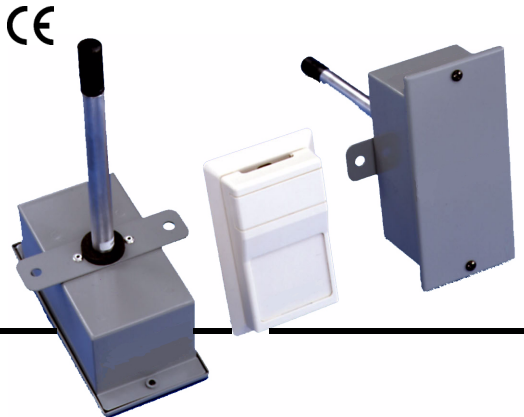


Humidity Transducer
HX49



M2606/0303



SPECIFICATIONS

Accuracy*: ± 2% RH (10 to 90% RH)

Range: 0 to 100% RH

Hysteresis: ± 1%

Supply Voltage: 12 to 40 VDC; 12 to 35 VAC VDC output transducers only (24 VDC recommended)

Supply Current: 10 mA maximum for VDC output transducers; 20 mA maximum for mA output transducers

Enclosure: 18 Ga. C. R. steel NEMA-4 (IP-65) or ABS plastic

Finish: Baked on enamel PMS2GR88B or off-white

Conformance: EMC Standards EN50082-1(1992) EN55014(1993)/EN60730-1(1992)

Compensated Temperature Range: -30°F to 130°F (-35°C to 55°C)

Environmental: 10 to 90% RH non-condensing

Termination: Unpluggable screw terminal block

Wire Size: 12 Ga. maximum

Load Impedance: 3K ohms maximum at 40 VDC (mA output transducers); 1K ohms minimum (VDC output transducers)

Weight: Duct mount: 1.0 lb. (.45 kg); Wall mount: 0.5 lbs. (.25 kg)

*Includes nonlinearity and non-repeatability.

INSTALLATION PRECAUTIONS

Disconnect the power supply before installing the transducer. Failure to do so can result in electrical shock and equipment damage.

Make all connections in accordance with the job wiring diagram and national and local electrical codes. Use only copper conductors.

Use electrostatic discharge precautions such as wrist straps when installing and wiring the transducer.

Do not exceed ratings for the transducer.

If using grounded AC, ensure that the hot wire is on the [+] terminal. Also, if using a controller without built-in isolation, use an isolation transformer to supply the transducer.

This transducer contains a half-wave rectifier power supply and must not be powered from transformers powering other devices with non-isolated full-wave rectifier power supplies.

When multiple transducers are powered from the same transformer, damage will result unless all 24-gauge power leads are connected to the same power lead on all transducers. Maintain the correct phasing when powering more than one transducer from a single transformer.

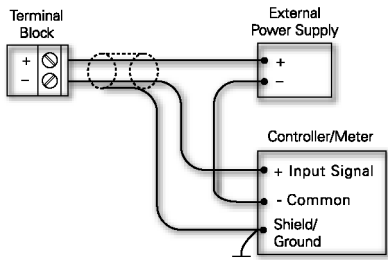
WIRING

Use maximum 12 AWG wire for wiring terminals.

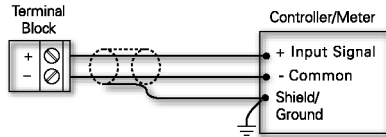
The mA output transducer must be powered with a 12 - 40 VDC power supply. The VDC output transducer is field selectable for 0 - 5 VDC or 0 - 10 VDC output and can be powered with either 12 - 40 VDC or 12 - 35 VAC.

Wiring for mA Output:

1. Remove the two cover screws. Pull off the cover and set aside.
2. Carefully remove the blue terminal block. Note the block's terminal markings on the circuit board.
3. If using an external power supply, connect the supply voltage wire to the [+] terminal. Connect the power supply common to the common bus of the controller/meter. Connect the input signal of the controller/meter to the [-] terminal.



