

## HCA-9100 Series Surface Mount Humidity Controllers with High and Low Alarm

### General Description & Applications

The HCA-9100 Series Humidity Controller with Alarm offers a versatile solution for a wide variety of applications that may require 20 amp relays, short cycle delays and independent dual stages in one convenient, easy to use controller.

The HCA-9100 controller can accommodate input voltages from 12VAC to 240VAC and offers sensor options ranging from 10-100% RH. The alarm function provides audible, visual flashing and a normally open dry contact for triggering an alarm system, telephone dialer or turning on a light or external siren. In addition the HCA-9100 will log the highest and lowest humidity on record between resets.

### Features

- Single or Dual stage models with independent relay control.
- High and Low humidity alarm set points with audible, flashing visual and relay output alarm capabilities.
- Programmable set point, differential, short cycle delay time, and humidity sensor calibration mode.
- NEMA 1, high-impact plastic enclosure.
- Tamper resistant features to lock out and limit set point adjustment and programming features.
- .56" high red LED display with three digit display in 1% RH increments.
- LED Relay status indicator.
- Displays current humidity.
- Durable touch-pad programming with LED display prompts.

### Specifications

#### Power Requirements:

- Low Voltage (LV) models accept 12 to 24VAC & 24VDC.
- High Voltage (HV) models accept 120 to 240VAC.

#### Relay(s) Contact Rating:

1 relay on single stage models, 2 relays on dual stage models.

- SPST, normally open – switch up to 20A at 277 VAC

#### Alarm Relay Rating:

- SPST, normally open relay, 1 amp, 26 VAC resistive.

**Ambient Operating Temp:** 20 to 104°F (-6 to 40°C)

**Ambient Operating Humidity:** 90%RH at 95°F (35°C)

#### Alarm Notification Method:

60 dB audible alarm, flashing LED's & relay contact closure.

#### Temperature Sensor Range:

- Indoor Sensor Model - HS-50-S: 10-100% RH
- Duct Mount Sensor Model – HS-70-D: 10-100% RH

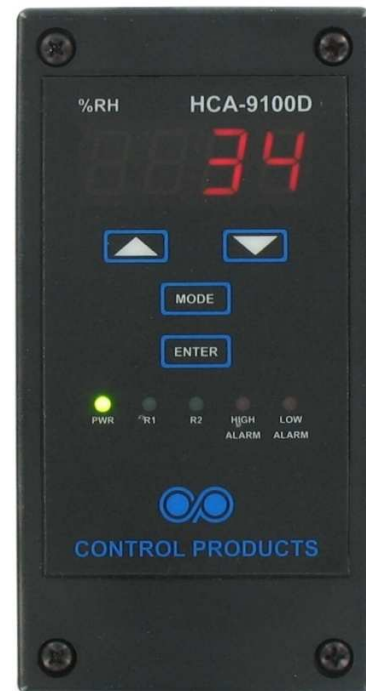
**Accuracy:** ± 5% RH between 10-90% RH

**Relay Status Indicator:** LED is on when relay is activated.

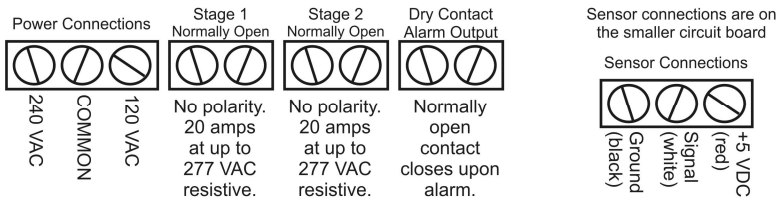
**Dimensions:** L 6.00" (15.24cm) x W 3.12" (7.92cm) x D 2.00" (5.08cm)

**Agency Approvals:** UL and CUL recognized

**Material Certification:** RoHS compliant. 100% lead free.



## Wiring Connections



**Low Voltage Power:** On low voltage (LV) models, the input voltage can be 12 to 24 VAC or 24 VDC. LV models will only have a two position terminal block marked "240" and "COM". There is no polarity with any of the low voltage inputs, so both power leads can go into either of these terminal positions.

**Connecting the Humidity Sensor:** Sensor connections are on the smaller display circuit board.

### WARNING:

To avoid the risk of electrical shock, disconnect all power sources to the controller and the equipment before wiring any connections. More than one disconnect may be required to completely de-energize the control and the equipment.

### IMPORTANT:

All wiring must conform to local, national and regional regulations. Use copper conductors only for all wire connections. Do not exceed the electrical ratings for the HCA-9100 series control or the equipment it is wired to.

Connect the proper power supply to the power connections on the terminal block as shown in the Dimensions & Wiring section above. Note your model number indicates what input voltage is acceptable for this unit.

1. "HV" designates the unit can accept input voltage of between 110 and 240 VAC
2. "LV" designates the unit can accept input voltage of 12 or 24 VAC or 24 VDC. On low voltage versions, the HCA-9100 will have only a 240VAC and Common terminal block. There is no polarity on this terminal block for low voltage inputs.

