# **OPERATION**

Step 1. Apply Power to the Instrument

When your device is first powered up it will display the ambient temperature (assume 75°F).

Step 2. Enter Setpoint 1 Menu

Press one time from run mode to get to 5P | Setpoint 1.

Step 3. Enter the Setpoint 1 Value Submenu Press ②. Display shows the previous selection of Setpoint 1.

Step 4. Change the Setpoint 1 Value Press or until desired value is displayed.

Step 5. Store the Setpoint 1 Value

Set the Setpoint 1 to 10 degree higher than Process value (SP1 = 85) and press **②** to store, display flashes **5** € R **3** message and advances to 5P2 Setpoint 2 Menu.

Step 6. Store the Setpoint 2 Value

Repeat steps 3 and 4. Set the Setpoint 2 to 5 degree higher than Process value (SP2 = 80) and press • to store, display flashes 5 t R d message and advances to CNFC Configuration Menu.

Step 7. Enter the Reading Config Menu Press 2 to enter Red Reading Config Menu.

Step 8. Enter the <u>submenu</u> items of Rdg Config Menu Press to display Sensor submenu: Sensor selection for Autotune, Loop, or Ramp and Soak F.C is for temperature and ook is for Humidity

Step 9. Enter the submenu items of Rdg Config Menu Press **1** to display Temp Unit submenu:

Step 10 Scroll thru selection for Temp Unit submenu Press • to Scroll though the available selections of the Temperature Unit of your choice: 'F or 'C.

Step 11. Store the Temperature Unit

Press ②, display momentarily shows 5 t Rd the Unit has been stored and the instrument will go automatically to the next menu item.

Step 12. Enter the Filter Constant Submenu Display shows FLER Filter Constant Submenu.

Step 13. Display the Filter Constant Value Submenu Press 2 to display the flashing, previously selected Filter Constant.

Step 14. Scroll through available Filter Constants
Press to sequence thru Filter Constants 0001, 0002, 0004, 0008, 0016, 0032, 0064 and 0128.

Step 15. Store the Filter Constant

Press • momentarily to store • Filter Constant and the instrument will automatically go to the next menu item.

Step 16. Enter Alarm 1 Menu
The display will show BLR1 the top menu for Alarm 1. In the following steps we are going to enable Alarm 1, Deviation, Unlatch, Normally Open, Active Above, Enable at power-on and +2°F High Alarm i.e. Process Value > Setpoint 1 Value +2°F will activate Alarm 1.

> If Analog Output Option is installed and enabled, the controller will skip Alarm 1 Menu item to Analog Output.

> Alarm must be DISABLED if Ramp is ENABLED.

Alarm1 will only work for Humidity, not Temperature.

Alarm 1 is designed to monitor the humidity value around Setpoint 1 and Alarm 2 is designed to monitor Ithe temperature value around Setpoint 2.

Step 17. Enter Alarm 1 Enable/Disable Submenu 

Step 18. Enable Alarm 1 Submenu

If flashing **ENDL** is displayed, press **②**, if **B5bL** is displayed, press • until ENDL is displayed, then press • to store and go to the next menu item.

Step 19. Select the Deviation Control Type Submenu Press 2. If flashing Jeff Deviation is displayed press 2. otherwise press O until flashing Jet is shown. Now press **2** to store and go to next menu item.

Step 20. Select the Latched Type Submenu
Press ②. If flashing UNLE Unlatched is displayed press ②, otherwise press O until UNLE is displayed. Press 2 to store and advance to next menu item.

Step 21. Select the Normally Open Type of Contact Closure Submenu

Press ②. If flashing Normally Open is displayed, press ②, otherwise press ③ until No. is displayed. Press ④ to store and advance to next menu item.

Step 22. Select the Above Type of Active Submenu Press ②. If flashing Bboy Above is displayed, press ②, otherwise press O until About is displayed. Press O to store and advance to next menu item.

Step 23. Enable Alarm 1 at Power On (유.우.하시) Press ②. If flashing ENDL is displayed, press ②, otherwise press ③ until ENDL is displayed. Press ② to store and advance to next menu item.

