

# 93984 Thermometer Operating Instructions

93984 series thermometer is a non-contact infrared thermometer. Simply aim the thermometer at the target and press the 'Scan' button to display the surface temperature.

## Laser Information:

By partially pressing the 'Scan' button, the device will begin to measure the temperature of the target. When the 'Scan' button is completely depressed, the laser will operate.



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**CAUTION**

LASER LIGHT  
DO NOT STARE INTO BEAM

Max. Output: < 1mW,  
Wavelength: 635-660 nm  
CLASS II LASER PRODUCT

This product complies with CE, FCC, RoHS, IEC60601-1  
Diode Mfr.: Sanyo & Sharp Corp.  
4F: NOL, Lane 130E, Sec 4, Hsin Yi Rd., Taipei, China  
Mfr. Date: ITEM 93984 Made in China

## CAUTION!

1. NOT FOR FOOD SAFETY OR MEDICAL USE.
2. CONTAINS SMALL PARTS. KEEP OUT OF REACH OF CHILDREN.

## °C OR °F MODE

To change from °C to °F or from °F to °C, first turn the instrument on by pressing the 'Scan' button. Then press the 'Mode' button four times, the °C or °F symbol will flash. Press the 'Scan' button to change to scale, then press the 'Scan' button to confirm the mode.

## MINIMUM OR MAXIMUM MODE

To utilize the minimum or maximum mode: first turn the instrument on by pressing the 'Scan' button. Then press the 'Mode' button once for minimum or twice for maximum function. The 'MIN' or 'MAX' icon will flash, then press the 'Scan' button to confirm the minimum or maximum mode. The unit will display the minimum or maximum reading only.

## LOCK MODE

The lock mode is particularly useful for continuous monitoring of temperatures.

To utilize the unit's LOCK mode: first turn the instrument on by pressing the 'Scan' button, then press the 'Mode' button three times for the lock mode function. The lock icon will flash, then press the 'Scan' button to confirm the lock 'Scan' mode. It will continuously display the temperature for up to 60 minutes or until the 'Scan' button is pressed again.

## LCD ERROR MESSAGES

The thermometer incorporates visual diagnostic messages as follows:

「Hi」

'Hi' or 'Lo' is displayed when the temperature being measured is outside of the range of the instrument, 'Hi' when higher than +250°C (482°F) and 'Lo' when lower than -33°C (-67°F).

「Lo」

「Er 2」

'Er2' is displayed when the unit 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). In both cases you should allow plenty of time (minimum 30 minutes) for the unit stabilize to the working/room temperature.

「Er 3」

「Er」

For all other error messages it is necessary to reset the unit. To reset it, turn the instrument off, remove the battery and wait for a minimum of one minute, reinsert the battery and turn on. If the error message remains please contact the Service Department for further assistance.

## BATTERIES

The unit has two separate batteries. The battery closer to the side of the laser beam output is for laser operation only. The other battery is designated for temperature measurements. The unit can still measure temperature properly, even without the laser battery.

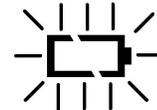
This item incorporates visual low battery indication (for the lower battery) as follows:



'Battery OK':  
measurements  
are possible



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



'Battery Exhausted':  
measurements are  
not possible

## BATTERY REPLACEMENT

When the 'Low Battery' icon indicates the battery is low, the battery should be replaced immediately with a CR2032 lithium cell. The battery is located under the twist cover at the rear of the thermometer. Please note: It is important to turn the instrument off before replacing the battery otherwise the unit may malfunction.

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

## STORAGE & CLEANING

The sensor lens is the most delicate part. 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. Do not submerge any part of this item. This

item should be stored at room temperature between -20 to +65°C (-4 to +149°F).

## SPECIFICATION

Measurement Range	-33 to +250°C (-27~482°F)
Operating Range	0~50°C (32~122°F)
Accuracy (Tobj=15-35°C, Tamb=25°C)	+/-1.0°C (1.8°F)
Accuracy (Tobj=-33~250°C, Tamb=23±3°C)	±2% of reading or 2°C (4°F) whichever is greater
Resolution (-9.9~199.9°C)	0.1°C / 0.1°F (switchable)
Response Time (90%)	1 second
Distance: Spot	6:1 optics ratio
Emissivity	0.95 fixed
Battery Life	Typ. 40hr, min 30hr (auto power off after 15 seconds)
Battery	CR2032 (for Laser, 2pcs required)
Dimensions	22.5 x 50 x 103mm
Weight	65 grams including batteries

## 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.

There are no user serviceable parts inside the instrument. Any attempted repair by unqualified persons voids the warranty.

## Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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