The input power is independent of the power that can run through the relays. On all models, regardless of the input voltage, the control relays can accept up to 240 VAC power at up to 30 AMPs. Connect the heating and cooling equipment to the normally open (NO) relay terminal block connectors as appropriate.

Control Products offers a variety of Humidity Sensors compatible with the HC-9100 series humidity controllers. These sensor need to be purchased separately. The following sensors are currently available, but check with Customer Service or on-online at [www.controlproductsonline.com](http://www.controlproductsonline.com) for additional sensor information.

- HS-50-S Indoor, wall mounted humidity sensor in a white, vented, plastic enclosure.
- HS-70-D Duct mounted sensor for use in measuring humidity in a duct mounted space.
- HS-70-O Outdoor, weather-proof sensor (special order and minimum order quantity may be required).

Once the unit is powered up and the proper sensor is connected, the controller will display the current humidity. If the current humidity does not appear to match the actual current humidity, you will have an opportunity to calibrate the sensor. If the display is showing "Shrt" or "OPEn", it means the sensor connection has a problem. "Shrt" indicates there is a short in one of the wires of the sensor or in the sensor itself. "OPEn" indicates a cut wire or open connection on one of the sensor's wires.

The HCA-9100 also has a normally open dry alarm relay contact that closes when the unit is in alarm. This can be used to turn on a light, siren or to trigger one of our alarm dialers (sold separately). This is alarm relay is rated for 1 amp at 26 volts (resistive). No voltage comes through this relay, it can only be used to complete a circuit or close a dry contact.

## How the Controller Works

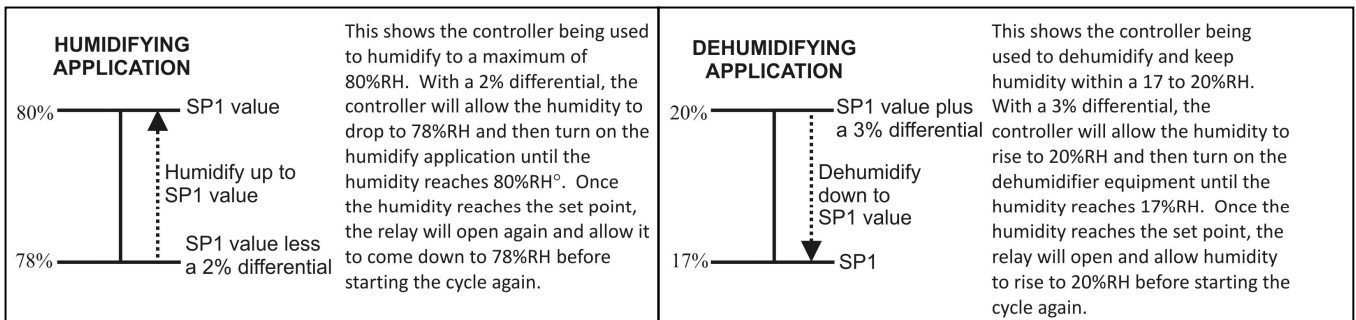
When programming the HCA-9100 humidity controller, it is important to determine how the HCA-9100 controller should operate for your specific application. You will need to know if you are using the controller in a dehumidifying (dEHU) application, a humidifying (HU) application or with a dual stage unit, it can even be used for both a dehumidifying or humidifying application.

There are three different programming parameters that determine how the HCA-9100 controller will operate for your specific application. Dual stage units have separate programming parameters for each stage.

1. Humidity Set Point: The relays will always turn OFF or open when the humidity set point is reached.
2. Operating Mode (dEHU, HU or OFF): This setting determines the application the controller is being used for.
3. Differential Setting: This is the percentage RH above or below the humidity set point the humidity is allowed to rise or fall (depending upon the Operating Mode).

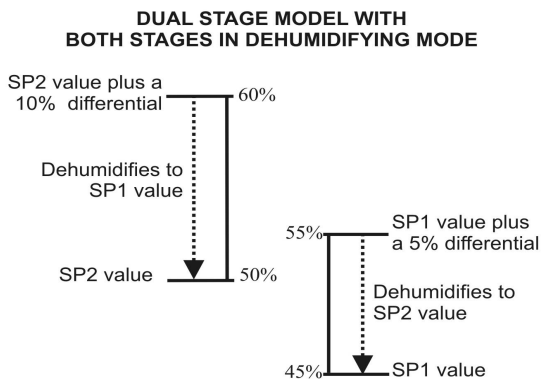
**Humidity Set-Point Programming Functions:**
**Single Stage Applications:**

On single stage models, the controller will either turn on or off the dehumidifying or humidifying application based on the *Humidity Set Point* set in the Set Point Programming function and the *Differential* set in Hidden Access Programming Function. The diagrams below show how a single stage model operates for either a dehumidifying or humidifying application.

