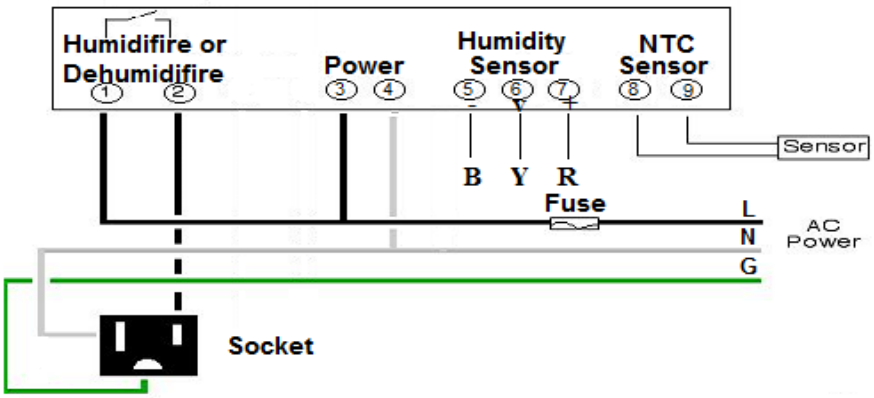
DWH8040 www.thermomart.com

Please check your controller label. Depends on your order the power supply (operating voltage) could be either 110V, 220V or 12V

Specification and size:



- *Humidity Measuring Range: 5% ~ 99% RH*
- *Resolution: 1 % RH*
- *Sensor Type: HS31K*
- *Product weight: 200 g*
- *Temperature coefficient: ±0.2%RH/℃*
- *Working temperature: 0℃ - 50 ℃ - Power consumption:< 3W*
- *Product size: 78L x 71W x 29D mm*
- *Humidity controlling range: 5% ~ 95% RH*
- *Accuracy: ±5%RH（10%RH~95%RH，25℃)*
- *Relay contact Current: Max 10A / 110 , 5A/220V*
- *Sensor operating temperature range: -30℃~+80℃*
- *Data Retention: Yes*
- *Storage temperature: -10℃ - 60 ℃*
- *Mounting size: 70L x 28W mm*

Button (key) Description:

1. **RST**: To turn the controller ON press the RST key. To turn the controller OFF press and hold the RST key for 3 seconds.
2. **SET**:

A: To set the humidity set point, press the SET key once and the controller will go to the “humidity setting” mode. By pressing ▲ or ▼ keys you can adjust the humidity to your required set point. When the set point is adjusted you can exit the “humidity setting” mode by pressing the SET key again.

B: To set the controller parameters, press and hold the SET key for more than 3 seconds and the controller will go to the “parameter setting menu”. By pressing ▲ or▼ keys you can select the required parameter from the menu. When the required parameter is found, press the SET key once and the controller will go to the required parameter setting mode. By pressing ▲ or ▼ keys, you can adjust the parameter that you need. When the parameter is set, you can exit the “parameter setting mode” by pressing the RST key (or wait for 5 seconds and the controller automatically exit this mode).

3. ▲: Increasing key 4. ▼: Decreasing key

Operating instructions

LED Status (light display):

- When the red light beside the “Work” is ON it shows that the output (humidifying or dehumidifying) is working.
- If the light beside the “Work” flashes, it shows that the controller is on delay.
- If the light beside the “Set” is ON, it shows that the controller is on setting mode.

Humidification/Dehumidification functions:

- Dehumidification mode: When the measured humidity is equal or higher than the (set point humidity + hysteresis), the relay turns the dehumidifier ON and when it is less than the (set point humidity - hysteresis), the relay turns it OFF.

- Humidification mode: When the measured humidity is equal or lower than the (set point humidity - hysteresis), the relay turns the humidifier ON and when it is higher than the (set point humidity + hysteresis), the relay turns it OFF.

Delay protection

This is a safety feature to protect the device that is connected to the unit, from continual switching. It prevents breaking the humidifier/dehumidifier as a result of frequent turning On and Off.

For example if this parameter is set to “3 minutes”, when the measured humidity is equal or lower than the (set point humidity - hysteresis), the working indictor will flash to indicate that the relay action is being delayed (for 3 minutes) and after 3 minutes the light will become solid and the relay will switch the humidifier ON. If this parameter is set to “0” there will be no time delay.

