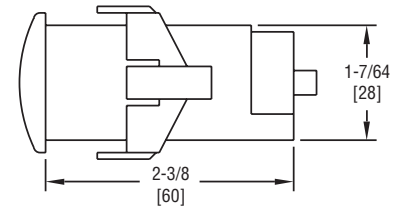
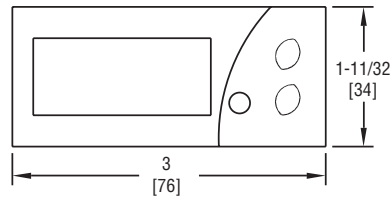




Series RHCN-7000 Humidity On/Off Controller

Specifications - Installation and Operating Instructions



DESCRIPTION

The microprocessor based Series RHCN-7000 Humidity Controller provides control for humidifying or dehumidifying. Relative humidity, output status, and error messaging can be viewed on the bright green LED. The switch features 9 user defined parameters including setpoint, hysteresis, control type, cycle time, and probe adjustment. Access to programming parameters can be locked for security purposes using the password protection feature. The Series RHCN-7000 includes a fitting clip for panel mounting, gasket, rear terminal cover, and instruction manual.

INSTALLATION

Note: Units must be mounted away from vibration, impacts, water and corrosive gases.

- Cut hole in panel 2.80 x 1.14 inches (71 x 29 mm).
- Apply silicone (or rubber gasket) around the perimeter of the hole to prevent leakage.
- Insert unit into hole of panel.
- Slide removable fitting clips onto unit from the back until secure to panel.
- Remove back cover to wire unit.
- Wiring diagram is displayed on the top of the unit.
- **(Note: PROBE CABLE LENGTH MUST NOT EXCEED 328 ft (100 m). DO NOT INSTALL PROBE CABLE NEAR POWER CABLES)**
- Replace cover once wiring is completed.

SPECIFICATIONS

Relative Humidity Range: 0 to 100% RH.

Input: 0 to 3 V humidity probe (not included).

Accuracy: $\pm 1\%$ RH.

Display: 3-Digit, Green, 1/2" (12.7 mm) digits.

Resolution: 1 digit.

Temperature Limits: 32 to 158°F (0 to 70°C).

Storage Temperature: -4 to 176°F (-20 to 80°C).

Output: 8 A relay @ 250 VAC resistive.

Vcc Excitation: 5 VDC $\pm 10\%$, 5 mA.

Horsepower Rating (HP): 1/3 HP.

Control Type: ON/OFF.

Power Requirements: 110 VAC or 230 VAC (Depending on model).

Memory Backup: Nonvolatile memory.

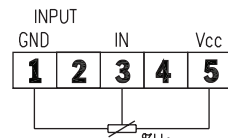
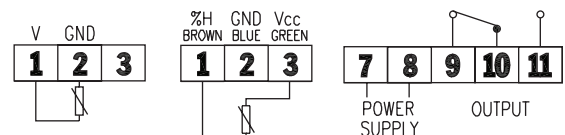
Weight: 2.3 oz (65 g).

Front Panel Rating: IP64.

Agency Approvals: CE, UL.

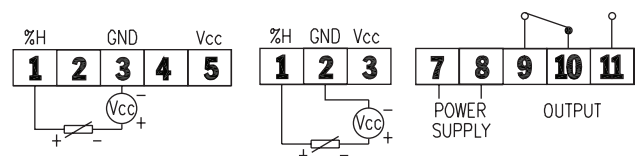
WIRING DIAGRAMS

0 TO 1 V AND 0 TO 3 V PROBES



FOR UNITS BUILT AFTER 6/20/11.

4 TO 20 mA PROBES



FOR UNITS BUILT AFTER 6/20/11.

