

## 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 LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA 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 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.

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 or calibration,
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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5

### Replace Sensor Probe

The Sensor probe can be replaced quickly for the wall mount and remote models.

The models with a replaceable sensor probe:

HX92BC, HX92BV0, HX92BV1, HX92BV2, HX92BC- RP1, HX92BV0-RP1, HX92BV1-RP1, HX92BV2-RP1.

The models without a replaceable sensor probe:

HX92BC- D, HX92BV0-D, HX92BV1-D, HX92BV2-D.

Procedure to replace the Sensor probe:

- a. Loosen the securing nut and pull the sensor probe out.
- b. Insert the new sensor probe to the M12 connector, and then tighten the securing nut to secure the connection.

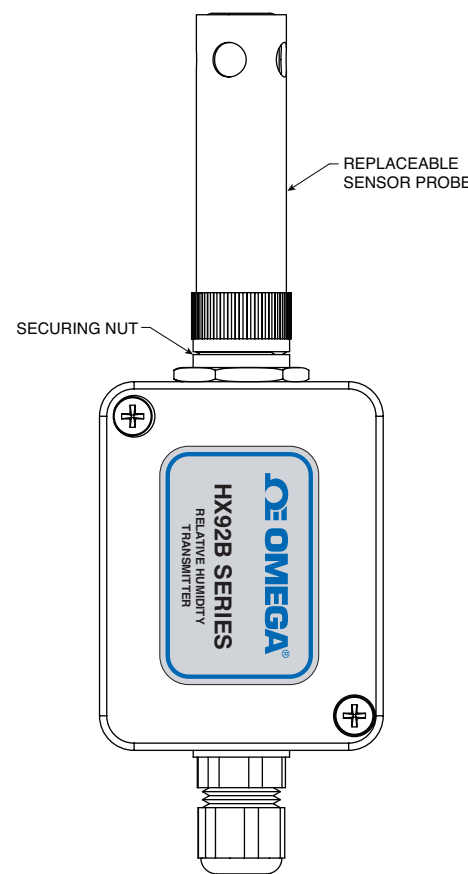


Figure 6. Sensor Probe Replacement

If your HX92B will be used in a dusty environment, the protective sensor filter (if clogged) may be removed for cleaning.

Unscrew the protective cover and gently blow compressed air through the filter screen. A soft brush may also be used to remove dirt particles from the screen.

6

If the sensor is subjected to 100% condensation, it must be dried to obtain correct readings. There will be no permanent damage or calibration shift to the unit.

Units should not be exposed to high concentrations of ammonia or alcohol vapors.

NOTE:

For the Duct Mount model Transmitter, it must be sent back to factory for sensor probe replacement and recalibration.

### Calibration:

Your transmitter has been digitally calibrated and tested in our factory to meet or exceed the specifications outlined in this manual. The transmitter must be sent back to the factory for any re-calibration request.

### Specifications:

Measuring Range: 0 to 100%

Accuracy Range: ±2.5% for 20 to 80%  
±3.5% for 5 to 20%  
±3.5% for 80 to 95%  
±4% for 0 to 5%  
±4% for 95 to 100%

Hysteresis: ±1%

Repeatability: ±0.1%

Resolution: 0.1%

Response Time: 8 Seconds typical

Sample Rate: 1 Sample every 4 second

Operating Temperature: -30 to 75°C (-22 to 167°F)

Input Power  
4-20mA: 9 to 30 Vdc @ 50mV  
0-1V: 9 to 30 Vdc @ 50mA  
0-5V: 9 to 30 Vdc @ 50mA  
0-10V: 12 to 30 Vdc @ 50mA

Max Loop Resistance: 200 Ohms @ 9 Vdc supply voltage.  
1,300 Ohm @ 30 Vdc supply.  
Ohms = ((V supply - 4 V)/0.02 A)

Max. Load (min. resistance) Resistance: 1.25K for outputs: 0 -1 Vdc, 0 - 5 Vdc. 2.40K for 0 -10 Vdc output

Sensor Type: Digital Sensor

QUICK START

For complete product manual:  
[www.omega.com/manuals/manualpdf/M5339.pdf](http://www.omega.com/manuals/manualpdf/M5339.pdf)



**HX92B**  
Relative Humidity Transmitters

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Customer Service: 1-800-622-2378 (USA & Canada Only)  
Engineering Service: 1-800-872-9436 (USA & Canada Only)  
Tel: (203) 359-1660 Fax: (203) 359-7700  
e-mail: info@omega.com

For Other Locations Visit [omega.com/worldwide](http://omega.com/worldwide)

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.

**START HERE**

### Using This Quick Start Manual

Use this Quick Start Manual with your HX92B Series Relative Humidity Transmitter for quick installation and basic operation. For detailed information refer to the User's Guide (Manual #M5339).