**SINGLE STAGE MODEL SHOWING HUMIDIFY AND DEHUMIDIFY OPERATION**

**Dual Stage Applications:**

With dual stage models, each stage is independent, so one stage can be set as a dehumidifying (dEHU) and the other as a humidifying (HU) stage, or both can be dehumidifying or humidifying stages. When both stages are set to dehumidifying or humidifying mode, each stage can have any set point or differential value desired. If one stage is dehumidify and the other is humidify, however, there is a limitation on how you can set the humidity set points to prevent the controller from having both dehumidifying or humidifying applications running at the same time.

When both stages are in dEHU or HU modes, the humidity set points can overlap or be separated by any percentage RH. When using both dEHU and HU applications in a dual stage controller, the controller will not let the user set humidity set points that overlap. The HCA-9100 controller automatically enforces a 2 second delay between one stage turning off and another stage starting. The following diagrams show examples of how the Dual Stage HCA-9100 controller can be configured in different applications.

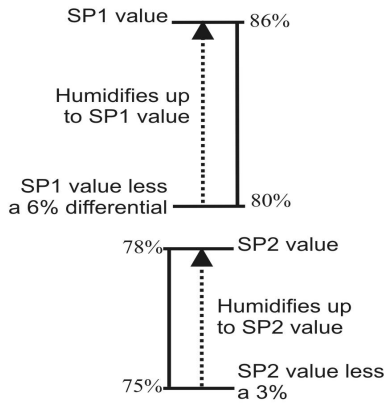


With both stages in the (dEHU) dehumidify mode, one can “stage” dehumidifying phases. The example on the left shows stage one (SP1) keeping humidity within 45 to 55%RH. If the humidity rises to 60% for some reason, a second stage (SP2) kicks in to bring it back down to an acceptable level.

Alternately, each stage could be separated by any percentage.



**DUAL STAGE MODEL WITH BOTH STAGES IN HUMIDIFY MODE**

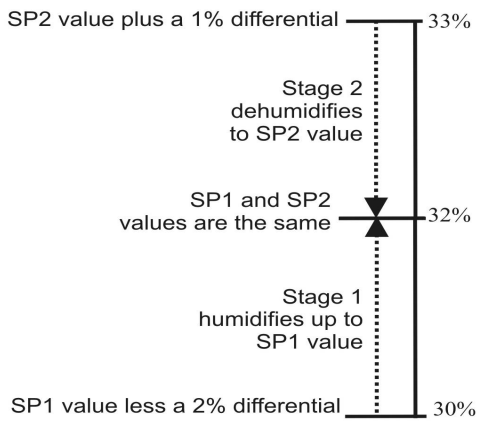


In this example, both stages are set to (HU) humidify, but the stages are separated by 2 degrees.

When both stages are set to either dEHU or HU modes, the stages can have the same humidity set-point, be separated by any percentage or they can overlap as shown above.

With dual stages, the HC-9100 can be used in a wide variety of applications.

**DUAL STAGE MODEL WITH SEPARATE HUMIDIFY AND DEHUMIDIFY STAGES**



It is possible to maintain a very tight humidity range by setting one stage as a humidify stage and one stage as a dehumidify stage.

In the example on the left, stage 1 will humidify up to 32%RH. At 32%RH, the humidify application will turn off and allow the application to rise to 33%RH at which time the dehumidify stage will turn on. The dehumidify stage will turn off when the humidity reaches 32%RH.

Although both humidity set points can be set at the same humidity, the HC-9100 requires a minimum differential of 1 percent or more. In addition, the controller enforces a 2 second delay between one stage turning off and the other stage turning on. This is designed to reduce the possibility of tripping circuit breakers should both the humidifying and dehumidifying elements be on at the same time.

**Programming Instructions**

Programming the HCA-9100 series temperature controller is completed through two separate programming sequences:

1. Humidity Set-Point Programming Functions
2. Hidden Access Programming Functions for operation mode, differential, high & low set point limits, calibration, short cycle delay time and lock-out functions.

The programming menus are set up to display a program function first, followed by the numeric value or feature value. You can change that value and then press the ENTER key to save the value, then press the MODE key to move to the next programming function. The program functions are displayed with shortened text to represent the function that is to be programmed. For a detailed explanation of all the program functions, see page 8.

**WHAT HAPPENS DURING A POWER FAILURE?**

All settings on the HCA-9100 humidity controllers are saved in non-volatile memory which means they will stay programmed even if the power is cut to the unit. This is crucial during a power failure since the unit will return to normal operating function once the power is restored. The highest and lowest humidity logged will also be retained in memory unless they immediately are different upon power being restored.

**SAVING YOUR CHANGES:**

To save your changes, you **MUST** press the ENTER value whenever you make a change to any program setting.

**EXITING THE MENUS:**

You can exit the menus in one of several ways. If you make changes, you will need to press the ENTER button after every change or your values will not be saved!

