.
- Please make sure the target area is within the field of view and lined up between the dual lasers (9).

## FUNCTIONS: Press the Mode Button (4) to scroll through the following display functions:

E E MAX MIN DIF AVG HAL LAL PRB	<p>Press Mode Button (5), then press Up Arrow (4) or Down Arrow (2) to <b>set the emissivity</b>, then press Mode Button (5) to confirm it. The emissivity can be changed from 0.10 (10E) to (100E).</p> <p>This will show the emissivity data. (The default emissivity is 0.95.)</p> <p>Press Mode Button (5) for the Maximum (MAX), Minimum (MIN), Difference between MAX and MIN (DIF) and Average (AVG) modes. During measurement, the special mode readings will be displayed beside the mode icon.</p> <p>Press Up Arrow (4) or Down Arrow (2) to change the <b>High Alarm (HAL)</b> or <b>Lo Alarm (LAL)</b>, then press Scan Button (6) to confirm it. For example: When reading 79.9°F &lt; LAL 80°F, the Low icon will flash and you will hear a beep.</p> <p>Note: This unit does not come with a Probe. Probes (there are many types available) must be purchased separately. Connect the thermocouple with the Thermocouple socket (11) and put the probe in/on the target, the thermometer will display the temperature automatically without pressing any button. To see the minimum or maximum data during the probe measurement, please hold down the Up Arrow (4) or Down Arrow (2).</p> <p><b>!</b> After measuring a high temperature, the probe may remain HOT for a while.</p>
<p>In E, MAX, MIN, DIF, AVG mode:</p>	<p>Press Up Arrow (4) for <b>LOCK</b> mode ON/OFF. The lock mode is particularly useful for continuous monitoring of temperatures for up to 60 minutes.</p> <p>Press Down Arrow (2) to switch between F° or C°</p>
<p>In all modes: First press and hold the Scan Button (6)</p>	<p>and press Up Arrow (4) for LCD <b>backlight</b> function ON/OFF. </p> <p>and press Down Arrow (2) for laser &amp; LED Flashlight function ON/OFF. </p>

- CAUTION!**
- When device is in use, do not look directly into the two laser beams as permanent eye damage may result.
  - Use extreme caution when operating the laser.
  - Never point the device towards anyone's eyes.
  - Keep out of reach of all children.

**STORAGE & CLEANING:** The thermometer should be stored at room temperature between -4° to +149°F (-20 ~ 65 °C).

The sensor lens is the most delicate part of the thermometer and should be kept clean at all times. Great care should be used in cleaning the lens with only a soft cloth or cotton swab with water or medical alcohol. Allow the lens to fully dry before using the thermometer. Do not submerge any part of the thermometer.

(( HI LOW ))	"Hi" or "Lo" is displayed when the temperature being measured is outside of the settings of HAL and LAL.
Er 2 Er 3	"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.
Er	"Er" Error 5-9, for all other error messages it is necessary to reset the thermometer. To reset it turn the instrument off and remove the battery. Wait for a minimum of one minute, then reinsert the battery and turn on. If the error message remains please contact Customer Service for further assistance.
Hi Lo	"Hi" or "Lo" is displayed when the temperature being measured is outside of the measurement range.

## BATTERIES:

The thermometer displays the following battery life indicator:



'Battery OK': measurements are possible



'Battery Low': battery needs to be replaced, measurements are still possible



'Battery Exhausted': measurements are not possible

**NOTE:** The thermometer will automatically shut off if left idle for more than 60sec unless in PRB mode (PRB mode will shut off if left idle for more than 12 min).

**!** When the 'Low Battery' icon indicates the battery is low, the battery should be replaced immediately with AAA, 1.5V batteries.

Please note: It is important to turn the instrument off before replacing the battery otherwise the thermometer may malfunction.

**!** Dispose of used battery promptly and keep away from children.

## SPECIFICATIONS:

Item	Non-contact Infrared Scan function	Thermocouple Probe Scan function (K type; probe not included)
Measurement Range	-76 to +1832 °F (-60 to +1000 °C)	-83.2 to +1999°F (-64 to +1400°C)
Operating Range	32 to +122°F (0 to +50°C)	
Accuracy (Tobj=15-35°C, Tamb=25°C)	± 1.8°F (1.0°C)	+/-1% of reading or 1.8°F (1°C) whichever is greater (Test under Tamb=23±6°C)
Accuracy (Tobj=-33-1000°C, Tamb=23±3°C)	±2% of reading or 4°F (2°C) whichever is greater	
Emissivity Range	0.95 default – adjustable 0.1 to 1 step .01	
Resolution (-9.9-199.9°C)	0.1°F/0.1°C	
Response Time (90%)	1sec	
Distance:Spot	50:1	
Battery Life	Typ.180, min 140 hours continuous use (Alkaline, without Laser and Back Light.)	
Dimensions	1.8x7.7x8.0 inch (47.0 x 197.0 x 203.3mm)	
Weight	13.62 oz (386.1 grams) including batteries (AAA*2pcs)	

Note: Under an electromagnetic field of 3V/m from 90 to 360 MHz the maximum error is +/-18°F

**!** Caution: The measure range is for thermometer (IRT) use only. User should choose proper probe type which best suits the application.

**!** When using a probe with K-Socket Thermocouple feature, be sure the target does 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 circuit where voltage exceeds 24V AC RMS or 60V DC with the thermocouple probe.

**!** EMC/RFI: Readings may be affected if the unit is operated within a strong radio frequency electromagnetic field, but the performance of the instrument will not be permanently affected.



**Spark Industries, LLC**  
 2363 Teller Rd. Suite 104  
 Newbury Park, CA 91320  
 www.sparkindustries.net  
 www.microtempusa.com