### General Description

The OMEGA® HX92B Series Relative Humidity Transmitter provides a linearized and temperature compensated output signal of 4 to 20mA, 0 to 1 Vdc, 0 to 5 Vdc or 0 to 10 Vdc depending upon the model selected. The output signals have been calibrated and scaled 0 to 100% Relative Humidity output scale. The digital Relative Humidity sensor is protected by a stainless steel filter that is easily removed for cleaning. The NEMA rated polycarbonate enclosure and cable entry connection provides weather tight protection. Screws are provided for mounting via internal holes inside the enclosure.

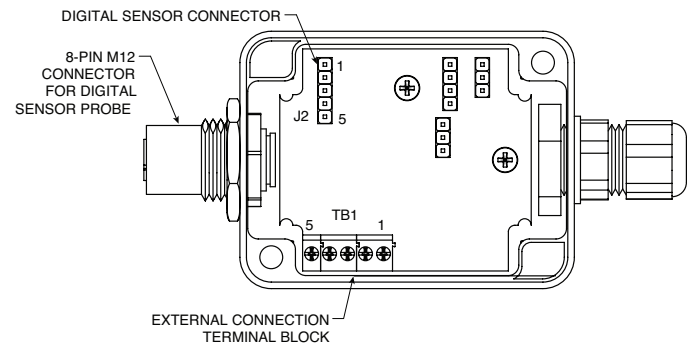


Figure 1. Transmitter Internal Diagram

### Electrical Connection (Wiring)

**CAUTION:**

All electrical connections and wiring should be performed by a suitably trained professional only.

Follow the electrical connection diagram shown in the following diagrams to set up your Relative Humidity Transmitter.

**2**

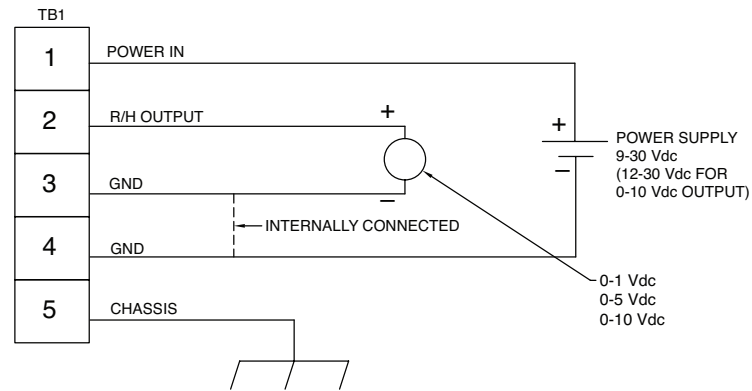


Figure 2. Voltage Output Connection Diagram

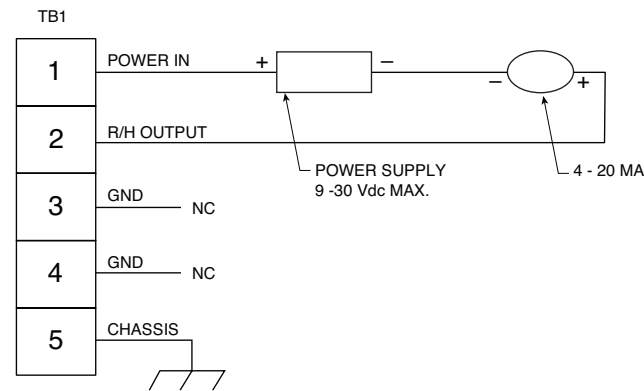


Figure 2a. Current Output Connection Diagram

### Mounting

The HX92B transmitters are designed for wall, duct or remote probe mounting depending upon the model. Plastic wall anchors and mounting screws are included with Wall Mount and Remote Probe models. A duct mounting kit is included with Duct Mount models.

See Figure 3, Figure 4 and Figure 5 for the Wall Mount, Duct Mount and Remote Probe model dimensions for your mounting reference.