1. Pressing the **MODE** button will cycle through each programming function and then its value. At the end of the menu, the unit will go blank for several seconds and then return the current humidity to the display.
2. Pressing and holding the **MODE** button for five seconds will allow you to exit the menu without having to cycle through the menus.
3. When a programming function is displayed, you can press the down and up arrows to move through the various programming options to select the one you wish to change. If you get to the last menu and press the down arrow one more time, the unit's display will go blank for several seconds and then return with the current humidity displayed.

**PROGRAMMING HUMIDITY SET POINT AND HUMIDITY ALARM SET POINTS:**

- *It is assumed the unit is powered up and the current humidity is displayed.*
- *Shaded sections are only applicable to Dual Stage Units.*

Step	PRESS	DISPLAYED	FUNCTION or INSTRUCTIONS
1	<b>MODE</b>	<b>HLog</b>	HLoG represents the High Humidity Logging Feature. The next value to be displayed will be the highest humidity the unit's sensor has detected since the last reset or power up.
2	<b>MODE</b>	Flashing High Log value	This is the highest humidity the sensor detected since the unit was powered up or since the last reset. To reset this value to the current humidity, press the ENTER button. The current humidity should be displayed and stop flashing.
3	<b>MODE</b>	<b>LLog</b>	LLoG represents the Low Humidity Logging Feature. The next value to be displayed will be the lowest humidity the unit's sensor has detected since the last reset or power up.
4	<b>MODE</b>	Flashing Low Log value	This is the lowest humidity the sensor detected since the unit was powered up or since the last reset. To reset this value to the current humidity, press the ENTER button. The current humidity should be displayed and stop flashing.
5	<b>MODE</b>	<b>SP1</b>	SP1 represents Set Point #1 for the first stage. On single stage models, there will only be one set point value, but on dual stage models, there will also be a SP2 as shown below.
6	<b>MODE</b>	Flashing Humidity Value	Using the <b>↓↑</b> keys, adjust the humidity set point value for stage 1.
7	<b>ENTER</b>	SP1 value is displayed.	Pressing ENTER saves the value and displays it without flashing.
8	<b>MODE</b>	<b>SP2</b>	<b>For DUAL STAGE models ONLY</b> , SP2 will appear, giving you the ability to program the humidity set point for the second stage.
9	<b>MODE</b>	Flashing Humidity Value	<b>DUAL STAGE MODELS ONLY:</b> Using the <b>↓↑</b> keys, adjust the humidity set point value for stage 2.
10	<b>ENTER</b>	SP2's value is displayed	<b>DUAL STAGE MODELS ONLY:</b> Pressing ENTER saves the value and displays it without flashing.
11	<b>MODE</b>	<b>HHA</b>	The next programming parameter is High Humidity Alarm Set Point. HHA is displayed.
12	<b>MODE</b>	Flashing HHA value	Using the <b>↓↑</b> keys, adjust the high humidity alarm set point.



Step	PRESS	DISPLAYED	FUNCTION or INSTRUCTIONS
13		HHA's value is displayed	Pressing ENTER saves the value and displays it without flashing.
14		<b>LHA</b>	The next programming parameter is Low Humidity Alarm Set Point. LHA is displayed.
15		Flashing LHA value	Using the $\downarrow\uparrow$ keys, adjust the low humidity alarm set point.
16		LHA's value is displayed	Pressing ENTER saves the value and displays it without flashing.
Exit		Blank Screen	For a few seconds, the screen will go blank and then the current humidity will be displayed. This signifies the end of this programming menu.

**PROGRAMMING THE HIDDEN ACCESS MENU FUNCTIONS:**

- *It is assumed the unit is powered up and the current humidity is displayed.*
- *Shaded sections are only applicable to Dual Stage Units.*
- *For detailed explanation of the individual programming options, go to the end of this programming guide.*

Step	PRESS	DISPLAYED	FUNCTION or INSTRUCTIONS
1	$\downarrow$ +	<b>OP1</b>	Press and hold the DOWN ARROW key and then press the MODE button. OP1 will be displayed representing the Operating Mode for Stage 1.
2		Flashing OP1 value	Using the $\downarrow\uparrow$ keys, select between the dEHU, HU or OFF operating mode for stage 1.
3		OP1's value is displayed	Pressing ENTER saves the value and displays it without flashing.
4		<b>OP2</b>	<b>On DUAL STAGE UNITS only, the unit displays OP2, representing the operating mode for Stage 2.</b>
5		Flashing OP2 value	Using the $\downarrow\uparrow$ keys, select between the dEHU, HU or OFF operating mode for stage 2.
6		OP2's value is displayed	Pressing ENTER saves the value and displays it without flashing.
7		<b>df1</b>	<b>df1</b> will be displayed representing the differential for Stage 1.
8		Flashing dif1's value	Using the $\downarrow\uparrow$ keys, adjust the differential setting for stage 1.
9		dif1's value is displayed	Pressing ENTER saves the value and displays it without flashing.
10		<b>df2</b>	<b>On DUAL STAGE UNITS only, df2</b> will be displayed representing the differential for Stage 2.
11		Flashing dif2's value	Using the $\downarrow\uparrow$ keys, adjust the differential setting for stage 2.
12		dif2's value is displayed	Pressing ENTER saves the value and displays it without flashing.
13		<b>HSL1</b>	<b>HSL1</b> will be displayed representing the High Set Point Limit for Stage 1.
14		Flashing HSL1's value	Using the $\downarrow\uparrow$ keys, adjust the high set point limit for stage 1.
15		HSL1's value is displayed	Pressing ENTER saves the value and displays it without flashing.
16		<b>LSL1</b>	<b>LSL1</b> is displayed representing the Low Set Point Limit programming parameter.
17		Flashing	Using the $\downarrow\uparrow$ keys, adjust the low set point limit for stage 1.