Step 24. Enter Alarm 1 High Submenu
Press ② twice to skip BLR.L Alarm 1 Low value. BLR.L is for below & ALR.H for above.

Step 25. Set the Alarm 1 High value (ALR.H) Press **②**. Press **③** or **③** until value to set the display to 002.0. Press 🕢 to save.

Step 26. Enter the Alarm 2 Menu
The display will show RLP2 the top menu for Alarm 2. Repeat steps from 17 to 25 to set for Alarm 2 the same conditions as for Alarm 1.

Step 27. Skip the Loop Break Time Menu (LOOP) Press 2 to go to the OUL Output 1 Menu item.

Step 28. Configuration the Output 1 Menu



Set Alarm 1 Disabled (Step 18) to be able to Enable Output 1.

Configure Out 1 as [ERL / PId, ACEN / RVRS, AUEO / dSbl, ANEL / ENbl, PROP / 005.0, RESE / 0 180, RALE / 0 18.0, CYCL / 00 10 and dPNO / 0003. Please refer to the operator's manual if needed. Press 2 to save and go to the next menu item.

**Step 29. Configuration of Display Color Selection** Press • until the EDLR Display Color Selection Menu appears on the Display. Configure EDLR as N.CLR / GRN (green), I.CLR / REd (red), 2.CLR / RABBR (amber). Please refer to the operator's manual if needed.



For color change on Setpoints refer to Owners Manual Section 2.

### **SPECIFICATION**

SENSOR SPECIFICATIONS Relative Humidity Accuracy/Range:

±2% for 10 to 90% ±3% for 5 to 10% and 90 to 95% ±4% for 0 to 5% and 95 to 100% Output 2:

Non-linearity: ±3% Hysteresis: ±1% RH Response Time:

8 sec. tau 63% Repeatability: ±0.1% Resolution: 0.1%, 12bit

Temperature Accuracy/Range\*: ±0.5°C for 5 to 45°C (±1°F for 41 to 113°F); up to ±1.5°C for -40 to 5°C and 45 to 124°C

(up to ±2.7°F for -40 to 41°F and 113 to 257°F) \*NOTE: extended temp range is for Probe only, the Controller's operating temp is 0-50°C

Response Time: 5 to 30 sec, tau 63% Repeatability: ±0.1°C Resolution: 0.1°C, 14 bit METER SPECIFICATIONS Display:

4-digit, 9-segment LED, • 10.2 mm (0.40")

Red, green, and amber programmable colors for setpoint and temperature units.

WARNING: These products are not designed for use in, and should not be used for, patient-

Output 1:

SSR Pulse

**Options: Communication** 

or Excitation: 24 Vdc @ 25 mA

Exc. not available for Low Power Option

90 - 240 Vac ±10%, 50 - 400 Hz\*,

\*\* Units can be powered safely with 24 Vac but No Certification for UL are claimed.

RS-232 / RS-485

Line Voltage/Power:

12 - 36 Vdc, 3 W\*\*

Dimensions:

Weight:

Approvals:

(1.0 x 1.89 x 5")

127 g (0.28 lb)

per EN61010-1:2001

or 110 - 375 Vdc, 4 W

\* No compliance above 60 Hz Low Voltage Power Option:

25.4 H x 48 W x 126.3 D mm

Relay 250 Vac @ 3 A Resistive Load,

SSR, Pulse, Analog Voltage and Current

Relay 250 Vac @ 3 A Resistive Load,

This device is marked with the international caution symbol. It is important to read the Setup Guide before installing or commissioning this device, as the guide contains important information relating to safety and EMC.

It is the policy of OMEGA to comply with all worldwide safety and EMC/EMI regulations that apply. OEMGA is constantly pursuing certification of its products to the European New Approach Directives. OMEGA will add the mark to every appropriate device upon certification.

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OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of one (1) year from the date of purchase. In addition to OMEGA's standard warranty period, OMEGA Engineering will extend the warranty period for four (4) additional years if the warranty card enclosed with each instrument is returned to OMEGA.

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. OMEGAS 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.

Contact points, tuses, and triacs.

