

**1 YEAR**  
WARRANTY



# User's Guide



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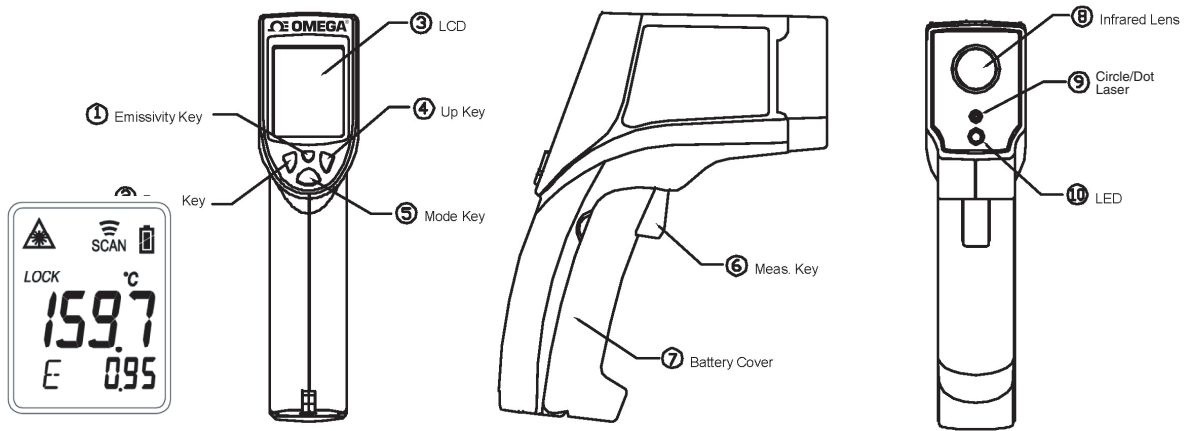
MADE IN TAIWAN

# OS423-LS

## Non-contact Infrared Thermometer with White LED Flashlight

# OS423-LS (with white LED Flashlight) Thermometer Operating Instructions

The OS423-LS is a non-contact infrared thermometer with mathematical modes for the Infrared function.



## (Default Screen)

**Simply aim the thermometer at the measure target with Lens (8) and press Meas. key (6) to display the surface temperature. The Distance:Spot is 30:1. Please make sure the target area is within the field of view.**

## FUNCTION

**Press Emissivity key (1) for setting the emissivity**



Press Emissivity key (1), then press Up key (4) or Down key (2) to **set the emissivity**, then press Mode key (5) to confirm it. The emissivity can be changed from 0.10 (10E) to 1 (100E).

**Press Mode key (5) for scrolling more display function as follows.**



Here will show the emissivity data. (The default emissivity is 0.95.)

Press Mode key (5) for the **Maximum (MAX), Minimum (MIN), Different between MAX and MIN (DIF) and Average (AVG) modes. During the measurement, the special modes reading will be displayed beside the mode icon.**

Press Up key (4) or Down key (2) key to change the **High Alarm (HAL)** or **Lo Alarm (LAL)**, then press Meas. key (6) to confirm it. For example: When the reading 26.9°C < LAL 27°C, the Low icon will flash and you will hear a beep sound.

\*\* The thermometer will automatically shut off if left idle for more than 60sec.

## ADD VALUE

<b>In MAX, MIN, DIF, AVG mode:</b>	Press Up key (4) for <b>LOCK mode ON/OFF</b> . The lock mode is particularly useful for continuous monitoring of temperatures for up to 60 minutes.
	Press Down key (2) for °C or °F transferred.
<b>In all modes: First hold on the Meas. key (6)</b>	and press Up key (4) for <b>backlight function</b>
	and press Down key (2) for <b>laser circle/dot function ON/OFF</b> . (With flash light be turned on in the same time as laser)



U.S. PAT. B1 5,368,392; 5,524,984; 5,727,880; 5,823,678; 5,823,679; 6,123,453; 6,267,500 B1; 6,341,891 B1; 6,377,400 B1; 6,540,398 B2 ; 6,614,830 B1; 6,633,434 B2; 6,659,639; 6,901,089 B1, 7,052,175 / Canada 2,114,806; 2,317,734 / France 2 756 920; 2 767 921; 2,773,213; 2 773 214 / Germany G 94 22 197.9; G 94 22 203.7, 19828454/ Holland 1007752; / U.K. Registered 2,237,493; 2,320,324; 9726133.3 / EPO 0 644,408 B2; EPO 1 085 307 A1, EPO 1 065 484 B1, EPO 1 065 483 B1. Other U.S. and International Patents Pending.

## 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.


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


The sensor lens is the most delicate part of the thermometer. 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 thermometer. Do not submerge any part of the thermometer.


## LCD ERROR MESSAGES

The thermometer incorporates visual diagnostic messages as follows:

 } '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  $0^{\circ}\text{C}$  ( $32^{\circ}\text{F}$ ) or  $+50^{\circ}\text{C}$  ( $122^{\circ}\text{F}$ ). 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, wait for auto power 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.

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



'Battery Exhausted': measurements are not possible

⚠ 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.

## SPECIFICATION

Item	Non-contact Infrared Scan function
Measurement Range	$-60$ to $+860$ °C ( $-76$ to $+1580$ °F)
Operating Range	$0$ to $+50$ °C ( $32$ to $+122$ °F)
Accuracy ( $T_{obj}=15\sim 35^{\circ}\text{C}$ , $T_{amb}=25^{\circ}\text{C}$ )	$\pm 1.0^{\circ}\text{C}$ ( $1.8^{\circ}\text{F}$ )
Accuracy ( $T_{obj}=-33\sim 860^{\circ}\text{C}$ , $T_{amb}=23\pm 3^{\circ}\text{C}$ )	$\pm 2\%$ of reading or $2^{\circ}\text{C}$ ( $4^{\circ}\text{F}$ ) whichever is greater
Emissivity Range	0.95 default – adjustable 0.1 to 1 step .01
Resolution ( $-9.9\sim 199.9^{\circ}\text{C}$ )	$0.1^{\circ}\text{C}/0.1^{\circ}\text{F}$
Response Time (90%)	1sec
Distance:Spot	30:1
Battery Life	Typ.180, min 140 hours continuous use (Alkaline, without Laser and Back Light.)
Dimensions	47.0 x 154.9 x 193.1mm(1.8_6.0_7.6 inch)
Weight	344.8 grams(12.16 oz) including batteries (AAA*2pcs)

Note: Under the electromagnetic field of 3V/m from 200 to 600 MHz, the maximum error is  $10$  °C ( $18$  °F).

⚠ **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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**WARNING:** These products are not designed for use in, and should not be used for, human applications.

**WARRANTY/DISCLAIMER**

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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