Step	PRESS	DISPLAYED	FUNCTION or INSTRUCTIONS
		LSL1's value	
18	ENTER	LSL1's value is displayed	Pressing ENTER saves the value and displays it without flashing.
19	MODE	<b>HSL2</b>	<b>On DUAL STAGE UNITS only, the unit displays HSL2, representing the High Set Point Limit for Stage 2.</b>
20	MODE	Flashing HSL2's value	Using the ↓↑ keys, adjust the high set point limit for stage 2.
21	ENTER	HSL's value is displayed	Pressing ENTER saves the value and displays it without flashing.
22	MODE	<b>LSL2</b>	<b>On DUAL STAGE UNITS only, the unit displays LSL2, representing the Low Set Point Limit for Stage 2.</b>
23	MODE	Flashing LSL2's value	Using the ↓↑ keys, adjust the low set point limit for stage 2.
24	ENTER	LSL2's value is displayed	Pressing ENTER saves the value and displays it without flashing.
25	MODE	<b>CAL</b>	CAL is displayed, representing the temperature sensor calibration adjustment.
26	MODE	Flashing CAL value	Using the ↓↑ keys, adjust the calibration value of the temperature sensor. This can be adjusted ± 30° from the reading on the display.
27	ENTER	CAL value is displayed.	Pressing ENTER saves the value and displays it without flashing.
28	MODE	<b>SCYC</b>	SCYC represents the Short Cycle Delay Time. You select a value in minutes anywhere from 0 to 15 minutes. Press MODE to change the selection.
29	MODE	Flashing SCYC value	Using the ↓↑ keys, set your desired Short Cycle Delay time.
30	ENTER	SCYC value is displayed	Pressing ENTER saves the value and displays it without flashing.
31	MODE	<b>HAd</b>	HAd represents the Humidity Alarm Delay time. You select a value in minutes anywhere from 0 to 60 minutes. Press MODE to change the selection.
32	MODE	Flashing HAd value	Using the ↓↑ keys, set desired Humidity Alarm Delay time.
33	ENTER	HAd value is displayed	Pressing ENTER saves the value and displays it without flashing.
34	MODE	<b>LOC</b>	This is the Lock-Out feature that prevents users from changing the temperature alarm set point or the temperature alarm set point. Press MODE to turn this ON or OFF.
35	MODE	<b>ALL, ALAr or OFF</b> flashes	Use the ↓↑ keys to toggle between "ALL", "ALAr" or "OFF"
36	ENTER	ALL, ALAr or OFF is displayed	Pressing ENTER saves the value and displays it without flashing.
Exit	MODE	Display goes blank	Pressing MODE at the end of this menu results in the display going blank for several seconds followed by a display of the current temperature reading from the temperature sensor.



