WARRANTY/DISCLAIMER
OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of 13 months from the date of purchase. OMEGA’s WARRANTY adds an additional one (1) month grace period to the normal one (1) year product warranty to cover shipping and handling 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 vibrations, 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 statements 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, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA for any claim, breach of warranty, negligence, indemnification, strict liability or otherwise, with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

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 Products be used in or with any nuclear installation or activity, medical application, used on humans, or mishandled 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 Products 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.

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.
3. Repair instructions and/or specific problems relative to the product.

FOR NON-WARRANTY REPAIRS, please have the following information available before contacting OMEGA:
1. Model and serial number of the product, and
2. 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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Using This Quick Start Manual
Use this Quick Start Manual with your OS100E Series mini-infrared transmitter for quick installation and easy operation. Refer to the full manual for detailed information (M3572A).

General Information
The low cost OS101E mini-infrared transmitter provides non-contact temperature measurement for industrial applications. The unit measures a temperature range of -18 to 538°C (-0 to 1000°F) and provides a linear analog output of either 4-20 mA, 0-5 VDC, K type TC, 1 mV/°C, or 1 mV/°F.

The new OS102E mini-infrared transmitter has all the functions of OS101E plus a built-in LED display that shows the measured temperature in degrees F or degrees C which is switchable in the field.

Sensor Head Cable
The Sensor head is pre-wired to a 1.8 m (6 feet) shielded cable. The miniature sensor head design 2.5 cm dia. X 7 cm (1” X 2.5”) is ideal for measuring temperature in confined, and hard to reach places.

Electrical Connection
Sensor Head Cable
The sensor head is pre-wired to a 1.8 m (6 feet) shielded cable. Plug & lock in the male connector to the mating female connector on the aluminum housing.

Power & Output Connection
Open the cover of the main aluminum housing. Slide the cable through the strain relief and connect the wires to the terminal block on the board as shown below.

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Operating Manual
Here are the important components on the Main Board, as shown below.

1. Terminal Block for Power & Output connections
2. Single Turn Potentiometer to adjust Emissivity in tenths (0.x)
3. Single Turn Potentiometer to adjust Emissivity in hundreds (0.x)
4. Slide switch to select between real time Normal Operation) and alarm set point.
5. Alarm set point adjust, P3
6. °F to °C Jumper setting

Ambient Temperature
The Sensing head can operate in an ambient temperature of 0 to -5°C (32 to 158°F). The Sensing head in the high temperature model (+HT) can operate in an ambient temperature of 0 to 85°C (32 to 185°F) without any cooling required. The Sensing head can operate up to 200°C (392°F) using the water cool jacket accessory OS100-WC.

There is a warm up period of 3 minutes after power up. After the warm up period, temperature measurement can be made.

When the ambient temperature around the sensor head changes abruptly, the sensor head goes through thermal shock. It takes a certain amount of time for the sensor head to stabilize to the new ambient temperature. For example, it takes about 30 minutes for the sensor head to stabilize going from 25°C to 50°C (77 to 122°F) ambient temperature.

The sensor head dimensions are shown below.

Measure the analog output, and set the

Set the slide switch (SW1) on the main board to the Alarm position.

Alarm Setting
The unit provides 0-100% alarm set point adjustment. Here is an example of an alarm setting.

- An OS101E-MA (4/20 mA output), the alarm is to be set at 400°F temperature.
- Connect the alarm output as shown in Alarm Output Connection diagram.
- Set the slide switch (SW1) on the main board to the Alarm position.
- Measure the analog output, and set the Potentiometer P3 until the output reads 10.4 mA which is 40% (400°F) of the temperature range.
- Set the slide switch (SW1) back to the Real Time position.

If the temperature reading is below the alarm set point the alarm output stays high, otherwise it goes low. On the OS102E, you can set the alarm set point directly based on the temperature display.

Adding Extension Cable
You can add an extension cable between the Sensor Head and the main electronic housing up to 15.2 m (50 feet). If adding an extension cable, you must refer to the section RS-232 Communication in order to adjust the cable offset through your PC’s terminal.

Mounting Dimensions
Please refer to pages 3-10 and 3-11 in the full manual (M3572A) for diagrams of mounting dimensions.