

**FLUKE**®

**566/568**

*Infrared Thermometers*

**Getting Started**

PN 2812159

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# *Infrared Thermometers*

## *Introduction*

The 566 and 568 Infrared Thermometers (the thermometers) are for non-contact temperature measurement. These thermometers determine an object's surface temperature by measuring the amount of infrared energy radiated by the object's surface. The thermometers also support contact-temperature measurement via K-type thermocouple. See the Users Manual CD for complete operating instructions. Note that the Japanese models indicate Celsius only.

## *Safety Information*

### **⚠ Warning**

**A Warning identifies conditions and actions that pose hazards to the user. To avoid personal injury, follow these guidelines:**

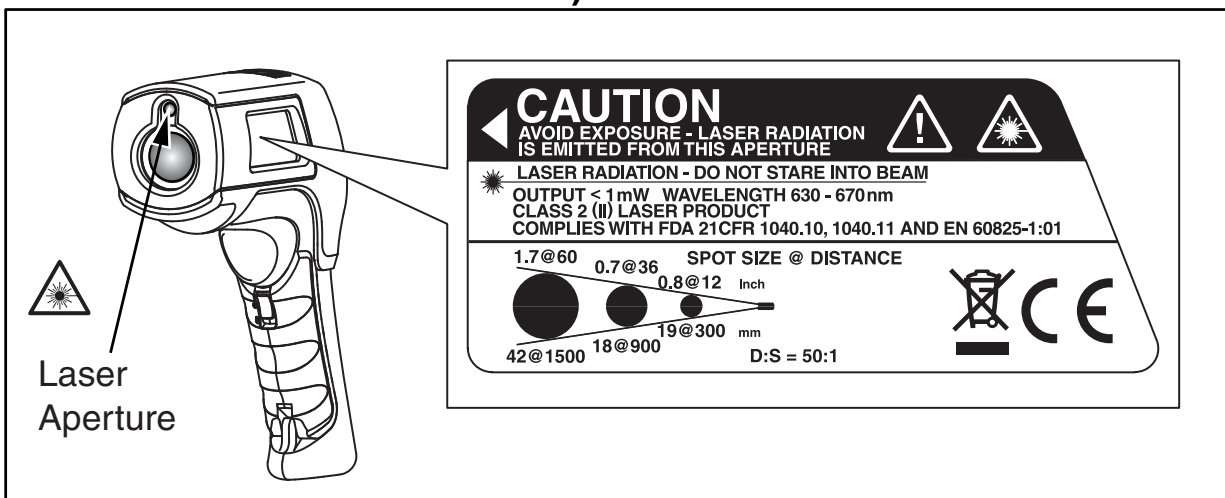
- **⚠ Do not point laser directly at eye or indirectly off reflective surfaces.**
- **Replace the batteries as soon as the low-battery indicator appears.**
- **Do not use the thermometer if it operates abnormally. Protection may be impaired. When in doubt, have the thermometer serviced.**
- **Do not operate the thermometer around explosive gas, vapor, or dust.**
- **Do not connect the optional external probe to live electrical circuits.**

- To avoid a burn hazard or fire, know that reflective objects may be much hotter than the indicated temperature reading.
- Do not leave the thermometer on or near objects of high temperature.
- Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser radiation exposure.
- If the thermometer is used in a manner not specified by the manufacturer, the protection provided by the thermometer may be impaired.

### ⚠ Caution

To avoid damaging the thermometer or the equipment under test, protect them from the following:

- EMF (electro-magnetic fields) from arc welders, induction heaters, etc.
- Static electricity
- Thermal shock (caused by large or abrupt ambient temperature changes- for highest accuracy, allow 30 minutes for thermometer to stabilize before use).