**EXPLANATION OF PROGRAMMING PARAMETER SETTINGS:**

HLog & LLog	<b>HIGH AND LOW LOGGING VALUES</b> The HCA-9100 series has a logging feature that keeps track of the highest and lowest humidities that have been detected by the attached humidity sensor. These values are displayed after the HLog or LLog program function. To reset the values to the current humidity, press the ENTER button. The current humidity will then be the new logged value. If power goes out, the unit will retain the last logged highest and lowest humidities, unless the humidities upon power being restored are further out of range.
SP1 & SP2	<b>HUMIDITY SET POINT</b> This is the humidity you wish to maintain for each stage. The HCA-9100D model has two independent relay stages. The HCA-9100S is a single stage model. See pages 3 & 4 for an explanation of how the HCA-9100 uses these set points in conjunction with the differential setting.
HHA & LHA	<b>HIGH AND LOW HUMIDITY ALARM SET POINT</b> Since this is an alarm, you can set both a high and a low humidity at which you wish the alarm to sound. The HCA-9100 will sound an audible alarm, flash the current humidity and close a dry contact relay when in alarm.
OP1 and OP2	<b>OPERATING MODE</b> Select the type of application this controller will be working with. Is it a humidifying(HU) application or a dehumidifying(dEHU) application. If you don't wish to use this relay at all, select the OFF mode. Only Dual stage units will have a "OP2" mode. Factory default is dEHU.
dF1 and dF2	<b>DIFFERENTIAL</b> This represents the percentage points RH from the humidity set point the controller allows the humidity to rise or fall before closing the relay control. See diagrams above. This is always a positive number from 1 to 30. Zero is not allowed as a differential value. Only Dual Stage units will have a "dF2" option. The factory default setting is 3.
HSL1 and HSL2 LSL1 and LSL2	<b>HIGH SET POINT LIMIT and LOW SET POINT LIMIT</b> This is a tamper proof option that allows a user to set maximum and minimum humidity set point limits to which a user can adjust the humidity set point. If a user only wants people to be able to adjust humidity a few percentage points, they can set very tight High and Low Set Point Limits. Both High and Low set point limits can be set to the same humidity to prevent any change in humidity set point. Only dual stage units have HSL2 and LSL2 options. Factory default value is 100% for the High Set Point Limits and 0% for the Low Set Point Limits.
CAL	<b>CALIBRATION</b> This option allows a user to field calibrate the humidity sensor. If the actual humidity is 2 percent higher than what the HC-9100 is displaying, the user can enter a value of 2 in the calibration option to make the HC-9100 controller display the correct humidity. You can enter a calibration value anywhere from - 30 to +30. Factory set at zero.
SCYC	<b>SHORT CYCLE DELAY TIME</b> The short cycle protection feature prevents the controller from short cycling a compressor. A short cycle condition is when a relay controlling a compressor or other equipment cycles on and off too quickly, possibly causing compressor or equipment damage. The minimum time between relay state change is determined by the value entered in the Short Cycle Delay Time option. Enter a value anywhere from 0 to 15 minutes. Factory default is 5 minutes.
HAd	<b>HUMIDITY ALARM DELAY</b> The Humidity Alarm Delay feature prevents the alarm from going off immediately upon the humidity going out of range. Instead, the unit will wait a specified number of minutes before going into alarm mode. This is helpful for applications where there may be defrost cycles or where the user may leave a door open during loading and they don't want an alarm condition to occur at that time. Set this alarm delay anywhere from 0 to 60 minutes. Factory default is 0 minutes.
LOC	<b>LOCK OUT FEATURE</b> This feature allows the user to prevent anyone from adjusting the humidity set point and humidity alarm set point values. If a person attempts to change any value, the display will show LOC for a short period of time to show the user these adjustments are off-limits. Three options are available. Factory default is OFF. <ol style="list-style-type: none"><li>1. ALL Locks out all functionality of the Humidity Set Point menus. No changes can be made.</li><li>2. ALAr Locks out only the High and Low alarm set point menus, preventing someone from changing the high and low humidity alarm setpoint values.</li><li>3. OFF This allows a user full access to the Humidity Set Point and Alarm Set Point menus.</li></ol>

## Normal Operation

During normal operation, the current humidity will be displayed. Relay indicator lights will be illuminated only if relays are in the closed position.

### Relay Operation:

1. Relays will always open when the humidity set point is reached.
2. Relays will always close when the humidity set point, plus or minus the differential value is reached.
3. On a dual stage unit, if using one relay for dEHU and the other for HU, the HCA-9100 will not allow the relays to be both on at the same time. There will be a minimum of 2 seconds between turning one stage off and turning another stage on. This is designed to eliminate the possibility of a simultaneous switch between dehumidifying and humidifying that could cause a circuit breaker to trip.

## Alarm Operation

### During an Alarm Condition:

If the humidity gets above or below the high or low Humidity Alarm Set Points as programmed in the Set Point Menu, the unit will go into alarm and the following will occur:

1. The display will flash the current humidity.
2. The unit will sound a beep once every two seconds.
3. The Normally Open Alarm Relay will close, allowing for a light or siren to turn on or to trigger an alarm dialer or auxiliary security system. Control Products offers several alarm dialers that can automatically call up to three phone numbers if the HCA-9100 goes into alarm mode.

### Silencing the Alarm:

The user can silence the audible alarm for up to 60 minutes or turn off the audible alarm entirely by pressing either the MODE or SET buttons during an alarm condition.

PRESSING ONCE	Silences the alarm for 15 minutes. "15" is displayed for 2 seconds followed by the flashing current humidity.
PRESSING TWICE	Silences the alarm for 60 minutes. "60" is displayed for 2 seconds followed by the flashing current humidity.
PRESSING THREE TIMES	Silences the alarm indefinitely. "OFF" is displayed for 2 seconds followed by the flashing current humidity.

This alarm timer automatically resets when the alarm condition is corrected and unit returns to normal operation.

**NOTE:** Silencing the alarm DOES NOT change the status of the normally open alarm relay output or the flashing visual display. The alarm relay will remain closed until the humidity returns to a normal range.

