

# OMEGA

RH62F-MV

Humidity Temperature Transducer



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# INTRODUCTION


This instrument is a portable, compact-sized Humidity Temperature Transducer designed for simple one hand operation. Uses Platinum Resistance Temperature Detector Pt385/1000w ( $\text{Alpha}=0.00385$ ) as temperature sensor, and uses thin film polymer capacitive type relative humidity sensor as hygrometer sensor.

## SAFETY INFORMATION

It is recommended that you read the safety and operation instructions before using the humidity temperature transducer.

### CAUTION

- Do not immerse the transducer sensor head into liquids since this causes permanent damage to the sensor.
- The meter when not in use, please use protective metal cap cover the sensor head and rotate clockwise it to extend sensors life.

The  symbol on the instrument indicates that the operator must refer to an explanation in this manual.

# SPECIFICATIONS

## GENERAL

**Low battery indication:** The "Red LED" is displayed when the battery voltage drops below the operating level.

**Accuracy:** Stated accuracy at 73.4°F ± 9°F, <75% relative humidity.

Temperature Coefficient: 0.056 times the applicable accuracy specification per °F from 32°F to 64.4°F and 82.4°F to 122°F.

**Operating environment:** 32°F to 122°F at <75% relative humidity.

**Storage environment:** -4°F to 140°F at <80% relative humidity.

**Battery:** 4 pcs 1.5V (AAA size).

**Battery Life:** 200 hours typical.

**Dimensions:** 170mm(H) x 44mm(W) x 40mm(D).

**Weight:** 7.05oz (including probe and batteries).

## **ELECTRICAL TEMPERATURE**

**Temperature Scale:** Fahrenheit.

**Temperature Sensor:** RTD Pt385/1000 $\omega$ .

**Measurement Range:** -4°F to 140°F.

**Temperature Output:** 10mV/°F.

**Accuracy:**  $\pm 0.9^\circ\text{F}$       32°F to 122°F  
 $\pm 1.8^\circ\text{F}$       -4°F to 32°F, 122°F to 140°F

## **RELATIVE HUMIDITY**

**Humidity Sensor:** Electronic capacitance polymer film sensor. (The sensor is unaffected by water condensate, is immune to most reagent vapors)

**Measurement Range:** 0% to 100%RH.

**Relative Humidity Output:** 10mV/%RH.

**Accuracy:**  $\pm 2.5\%RH$  (10% to 90%RH)  
 $\pm 5\%RH$  (<10%, > 90%RH)

**Sensor Response Time for 90% of Total Range:** 60sec typical.

**Sensor Stability:**  $\pm 2\%RH$ , 2 years typical.

**Sensor Hysteresis (excursion of 10% to 90% to 10% RH):**  $\pm 1\%$  RH typical.  
**Sensor Temperature Dependence:** Negligible between 32°F to 122°F.

## OPERATON

1. Plug the humidity temperature transducer test leads into the Vdc input jack and common or ground input jack on the DMM. Observe polarity.
2. Set the DMM to the 200mV range.
3. Rotate counter clockwise to remove the protective metal cap.
4. Set the power switch to the desired %RH or °F range.
5. If the DMM display is over-range. Set the DMM to the 2V range.
6. Read the DMM display. (10mV/°F, 10mV/%RH)
7. Cover sensor head to extend sensor life when not in use.

## SPECIAL CONSIDERATIONS

- Before a reliable measurement can be made, the measuring hygrometer and medium to be measured must be in temperature and humidity equilibrium.
- Temperature measurement errors  
Due to too short measurement time, sunshine during the measurement, heating, cold outer walls, air draft (e.g. fans), radiating hand and / or body heat etc.
- Humidity measurement errors  
Due to steam, water splashes, dripping water or condensation (not water condensate) on the sensor etc. However, repeatability and long-term stability are not impaired by this.
- Contamination  
By dust in the air or measurements in powdery substances. This can be largely avoided by using a corresponding filter. The filter must be cleaned or replaced periodically depending upon the degree of contamination of the measuring site.

# **OPERATOR MAINTENANCE**

## **Battery Replacement**

Power is supplied by four 1.5V (AAA size) batteries. The "LOW BATT" red LED lighted when replacement is needed. To replace the batteries, remove the screw from the back of the meter and lift off the battery cover. Remove the batteries from battery contacts.

## **Cleaning**

Periodically wipe the case with a damp cloth and detergent, do not use abrasives or solvents.



## **WARRANTY**

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 **months** from date of purchase. OMEGA 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 should malfunction, 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. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being 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 which wear or which are damaged by misuse are not warranted. This includes contact points, fuses, and triacs.

**OMEGA is glad to offer suggestions on the use of its various products. Nevertheless, OMEGA only warrants that the parts manufactured by it will be as specified and free of defects**

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**SPECIAL CONDITION:** Should this equipment be used in or with any nuclear installation or activity, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the equipment in such a manner.

It is the policy of OMEGA 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 Engineering, Inc. 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, patient connected application.

## **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. P.O. 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. P.O. number to cover the **COST** of the repair.
2. Model and serial number of product , and
3. Repair instructions and/or specific problems relative to the product.

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