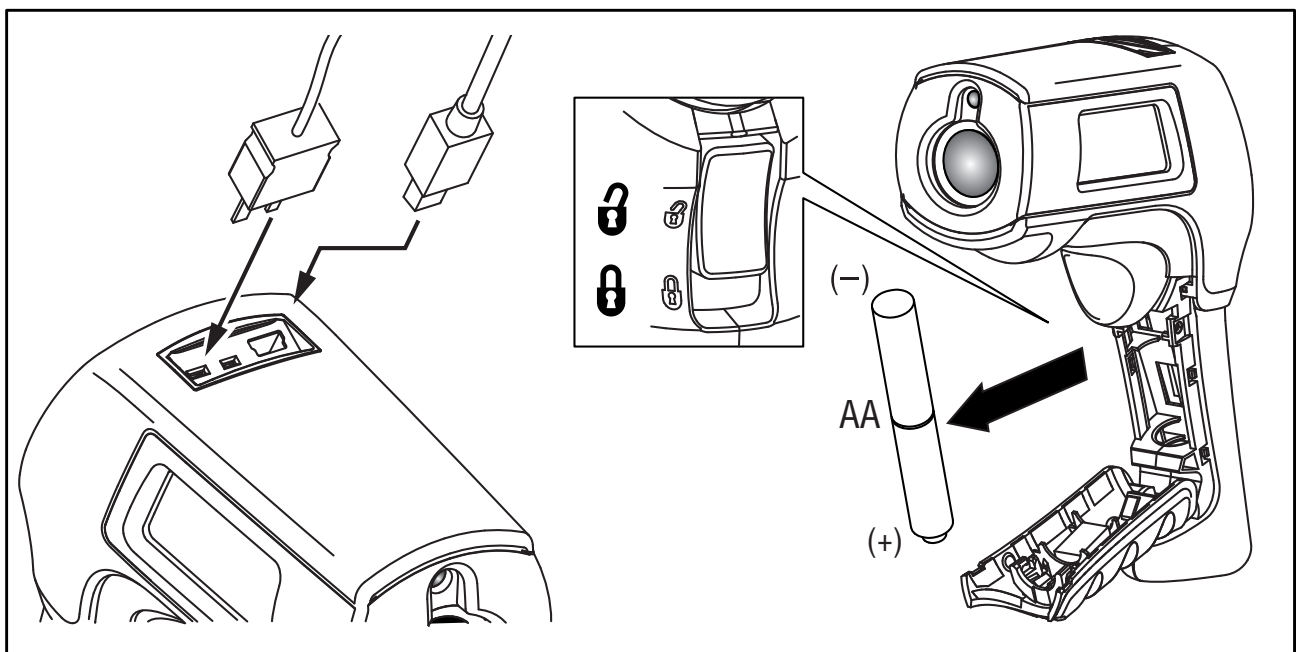
ewm08b.eps

Figure 1. Laser Safety Markings

## **Using the Thermometer**

To take a temperature reading, point the Thermometer at the desired object and pull the trigger. You can use the laser pointer to help aim the Thermometer. You may also insert the K-type thermocouple probe for contact measurement.