### FAILED HUMIDITY SENSOR ALARM:

The HCA-9100 can determine when the humidity sensor is defective or damaged and will alarm when such a condition occurs. If the sensor has a cut wire or an open circuit, the display will flash "OPEn". If there is a short in the sensor wire or the sensor element, the display will flash "Shrt". In both cases, the on-board audible alarm will sound and the normally open alarm relay contact will close. When this alarm occurs, the audible alarm cannot be silenced. Power must be cut to the controller to silence the alarm. In addition, all controller functions will cease to operate until the problem with the sensor is fixed.

## Technical Support & Contact Info

If you have further questions about the operation of your HCA-9100 Humidity Controller and Alarm, please contact our Customer Service department in one of the following methods:

Phone: 952-448-2217  
Fax: 952-361-9420  
Email: [customerservice@controlproductsinc.com](mailto:customerservice@controlproductsinc.com)  
Web: [www.controlproductsonline.com](http://www.controlproductsonline.com)

### MODELS AVAILABLE (Made in USA)

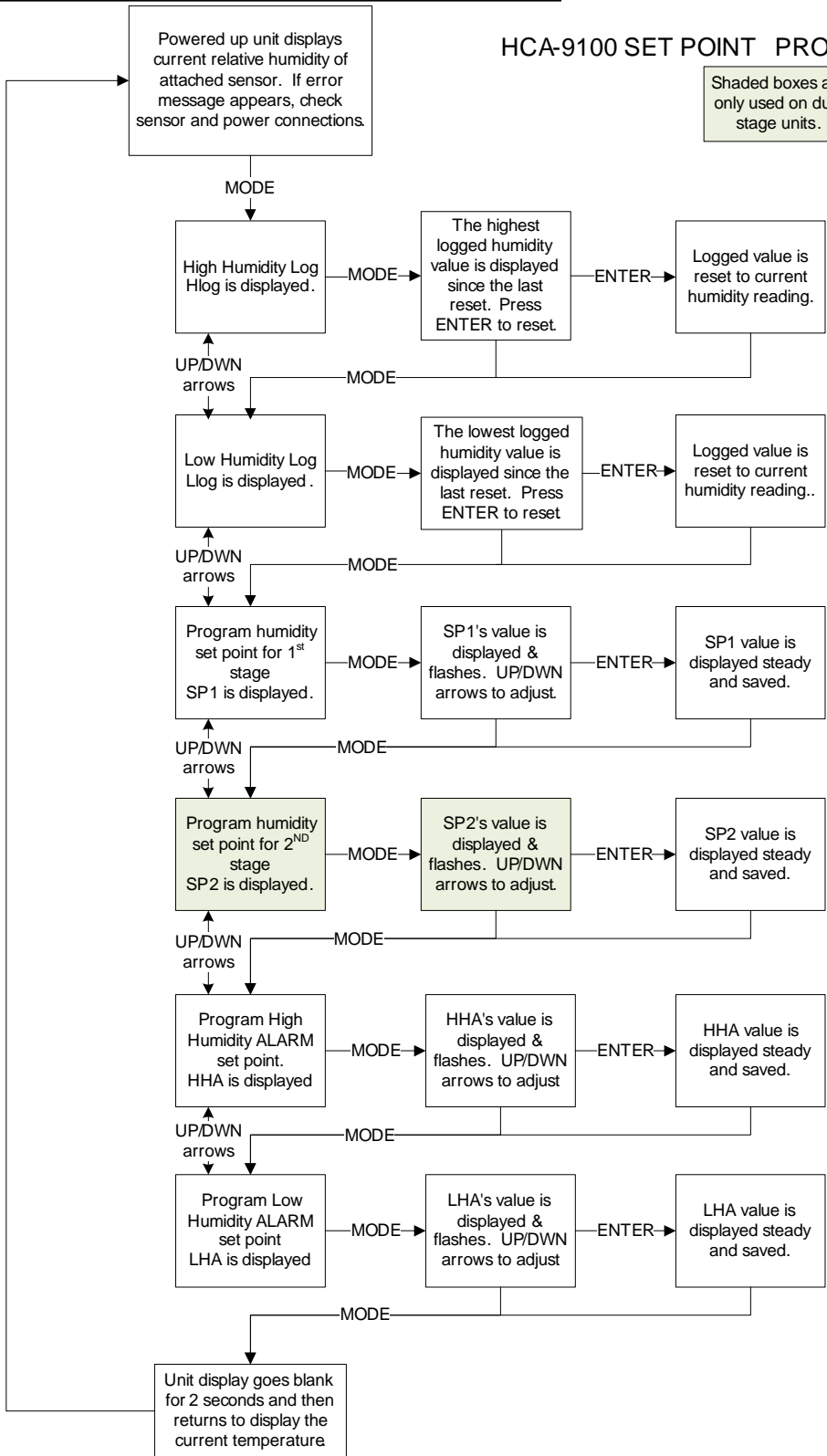
HCA-9100S-LV	Single stage, power = 12 or 24 VAC, 24 VDC
HCA-9100D-LV	Dual stage, power = 12 or 24 VAC, 24 VDC
HCA-9100S-HV	Single stage, power = 120 or 240 VAC
HCA-9100D-HV	Dual stage, power = 120 or 240 VAC