PARAMETERS

	Description	Units	Range
SP	Set Point	%	r1 to r2
r0	Differential or Hysteresis	%	1 to 99
r1	Low Value Set Point	%	0 to r2
r2	Higher Value Set Point	%	r1 to 100
d0	Heating or Cooling Control	Option	Hu/dH
c0	Min. stop time for Load	Minutes	0 to 59 min.
c1	Continuous Cycle Time	Hours	0 to 24 hrs
Lc	HR Value for 4 mA Input	%	0 to 100
Hc	HR Value for 20 mA Input	%	50 to 100
P1	Probe Adjustment (shifting)	%	0 to 10
P5	Probe Type	Range	0-1 V, 0-3 V, 4-20 mA
H5	Parameter Access code	Numeric	0 to 99 (SET AT 0 FROM FACTORY)

PARAMETERS DESCRIPTION

- SP** = Set Point - Desired Regulation Temperature
- r0** = Differential or Hysteresis
- r1** = Lower Set Point Limit
- r2** = Higher Set Point Limit
- d0** = Humidifying / Dehumidifying Control -
Humidifying: To choose Humidifying Control: Set d0 = Hu.
The output is activated when the relative humidity is less than the Set Point (SP) - r0 and disconnected if the relative humidity is > = SP.
Dehumidifying: To choose Dehumidifying Control: Set d0 = dH.
The output is activated when the relative humidity is > SP + r0 and disconnected when the relative humidity is < = SP.
- c0** = Minimum Times Between Start and Stop.
- c1** = Continuous Cycle Time. The time the load is connected when a continuous cycle is activated. To view the programmed cycle time for display, press the down arrow button for 8 seconds. The display will blink as indicated. The output will be connected during the number of hours indicated by the c) parameter. To cancel the Continuous cycle, press and hold the down arrow button again for 8 seconds.
- Lc** = RH value for 4 mA input. Parameters for use with 4 to 20 mA output probe.
- Hc** = RH value for 20 mA input. Parameters for use with 4 to 20 mA output probe.
- P1** = Probe Adjustment. Offset degrees to adjust probe. If the probe is not placed in the exact point that is to be measured, use a standard hygrometer and adjust the difference with this parameter.
- P5** = Probe Type. (Set from the factory.) **DO NOT ADJUST.**
- H5** = Access to Probe Parameters. (The code is set to 0 from the factory.)

PARAMETER PROGRAMMING

Set Point (SP) is the only parameter the user can access without code protection.

- Press SET. SP text will appear on the display.
- Press SET again. The real value is shown on the display.
- The value can be modified with the UP and DOWN arrows.
- Press SET to enter any new values.
- Press SET and DOWN at the same time to quit programming or wait one minute and the display will automatically exit programming mode.

* The keyboard code can be reset to ZERO by turning off the controller and turning it on again while keeping the SET key depressed.

Access to all code protected parameters.

- Press SET for 8 seconds. The access code value 00 is shown on the display. (Unit comes with code set at 00 from factory).
- With the UP and DOWN arrows, code can be set to user needs.
- Press SET to enter the code. If code is correct, the first parameter label is shown on the display (SP).
- Move to the desired parameter with the UP and DOWN keys.
- Press SET to view the value on the display.
- The value can be modified with the UP and DOWN arrows.
- Press SET to enter the value and exit to text parameter.
- Repeat until all necessary parameters are modified.
- Press SET and DOWN at the same time to quit programming or wait one minute and the display will automatically exit programming mode.

LED INDICATIONS

OUT This indicates the load is connected. The system waits for the programmed minimum stop time of the load.

DISPLAY MESSAGES

In normal operation, the humidity will be shown on the display. In case of alarm or error, the following messages will be shown:

- ER** = Memory Error
-- = Short-Circuit Probe Error
oo = Open Probe Error

In the event an error occurs, the unit follows a fixed working cycle which connects the load for 5 minutes and then disconnects the load for 5 minutes alternately.

MAINTENANCE / REPAIR

Upon final installation of the Series RHCN-7000 Digital Humidity Switch, no routine maintenance is required. A periodic check of system calibration is recommended. The devices are not field repairable and should be returned to the factory if recalibration or other services is required. After first obtaining a Returned Goods Authorization (RGA) number, send the material, freight prepaid, to the following address. Please include a clear description of the problem plus any application information available.

Omega Engineering
Attn: Repair Department
One Omega Drive
Stamford, CT 06907