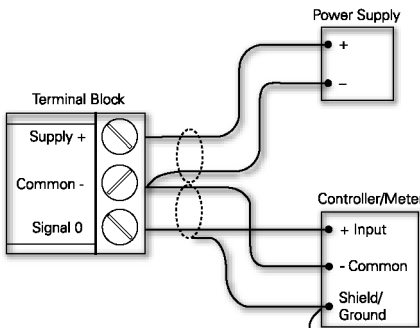
4. If using a controller/meter with an internal power supply, connect the controller/meter input signal to the [+] terminal. Connect the controller/meter common to the [-] terminal.



5. Reinsert the terminal block onto the circuit board and apply power to the transducer.
6. Check for the appropriate output signal using a digital voltmeter set to DC milliamps connected in series to the [-] terminal.
7. Replace the cover and screws.

Wiring for VDC Output:

1. Remove the two cover screws. Pull off the cover and set aside.
2. Carefully remove the blue terminal block. Note the block's terminal markings on the circuit board.
3. Connect the power supply voltage wire to the [+] terminal and the power supply common to the [-] terminal.
4. Connect the controller/meter input wire to the [0] terminal and the controller/meter common wire to the [-] terminal.

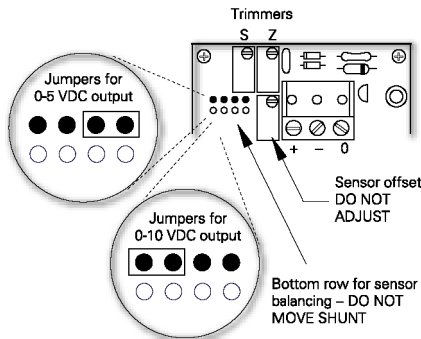


5. Reinsert the terminal block onto the circuit board and apply power to the transducer.
6. Check the appropriate VDC output using a digital voltmeter set to DC volts connected to the [0] and [-] terminals.
7. Replace the cover and screws.

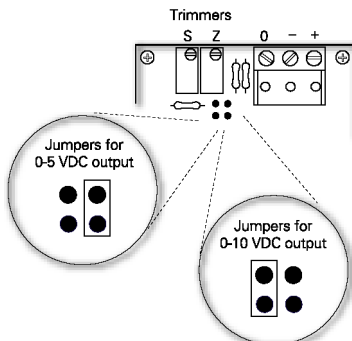
JUMPER CONFIGURATIONS (VDC Output Only)

Jumper configuration varies by transducer model (wall or duct mount) and VDC output (0 - 5 or 0 - 10 VDC).

Jumper Configurations for Wall Mount Transducers—W



Jumper Configurations for Duct Mount Transducers—D



CALIBRATION

All transducers are factory calibrated to meet or exceed published specifications. If field adjustment is necessary, follow these instructions:

1. Do not verify comparative RH with a sling psychrometer. Doing so can introduce errors into the calibration process. New humidity transducers are already calibrated.
2. Recalibrate the humidity in a controlled environment only. Relative humidity must be held stable while making any adjustment.
3. Verify the output from the transducer directly with calibrated instrumentation. Verify the RH with calibrated instrumentation, not a controller output. With the correct power applied and only a meter connected to the output of the transducer, ensure that the output is proportional to the true RH.

4a. Single-point Calibration

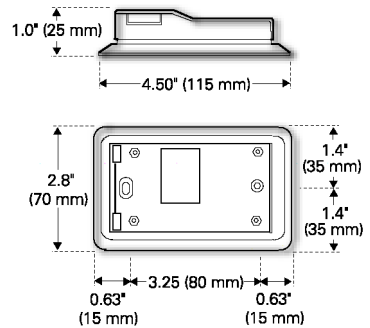
Select either option 1 or option 2:
 Option 1: Select a controlled humidity environment between 10 to 40% RH. Ensure humidity is stable and adjust the zero trimmer [Z].
 Option 2: Select a controlled humidity environment between 40 to 70% RH. Ensure humidity is stable and adjust the span trimmer [S].