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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

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in

FOR WARRANTY RETURNS, please have the following information available BEFORE contacting OMEGA:

Purchase Order number under which the product was PURCHASED,

Model and serial number of the product under warranty, and

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

Model and serial number of product, and

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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**QUICK START** 

**RoHS 2 Compliant** 



Series

CNiTH-i32 **Humidity + Temperature** Controller



OMEGAnet® On-Line Service omega.com

Internet e-mail info@omega.com

FAX: (001) 203-359-7807

FAX: +420 59 6311114

Servicing North America:

One Omega Drive, P.O. Box 4047 ISO 9001 Certified

Stamford CT 06907-0047

TEL: (203) 359-1660 FAX: (203) 359-7700 e-mail: info@omega.com

976 Bergar Canada

Laval (Quebec) H7L 5A1 TEL: (514) 856-6928

e-mail: info@omega.ca

FAX: (514) 856-6886

For immediate technical or application assistance:

Sales Service: 1-800-826-6342 / 1-800-TC-OMEGA®

Customer Service: 1-800-622-2378 / 1-800-622-BFST® Engineering Service: 1-800-872-9436 / 1-800-USA-WHEN®

TEL: (001) 203-359-7803 Mexico and Latin American

e-mail: espanol@omega.com

Servicing Europe:

Benelux Managed by the United Kingdom Office FAX: +31 20 643 4643 TFL: +31 20 347 2121

Toll Free in Benelux: 0800 099 3344

e-mail: sales@omegaeng.nl

Frystatska 184, 733 01 Karviná TEL: +420 59 6311899

e-mail: info@omegashop.cz

Managed by the United Kingdom Office

TEL: +33 1 61 37 29 00 FAX: +33 1 30 57 54 27

Toll Free in France: 0800 466 342 e-mail: sales@omega.fr

Daimlerstrasse 26, D-75392 Deckenpfronn, Germany

TEL: +49 7056 9398-0 FAX: +49 7056 9398-29

Toll Free in Germany: 0800 639 7678 e-mail: info@omega.de

United Kingdom:

Germany/Austria:

Czech Republic:

France:

ISO 9001 Certified

One Omega Drive River Bend Technology Centre

Northbank, Irlam Manchester M44 5BD United Kingdom TEL: +44 161 777 6611 FAX: +44 161 777 6622

Toll Free in England: 0800 488 488 e-mail: sales@omega.co.uk

MQS4006/0511



This Quick Start Reference provides information on setting up your instrument for basic operation. The latest complete Communication and Operational Manual as well as free Software and ActiveX Controls are available at www.omega.com/specs/iseries or on the CD-ROM enclosed with your shipment.

# **SAFETY CONSIDERATION**



This device is marked with the international Caution symbol.

The instrument is a panel mount device protected in accordance with EN61010-1:2001. Remember that the unit has no power-on switch. Building installation should include a switch or circuit-breaker that must be compliant to IEC 947-1 and 947-3.

# SAFETY:

- Do not exceed voltage rating on the label located on the top of the instrument housing.
- Always disconnect power before changing signal and power connections.
- Do not use this instrument on a work bench without its case for safety reasons.
- Do not operate this instrument in flammable or explosive atmospheres.
- Do not expose this instrument to rain or moisture.

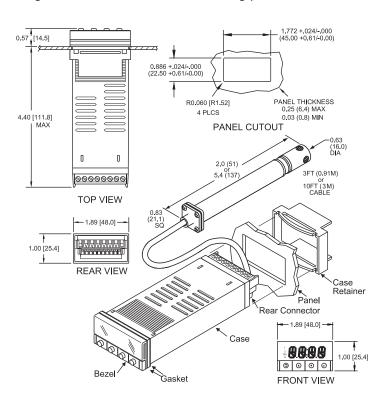
### EMC:

- · Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

#### MOUNTING

#### Panel Mounting Instruction:

- 1. Using the dimensions from the panel cutout diagram shown above, cut an opening in the panel.
- 2. Insert the unit into the opening from the front of the panel, so the gasket seals between the bezel and the front of the panel.
- 3. Slide the retainer over the rear of the case and tighten against the backside of the mounting panel.



# **Disassembly Instruction:**

If necessary, the unit may be removed from the panel and opened.



Warning: Disconnect all ac power from the unit before proceeding.