## **Connecting the K-Type Thermocouple, USB Cable (568 Only), and Changing Batteries**

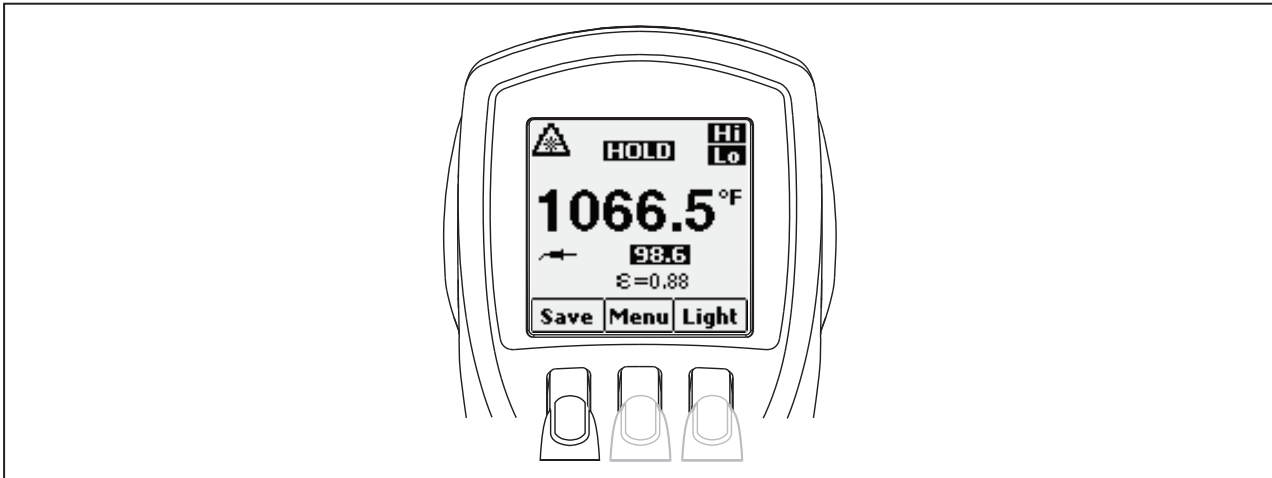


ewm04.eps

**Figure 2. Thermocouple and USB Connection and Changing Batteries**

## **Menu Overview**

There are many settings that can be easily changed by using the menu. Table 1 is a top-level description. Selecting the **Menu** button advances the menu to the next level. Figure 3 shows the LCD and menu interface. The Users Manual explains the menus in full detail.



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**Figure 3. Menu Navigation**

**Table 1. Top-Level Menu Description**

Level	Left Softkey	Description	Center Softkey	Right Softkey	Description
1	<b>Save</b>	Save reading to memory	<b>Menu</b>	<b>Light</b>	Turn on bright backlight
2	<b>Mem</b>	Review / delete memories	<b>Menu</b>	$\epsilon$	Set emissivity
3	<b>MnMx</b>	Enables Min/Max	<b>Menu</b>	<b>Avg</b>	Enable Avg/Diff
4	<b>°F/°C</b>	Toggle between C and F	<b>Menu</b>	<b>Alarm</b>	Set and enable alarms
5	<b>🔒 (Lock)</b>	Lock the thermometer on	<b>Menu</b>	<b>Laser</b>	Toggle the laser on/off
6	<b>Setup</b>	<ul style="list-style-type: none"> <li>- Turn off backlight</li> <li>- Change Time/Date</li> <li>- Change Language</li> </ul>	<b>Menu</b>		

## Specifications Summary

See Users Manual on CD for full specifications.

<b>Feature</b>	<b>566</b>	<b>568</b>
<b>IR Temperature Range</b>	-40 °C to 650 °C (-40 °F to 1202 °F)	-40 °C to 800 °C (-40 °F to 1472 °F)
<b>Accuracy above 0 °C (32 °F)</b>	> 0 °C: ±1 % or ±1.0 °C (> 32 °F: ±1 % or ±2 °F), whichever is greater	
<b>K T/C Temperature Range</b>	-270 °C to 1372 °C (-454 °F to 2501 °F)	
<b>K T/C Input Accuracy</b>	-270 °C to -40 °C: ±(1 °C + 0.2 °/1 °C) (-454 °F to -40 °F: ±(2 °F + 0.2 °/1 °F)) -40 °C to 1372 °C: ±1 % or 1 °C (-40 °F to 2501 °F: ±1 % or 2 °F), whichever is greater	
<b>Distance:Spot (90 % energy)</b>	30:1	50:1
<b>Laser sighting</b>	Offset single laser <1 mW	
<b>Minimum spot size</b>	19 mm	19 mm
<b>Emissivity</b>	Digitally adjustable from 0.10 to 1.00 by 0.01	
<b>Data storage</b>	20 points	99 points
<b>Communication</b>	None	USB 2.0
<b>Operating Altitude</b>	3000 meters above mean sea level	
<b>Storage Altitude</b>	12,000 meters above mean sea level	
<b>Relative Humidity</b>	10 % to 90 % RH non-condensing up to 30 °C (86 °F)	
<b>Operating Temperature</b>	0 °C to 50 °C (32 °F to 122 °F)	
<b>Storage Temperature</b>	-20 °C to 60 °C (-4 °F to 140 °F)	
<b>Power</b>	2 AA /LR6 Batteries	2 AA /LR6 Batteries or USB connection when used with a PC
<b>Battery Life</b>	12 hours with laser and backlight on; 100 hours with laser and backlight off, at 100 % duty cycle (continuously on)	

<b>Feature</b>	<b>K-Type Thermocouple Probe (Bead Type)</b>
<b>Measurement Range</b> <b>Accuracy</b> <b>above 0 °C (32 °F)</b>	-40 °C to 260 °C (-40 °F to 500 °F)  ±1.1 °C (±2.0 °F)