4b. Two-point Calibration

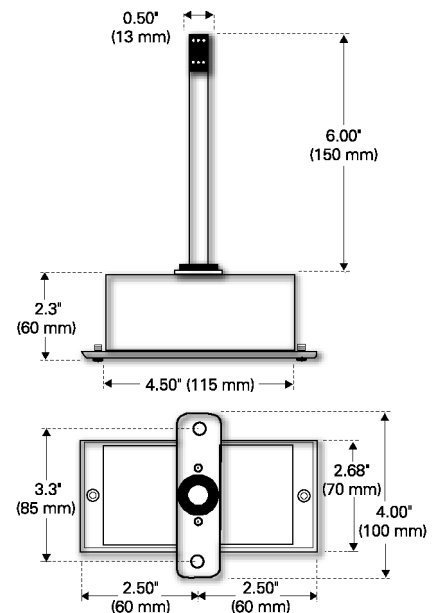
Select a controlled humidity environment between 10 and 40% RH. Ensure humidity is stable and adjust the zero trimmer [Z]. Then select a controlled humidity environment between 70 and 75% RH. Ensure humidity is stable and adjust the span trimmer [S].

DIMENSIONS

WALL MOUNT



DUCT MOUNT





Servicing Europe:

OMEGAnet® Online
Service
www.omega.com

Internet e-mail
info@omega.com

Benelux:

Postbus 8034, 1180 LA Amstelveen, The Netherlands
TEL: +31 (0) 20 6418405 FAX: +31 (0) 20 6434643
Toll Free in Benelux: 06 0993344
e-mail: nl@omega.com

Czech Republic:

Rude armady 1868, 73301 Karvina
TEL: +420 (0) 69 6311899 FAX: +420 (0) 69 6311114
Toll Free in Czech Republic: 0800-1-66342
e-mail: czech@omega.com

Servicing North America:

USA: ISO 9001 Certified

One Omega Drive, P.O. Box 4047
Stamford, CT 06907-0047
TEL: (203) 359-1660 FAX: (203) 359-7700
e-mail: info@omega.com

France:

9, rue Denis Papin, 78190 Trappes
TEL: +33 (0) 130 621 400 FAX: +33 (0) 130 699 120
Toll Free in France: 0800-4-06342
e-mail: france@omega.com

Canada:

976 Bergar
Laval (Quebec) H7L 5A1
TEL: (514) 856-6928 FAX: (514) 856-6886
e-mail: info@omega.com

Germany/Austria:

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany
TEL: +49 (0) 7056 3017 FAX: +49 (0) 7056 8540
Toll Free in Germany: 0800 TC OMEGASM
e-mail: germany@omega.com

United Kingdom: ISO 9002 Certified

P.O. Box 7, Omega Drive
Irlam, Manchester
M44 5EX, United Kingdom
TEL: +44 (0) 161 777-6611 FAX: +44 (0) 161 777-6622
Toll Free in England: 0800 488 488
e-mail: sales@omega.co.uk

For immediate technical or application assistance:

USA and Canada:

Sales Service: 1-800-826-6342 / 1-800-TC-OMEGASM
Customer Service: 1-800-622-2378 / 1-800-622-BESTSM
Engineering Service: 1-800-872-9436 / 1-800-USA-WHENSM
TELEX: 996404 EASYLINK: 62968934 CABLE: OMEGA

Mexico:

TEL: (001) 800-826-6342 FAX: (001) 203-359-7807
En Espanol: (001) 203-359-7803 e-mail: espanol@omega.com
info@omega.com

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 in 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 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 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. 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 which wear are not warranted, including but 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 it will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESS 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.

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.

OMEGA is a registered trademark of OMEGA ENGINEERING, INC.

© Copyright 2003 OMEGA ENGINEERING, INC. All rights reserved. This document may not be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without the prior written consent of OMEGA ENGINEERING, INC.