**3**

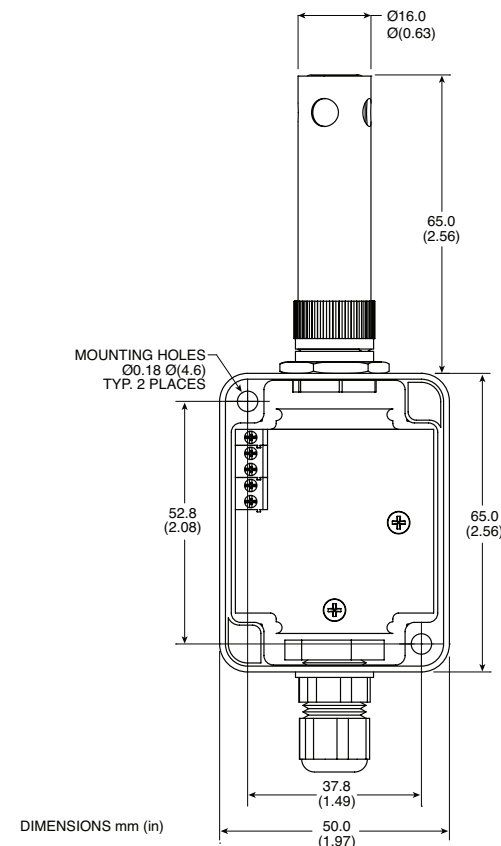


Figure 3. Wall Mount Model Dimensions

**4**

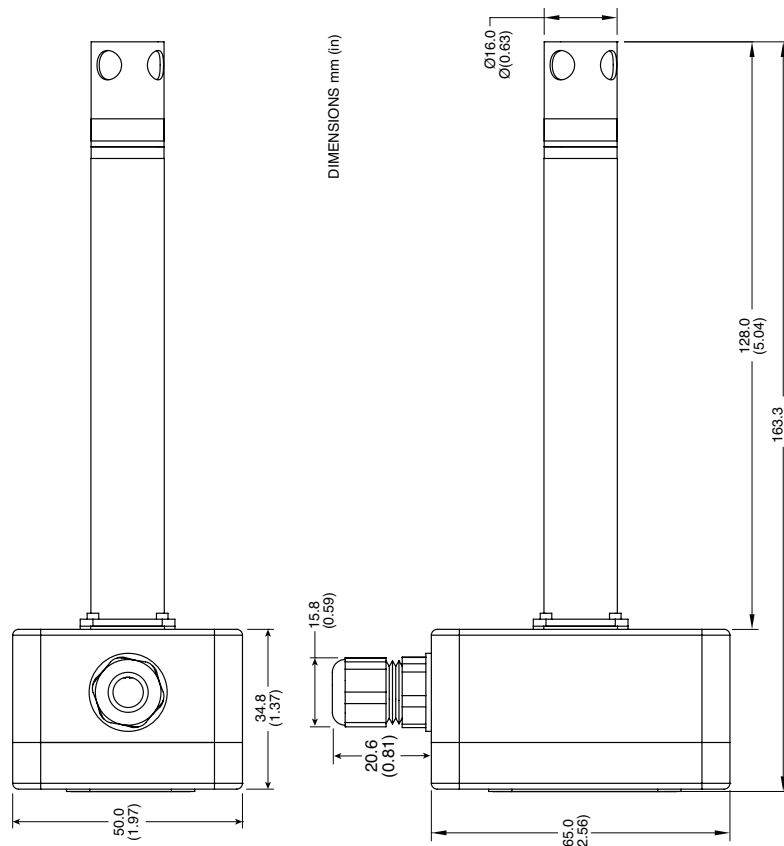


Figure 4. Duct Mount Model Dimensions

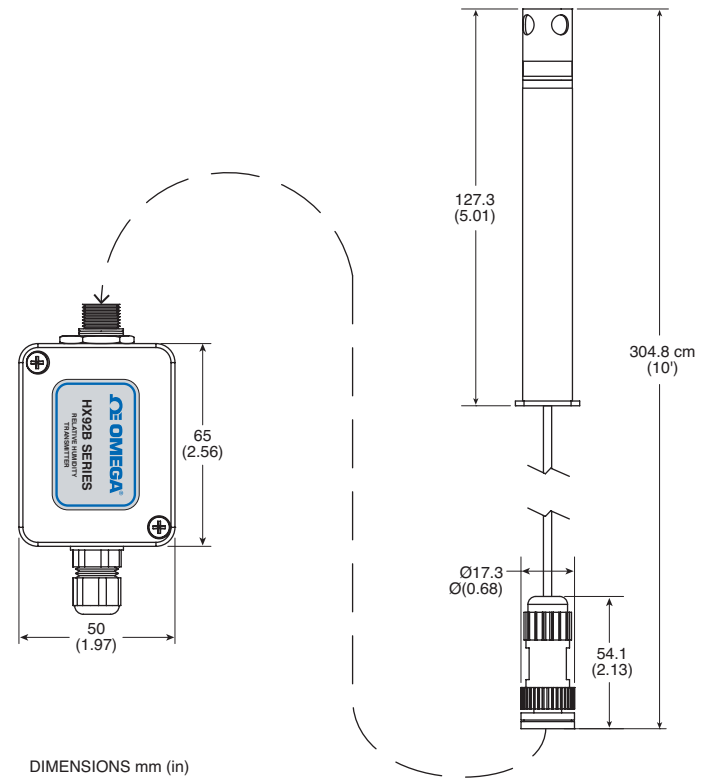


Figure 5. Remote Probe Model Dimensions

### Relative Humidity Output Calculations

To calculate % relative humidity by measuring the current or voltage output, use the following formulas:

**For current output:**

$$\%RH = (\text{Current measured in milliamps} - 4) \div 0.16$$

Where:

4 = offset current in mA.

0.16 = full scale current limit in percent (%)

**For voltage output:**

0 to 1 volt output:

$$\%RH = (\text{voltage measured in volts}) \times 100$$

0 to 5 volt output:

$$\%RH = (\text{voltage measured in volts} / 5) \times 100$$

0 to 10 volt output:

$$\%RH = (\text{voltage measured in volts} / 10) \times 100$$