**Menu Flow Charts**

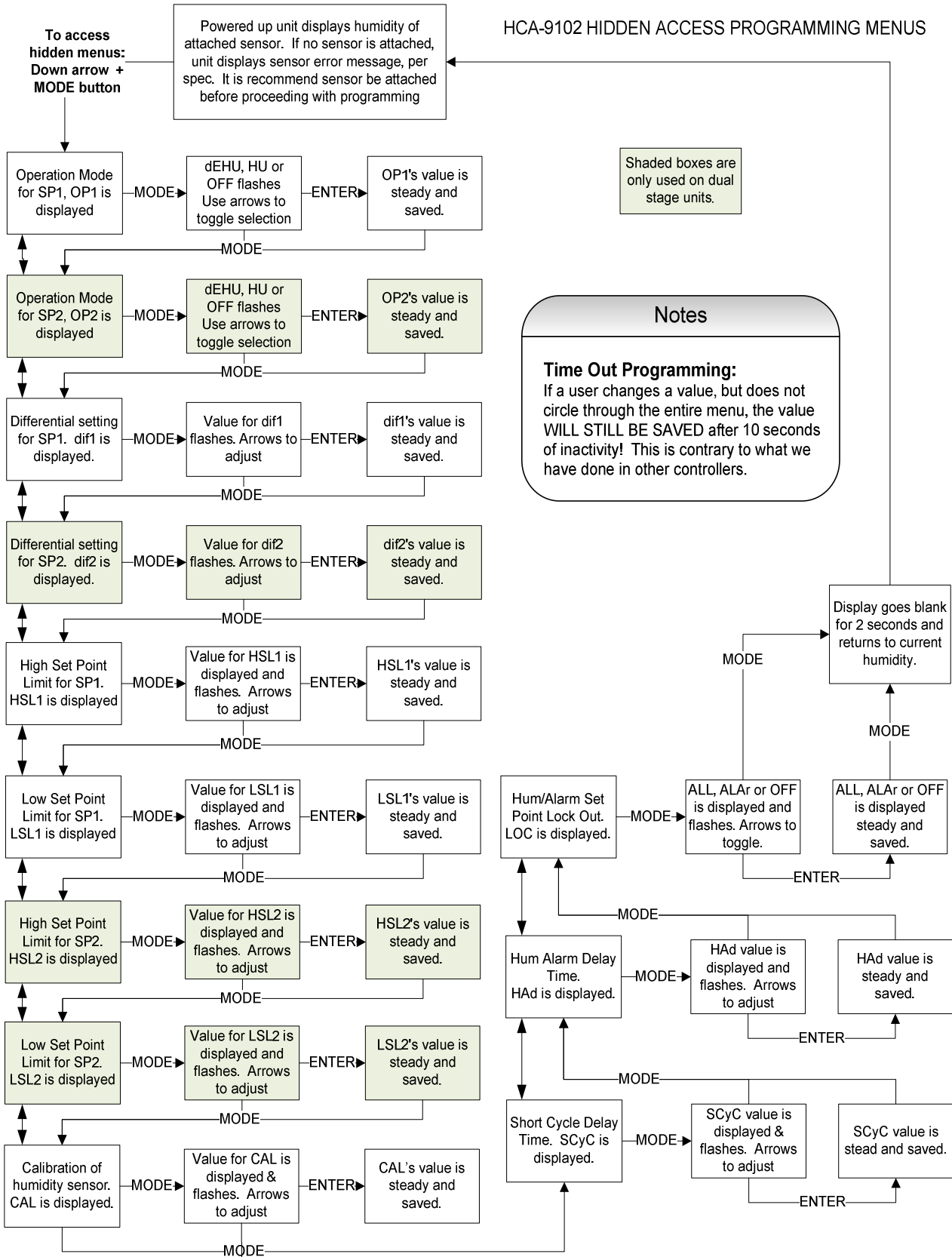
**HCA-9100 SET POINT PROGRAMMING MENUS**

Shaded boxes are only used on dual stage units.





HCA-9102 HIDDEN ACCESS PROGRAMMING MENUS





### **Warranty**

Control Products, Inc. warrants this product to be free from defects in material and workmanship under normal use for one year and is not responsible for consequential damages or installation costs of any nature. Exposure to contaminants and extreme environmental conditions such as moisture, temperature, chemicals, etc. may cause the unit to degrade or fail. Control Products accepts no liability for product applications or customer application testing.

### **Custom Design & Modifications**

Control Products specializes in complete design and manufacture of electronic controls. In addition to making any desired modifications to this product, we can design a unique control specific to your application. Please consult our Customer Service Department for further information on these services.

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