Delay Protection setting

Press and hold the “SET” key for more than 3 seconds to enter the “parameter setting menu”. Find the “PI” parameter by pressing "▲" or "▼" keys. Press the “SET” key when you find “PI” and then by pressing "▲" or "▼" adjust this parameter. By setting it on “0” there will be no time delay.

Higher and lower humidity function

By adjusting the higher and lower humidity, you will define the display range of your controller. Narrowing this range will add to the accuracy of the controller.

Higher and lower humidity setting ("HS" and "LS" parameters):

Press and hold the "SET" key for more than 3 seconds to enter the "parameter setting menu". Find the "HS" or "LS" parameters by pressing "▲" or "▼" keys. Press the "SET" key when you find "HS" or "LS" and then by pressing "▲" or "▼" adjust this parameter. Please note that your set point has to be always in between the HS and LS values.

Humidification /Dehumidification functions:

- Dehumidification mode: When the current humidity is equal or higher than the set point humidity (+ hysteresis), the relay turns the dehumidification source ON and when it is less than the set point humidity, the relay turns it OFF.
- Humidification mode: When the current humidity is equal or lower than the set point temperature (- hysteresis), the relay turns the humidification source ON and when it is higher than the set point humidity, the relay turns it OFF.

Humidification / Dehumidification setting ("HC" parameter):

To set the controller on Humidification or Dehumidification mode, press and hold the "SET" key for more than 3 seconds to enter the "parameter setting menu". Find the "HC" parameter by pressing ▲ or▼ keys. Press the "SET" key when you find the "HC" and then by pressing "▲" or " ▼ " adjust it to "C" for dehumidification or to "H" for humidification mode.

Hysteresis or Differential Set Value (Humidity Band) function:

To prevent the frequent ON/OFF action of the output a humidity band (called hysteresis or differential set value) is created between the ON and OFF operations. The controller will use a range (a maximum and minimum) for the process of controlling action, which is between 1% to 15%. For example when the hysteresis is set on 5% and the set point on 50%, the output ON/OFF action would be when the humidity goes lower than 45% and higher than 55%.

Hysteresis setting ("d" parameter):

Press and hold the "SET" key for more than 3 seconds to enter the "parameter setting menu". Find the "d" parameter by pressing "▲" or " ▼" keys. Press the "SET" key when you find "d" and then by pressing "▲" or " ▼" adjust it to any number from 1 to 15.

Humidity calibration:

You can calibrate the humidity reading with this function. Correction value can be positive, negative or 0.

Humidity calibration setting (" CA" parameter):

Press and hold the "SET" key for more than 3 seconds to enter the "parameter setting menu". Find the "CA" parameter by pressing "▲" or " ▼" keys. Press the "SET" key when you find "CA" and then by pressing "▲" or "▼" adjust this parameter.

Parameter Menu and Settings

Symbol	Details	Setting range	Factory Setting
HC	Humidification/Dehumidification	H/C	C
d	Hysteresis or Differential Set Value(Humidity band)	1-30 %	5 %
LS	Lower humidity setting	1% - HS	5 %
HS	Higher humidity setting	LS - 99 %	95 %
CA	Humidity calibration	-7 to +7	0 %
PT	Delay protection time	0 - 7	1 minute

Error messages and troubleshooting:

1) When the controller displays --- and makes alarm sound, it shows that the sensor is disconnected.
2) When the controller displays LLL it shows that the measured humidity is lower than LS.
3) When the controller displays HHH it shows that the measured humidity is higher than HS.
4) If the LCD doesn't light up the connections to power supply terminals (pins 3 & 4) and the humidity sensor connections (pins 5, 6 & 7) need to be checked.

Caution:

- Avoid using the controller and the sensors in dusty environments.
- Do not submerge the humidity sensor in water or liquid.
- The temperature sensor (NTC sensor) is for calculating the humidity more precisely. The temperature sensor should be installed in the vicinity of the humidity probe.
- The maximum current load of the humidification or dehumidification sources must not exceed the output relay contact capacity. It will damage the unit and may cause fire.
- Check the wiring diagram before wiring the unit. Wrong wiring will damage the controller and may cause fire.
- Applying extra force on the screws of controller terminals will break the board base. Please tighten the screws gently.
- Turn the power supply off while wiring the relays, sensors, … Otherwise it'll damage the unit and may cause fire.