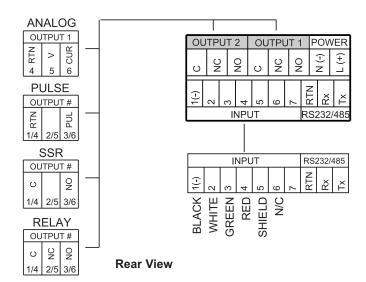
- 1. Make sure the AC power is disconnected.
- **2.** Remove all wiring connections from the rear of the meter. To remove power and input connectors bend the side panel detents on the case outward to release the connectors, then pull connectors from the meter.
- 3. To remove meter from the case, squeeze left and right sides of the bezel to release, then pull from case.

### **WIRING**

Wire the instrument according to the figure shown below.



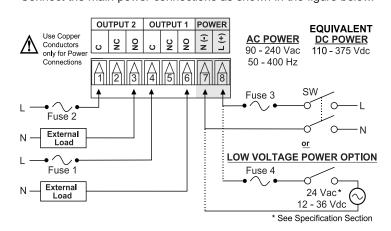
Warning: Do not connect ac power to your device until you have completed all input and output connections. This device must only be installed by a specially trained electrician with corresponding qualifications. Failure to follow all instructions and warnings may result in injury!





Refer to Operator's Manual for important Input Probe Note Shield wiring notes

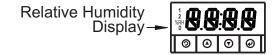
Connect the main power connections as shown in the figure below.



FUSE	Connector	Output Type	For 115Vac	For 230Vac	DC
FUSE 1	Output 1	Relay	3 A(T)	3 A(T)	-
FUSE 2	Output 2	Relay	3 A(T)	3 A(T)	-
FUSE 3	Power	N/A	100 mA(T)	100 mA(T)	100 mA(T)
FUSE 4	Power	N/A	N/A	N/A	400 mA(T)

### **DESCRIPTION OF FRONT PANEL**

The display may be RH, Temperature or Dewpoint readings depending on your Reading Configuration selections. Factory defaults are shown. Note: a Dual Display unit allows the user to observe the Relative Humidity or Dewpoint (upper display) and Temperature Value (lower display), at the same time.



1	Output 1/Setpoint 1/ Alarm 1 indicator		
2	Output 2/Setpoint 2/ Alarm 2 indicator		
°C	°C unit indicator for Temperature or Dewpoint		
°F	°F unit indicator for Temperature or Dewpoint		
%RH	Display shows the Percent Relative Humidity		
D	Display shows the Dewpoint		
•	Changes display to Configuration Mode and advances through menu items*		
0	Used in Program Mode:		
0	Used in Program Mode:		
0	Accesses submenus in Configuration Mode and stores selected values*		

### CONFIGURATION

The instrument has two different modes of operation. Run Mode: used to display Temperature and Relative Humidity. Menu Configuration Mode: used to navigate through the menu options and configure the controller.

Underline denotes factory default setup

# **Button Function in Configuration Mode**

- To enter the Menu, the user must first press button.
- · Use this button to advance/navigate to the next menu item. The user can navigate through all the MENU top level menus by pressing O.
  - While a parameter is being modified, press **②** to escape without saving the parameter.
  - Press the up button to scroll through "flashing" selections. When a numerical value is displayed press this key to increase value of a parameter that is currently being modified.
  - Pressing the **o** button for approximately 3 seconds will speed up the rate at which the set point value increments.
  - In the Run Mode, pressing the **b**utton changes display from RH readings to Temperature readings
  - Press the down button to go back to a previous Top Level Menu item.
  - Press this button twice to reset the controller to the Run Mode.
  - · When a numerical value is flashing (except set point value) press • to scroll digits from left to right
  - allowing the user to select the desired digit to modify When a setpoint value is displayed press • to decrease value of a setpoint that is currently being modified. Pressing the button for approximately
  - setpoint value is decremented. • In the Run Mode, pressing the **O** button changes from RH readings to Dewpoint readings.

    • Press the enter • button to access the submenus

3 seconds will speed up the rate at which the

- from a Top Level Menu item.
- Press **②** to store a submenu selection or after entering a value - the display will flash a 5ER8

VALUE

