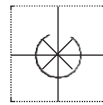


 **CAUTION!** – This product is not intended for medical use or use on humans



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OSAE-Series OS-AE11 Model Compact Fixed IR Sensor with Adjustable Emissivity, 6 Digit LCD and Analog Output



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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.

The OSAE-Series is a non-contact infrared temperature sensor. The electronics are protected by a rugged IP65/NEMA 4 aluminum alloy(A6061) housing. They calculate the surface temperature based on the emitted infrared energy of objects and convert the energy into temperature signal.

1. Scope of Delivery

- OSAE-Series Sensor
- Mounting nut x 2
- 3m connection cable standard
- User manual

2. Maintenance

Keep the lens clean at all times. Any foreign matter on the lens would affect measurement accuracy. Blow off loose particles using clean compressed air. The lens surface can be cleaned with a soft, humid tissue moistened with water or a water-based glass cleaner. Never use cleaning compounds which contain solvents for the lens.

3. Electrical Interference

Keep away from strong EMF. Avoid static electricity, arc welders, and induction heaters. Avoid abrupt changes of the ambient temperature. To avoid ground loops, make sure that only one point is earth grounded.

4. Technical Data

Measurement Specifications

Temperature Range	0°C~500°C
Optics Resolution	D:S = 20:1 (90% energy)
Response Time	150ms (95%)
Spectral response	8~14 μ m
Accuracy*1	\pm 1% of reading or \pm 1.5°C, which is greater
Repeatability*1	\pm 0.5% of reading or \pm 1°C, which is greater
Emissivity	0.100~1.000

Electrical Specifications

Power Supply	24 VDC \pm 20%, < 100 mA
Analog Output	4~20mA
Minimum Impedance Load	10 K Ω (V)
Maximum Loop Resistance	500 Ω (I)

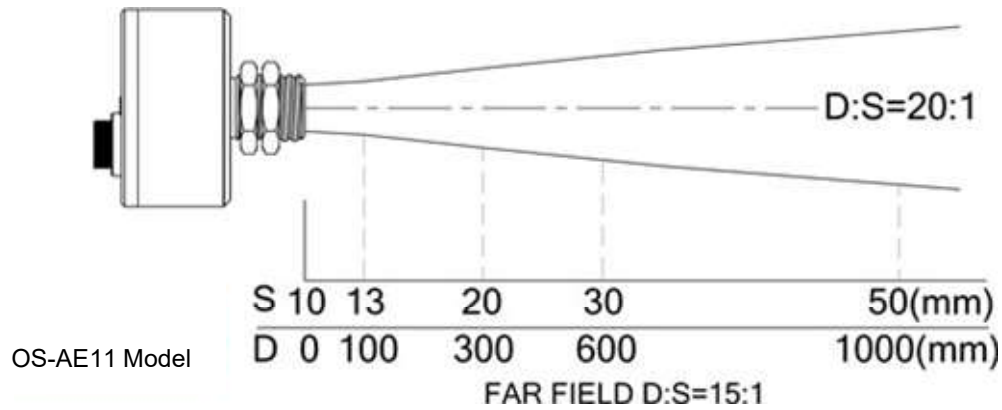
General Specifications

Environmental Rating	IP 65 (NEMA-4)
Ambient Temperature	0°C~70°C
Storage Temperature	-20°C~85°C
Relative Humidity	10%~95%, non-condensing
Cable Temperature	-20°C~80°C
Cable Length	3 m (standard), 5m or 10m
Weight	200g

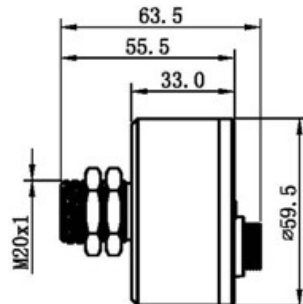
At 23°C \pm 5°C emissivity = 0.95

5. Optical Chart

The optical diagrams indicate the target spot diameter at any given distance between the target object and the sensing head. The spot size will change in longer distance corresponding to the following drawing. In order to prevent measuring errors the object must be as least as big as the spot size.

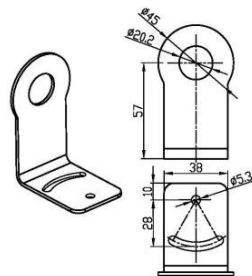


6. Dimensions

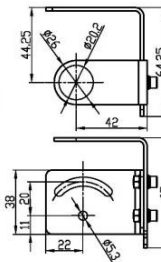


7. Accessories

OS-FMB



OS-AMB



8. Installation

Mechanical Installation

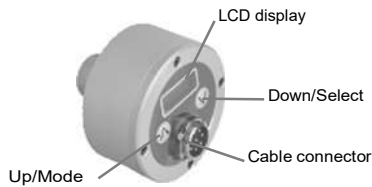
The OSAE-Series sensors come with a standard 3 m cable and 2 mounting nuts. You can mount the sensor in brackets or cutouts of your own design. For easy mounting and aligning the sensor to the measured object a fixed or adjustable mounting bracket is available.

Wiring

<u>(4~20mA output)</u>	
red	-----24VDC power (+)
black	-----24VDC power (-)
white4~20mA signal(+)
green4~20mA signal(-)
bare	----- Shield Ground

<u>(4~20mA, 2-wire)</u>	
red	----- Loop (+)
black	----- Loop (-)
bare	----- Shield Ground

9. Operation



Sensor Setup :

1. Pressing the up (Λ) key and down (∨) keys simultaneously to enter setup function.
2. Press the up (Λ) key to select the functional parameter.
3. Press the down (∨) key, when a (–) symbol appears at the right side of the selected function confirming Setting Mode.
4. Press the down (∨) or up (Λ) key to setup the functional parameter.
5. No action for 7 seconds forces the unit to leave the Setting Mode and save the parameter.

Display	Mode	Adjustment Range
E 0.950	Emissivity	0.100 ~ 1.000
A 0.2	Signal output Average	0.0 ~ 600.0s
P 0.0	Signal output Peak hold (inactive)	0.0 ~ 600.0s
V 0.0	Signal output Valley hold (inactive)	0.0 ~ 600.0s
AP OFF	Advanced Peak hold (inactive)	ON / OFF
AP 0	Trigger Value for AP	depending on user
The signal processing features (Peak, Valley and AP hold) cannot be used concurrently.		
L 0	Lower Limit signal output [0V / 4mA]	0 ~ 500°C
H 500	Upper Limit signal output [5V / 20mA]	
Unit C	Temperature unit	°C / °F

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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF

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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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