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User's Guide

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MADE IN CHINA



OS449L-30 Non-Contact Infrared Thermometer

It is the policy of OMEGA Engineering, Inc. to comply with all worldwide safety and EMC/EMI regulations that apply. OMEGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the CE mark to every appropriate device upon certification.

The information contained in this document is believed to be correct, but OMEGA accepts no liability for any errors it contains, and reserves the right to alter specifications without notice.

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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CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

RETURN REQUESTS / INQUIRIES

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.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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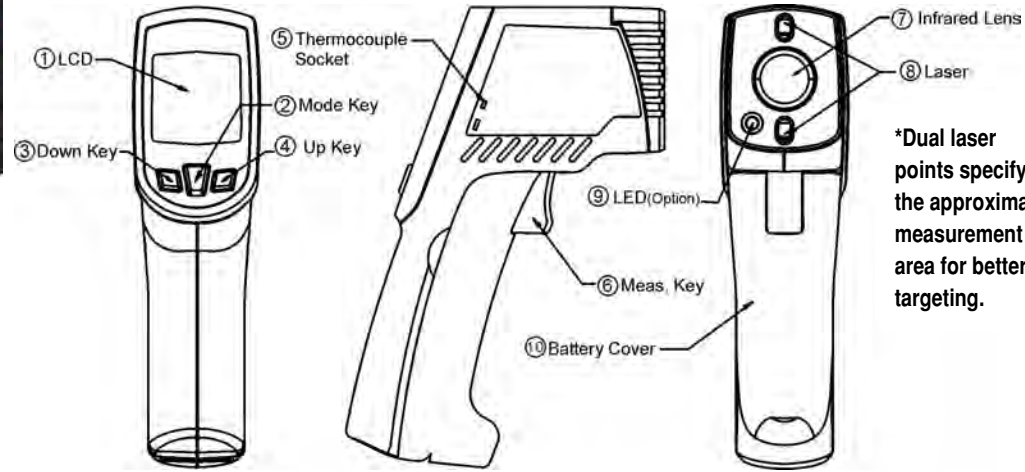
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M5026/0611

OS499L-30 (with white LED Flashlight) Thermometer Operating Instructions

For Model with thermocouple socket

The thermometer is a non-contact infrared thermometer. There are many mathematical modes for the Infrared function. Please remember to keep away from children and don't use it for safety related applications.



(Default Screen)
Simply aim the thermometer at the measure target with Lens (7) 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.

Distance:Spot is 30:1. Please make sure the target area is within the field of view.

*Dual laser points specify the approximate measurement area for better targeting.

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

	Here will show the emissivity data. (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).
	Press Mode key (2) 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 (3) key to change the High Alarm (HAL) or Lo Alarm (LAL) , then press Meas. key (6) to confirm it. When the reading is outside the High Alarm (HAL) or Lo Alarm (LAL) limit. The High or Low icon will flash and you will hear a beep sound.
	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 button. To see the minimum or maximum data during the probe measurement, please hold down the Up key (4) or Down key (3).
	⚠ After measure high temp, the probe may remain HOT for a while.

** 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 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 transferred .
In MAX, MIN mode: Hold on the Meas. key (6)	The Bar display indicates the measuring temperature. The bar shows RED color when the reading is close to maximum value, and shows BLUE when close to minimum. While the temperature is between the maximum and minimum, the bar will display in YELLOW .
Backlight	LCD Backlight: always on.
In all modes: First hold on the Meas. key (6)	and press Down key (3) for laser function ON/OFF .

⚠ CAUTION

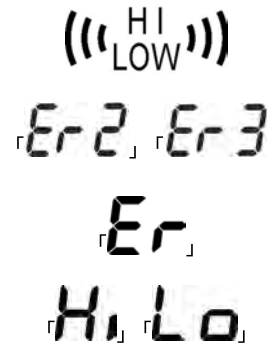
1. WHEN DEVICE IS IN USE, DO NOT LOOK DIRECTLY INTO THE LASER BEAM—PERMANENT EYE DAMAGE MAY RESULT.
2. USE EXTREME CAUTION WHEN OPERATING THE LASER.
3. NEVER POINT THE DEVICE TOWARDS ANYONE'S EYES.
4. KEEP OUT OF REACH OF ALL CHILDREN.

STORAGE & CLEANING

It should be stored at room temperature. 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 'Low' 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 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	Thermocouple Probe Scan function (K type; probe not included.)
Measurement Range	-60 to +760°C (-76 to +1400°F)
Operating Range	0 to +50°C (32 to +122°F)
Accuracy (Tobj=15~35°C, Tamb=25°C)	±1% of reading or 1°C (1.8°F) whichever is greater (Test under Tamb=23±6°C)
Accuracy (Tamb=23±3°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
Response Time (90%)	1sec
Distance:Spot	30:1(90% energy covered)
Battery Life(Alkaline)	Min. 30 hours continuous use without laser Min. 7 hours continuous use with laser Min. 3 hours continuous use with laser and white LED(TN499LCE)
Dimensions	119.2*47.5*171.8 mm (4.7*1.87*6.76 inch)
Weight	255.7 grams(9.02 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).

⚠ **Caution: The measure range is for thermometer only. User should choose proper probe types for different kinds of application. 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 circuit 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.



Ref.No. : 042011