

# DHC-100 Instructions

## Important

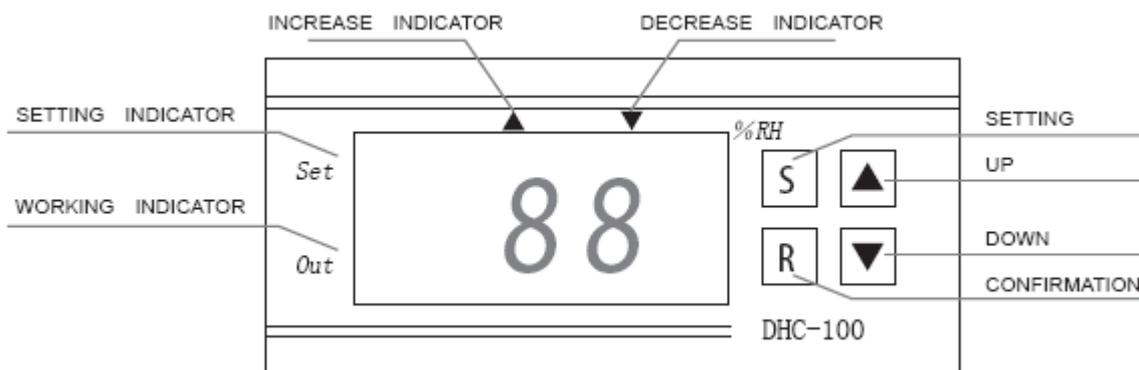
- When wiring the temperature sensor please make sure that the coloured wires are wired up to the correct terminals as follows: **Black to 7, White to 8 and Red to 9.**
- Do not over load the device's output Relay. Its maximum values are: 220v, 10A, 2200 watts.
- **Care must always be taken when working with electricity.**

## Specifications

Humidity measuring range: 1% to 99%RH	Product Size: 34.5 X 75 X 85.5mm
Humidity controlling range: 10% to 95%RH	Installing Hole/Panel Cut Out Size: 29 X 70mm
Power supply: 220V AC $\pm$ 10%/-15%	Accuracy: $\pm$ 5%RH (10%RH to 95%RH at 25c)
Relay Output Capacity: 10A, 220V AC MAX	Sensor operation temperature range: -30c to 80c
Operating Environment Temperature: 0c-55c	Sensor Extended Stability:0.5%RH/yr
Operating Relative humidity 20% to 85%	Temperature coefficient: $\pm$ 0.2%RH
Resolution: 1%RH	Power consumption: <3W
Sensor Size (Approx): Cable Length 2 metre, Sensor Head 4 x 3 x 1.5 cm	

## Overview

The DHC-100 works as either a humidifying or dehumidifying controller depending on how it is setup. The unit will display the current humidity unless the user has entered the Parameter Menu to change any of the settings listed later on.



The following describes the diagram of the front panel pictured above.

- Settings Indicator: Will light when the user has entered the Parameter Menu.
- Working Indicator: Will light to indicate that the Output Relay is operating.
- Increase & Decrease Indicator: This indicates which mode the unit is operating in. If the Decrease Indicator is lit then the unit is working as a Dehumidify Unit or if the Increase Indicator is lit it would be operating as a Humidifying unit.

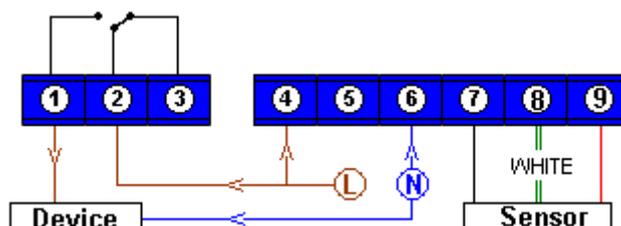
## Wiring

Please use the following wiring diagram to wire your devices for items that require 220v to 240v.

**IT'S VERY IMPORTANT THAT THE SENSOR IS WIRED PROPERLY USING THE DIAGRAM BELOW OTHERWISE THIS WILL DAMAGE THE SENSOR.**

Please note that the Output Relay (1 & 2) only requires to cut the live (hot) wire when turning the connected devices on and off. The Output Relay does not require a Neutral (Cold) wire.

When the Output Relay is not activated the terminals 2 & 3 are connected so that terminal no. 3 is live instead. If an earth is required this should be wired up separately perhaps via a terminal block.



## Operating Instructions

The 2 main settings on the unit are the Set Point and the Difference Parameters.

**Set Point:** indicates what midway humidity level the unit is to achieve.

**Difference:** The point away from the Set Point that the Output Relay should start or stop operating.

The difference value is the top and bottom range that you wish the unit to try and maintain. Using the following settings of Set Point = 50% and Difference = 5% the following happens.

**Humidifying Mode:** the relay turns on when at or below 50% (Set Point) and turns off when at or above 55%

**Dehumidify Mode:** the relay turns on when at or above 50% (Set Point) and turns off when at or below 45%

The main settings can be checked at any time: In normal mode, press the UP key to display Humidity Set Point or press the DOWN key to display the Difference setting.

### Parameter Menu and Settings

All Parameter/Settings are changed on the Parameter Menu. There are two types of Parameter Menu available. The Admin Menu allows all of the parameters to be updated where as the User Menu only allows the Set Point and the Difference parameters to be updated.

**Admin Menu:** Press and hold SET and UP keys together for about 3 seconds until the display changes.

**User Menu:** Press and hold the SET key for about 3 seconds until the display changes.

### **Parameter Setting Codes**

Each setting is coded as F01 to F08 as per the table below. When you enter one of the Menus you will be presented with the first setting, "F1" to be updated. By pressing the UP and DOWN keys you can scroll through each one of the Parameter Setting Codes.

Once you have selected the parameter you wish to change press the SET key and the display will now show the setting for that parameter. Press the UP and DOWN keys to select the new setting then press RST key to accept the new setting.

Once you have updated the new settings press and hold the RST key for about 3 seconds until the display changes to display the current humidity reading. Please note that if you do not press any key to confirm the new setting for 30 seconds or more then any updates to any of the parameters will not be saved.

Code	Description	Range	Default
F1	Set Point	10% to 95%	50%
F2	Difference	1 to 50%	5%
F3	Time delay	0 to 99 min	0 minute
F4	Alarm	0 to 50%	0 %
F5	Operate ON When Error	0 to 99 min	10 minute
F6	Operate OFF When Error	0 to 99 min	50 minute
F7	Calibration	+ or – 15%	0%
F8	Mode Selection	0= Humidify 1= Dehumidify	0

## Functions Explained

**F1: Set Point:** Indicates what midway humidity level the unit is to achieve.

**F2: Difference:** The point away from the Set Point that the Output Relay should start or stop operating

**F3: Time Delay:** The delay in minutes when the Output Relay will switch on after being requested to come on. For example if it was set to "3" Minutes then as soon as the Output Relay is requested to be switched on it will wait "3" minutes before coming on. The working indicator will flash on and off to indicate that the relay is due to come on but is waiting. The light will become solid when the time delay is finished and the relay switches on. This is a safety feature to protect the device that is connected to the unit from continual switching and causing damage. If it's set to "0" then there will be no time delay.

**F4: Alarm:** This feature has been designed to sound an audible alarm and flash the display screen when the area you are controlling is out with the desired humidity level. For example if it is set to 10% then the alarm will activate when the area you are controlling goes above or below the Set Point by 10%. To silence the alarm sound, press any key. If set to "0" the Alarm function will be cancelled.

### **F5 & F6: Operate When Error**

This function has been designed as a fail safe mechanism to allow the unit to operate even during a situation where a sensor error has occurred. It is extremely unlikely that a sensor error would suddenly occur while using the unit in a normal way, however, external problems such as the sensor wire being cut or damaged accidentally would cause the unit to error. **F5 & F6** will allow the user to program a situation where by the relay will come on for the number of minutes set in **F5** then turn off for the number of minutes set in **F6** and repeating this until the error is resolved. For example setting **F5** to 1 and **F6** to 5 means that during a sensor error the relay will switch on for 1 minute (**F5**) then will turn off 5 minutes (**F6**).

**F7: Calibration:** This setting will change the value that the sensor is reading by the number of %HR that has been selected on this setting. The value can be set from -15% to +15% of the actual reading.

**F8: Mode Selection:** This setting instructs the unit to operate either as a Humidifying or Dehumidifying controller

## Addition Functions

### **Keyboard lock**

This function will lock the keypad to stop or prevent any updating of the parameters. This can also assist you when the unit will be in an area that is unsupervised /open to the public. In normal mode, press both the UP and DOWN keys for about 3 seconds until the display shows "C1", the keypad is now locked. To unlock it again press and hold the UP and DOWN keys again until "C0" is displayed.

## Error Messages

The following error message will show to indicate that there is a fault.

**EE:** Sensor cannot be detected.

Current Reading Flashing: The sensor is above or below the Set Point (**F1**) by the % set in the Alarm (**F4**).

## Additional Information

Please avoid using the sensor in dusty environments. Do not submerge the sensor in water or liquid. Using this is area with strong electromagnetic fields can distort the true readings.