

# WS8SERIES WALL MODULE FOR USE WITH FAN COIL UNITS

- Extra-large LCD display and operating interface
- Temperature display selection (room temperature or set temperature)
- Manual or automatic fan speed selection
- Anti-freeze protection
- Operating buttons lock / unlock
- Temperature range setting
- Standard 86 wall-mount installation box
- 



## SCOPE OF APPLICATION

WS8 Series wall modules are designed for indoor temperature control. It has large LCD display providing real time display of room temperature or set temperature. With temperature set, it will provide on/off control signal to the fan coil valve for temperature regulation to the occupant's desired comfort. WS8 Series wall modules provide selectable automatic or manual control of fan speeds. It also provides anti-freeze function.

## Technical Specification

Operating Voltages	100VAC-240VAC 50-60Hz
Load Capacity	Resistive – Fan unit 3A; valve 2A Inductive – Fan unit 1A; valve 0.6A
Temperature Setting Range	10~30°C 50~86°F
Temperature Display Range	-10~50°C 14~99°F
Operating Temperature	-30~60°C -22~140°F
Relative Humidity	5-90%RH, non condensating
Protection rating	IP20

## Ordering Part Numbers

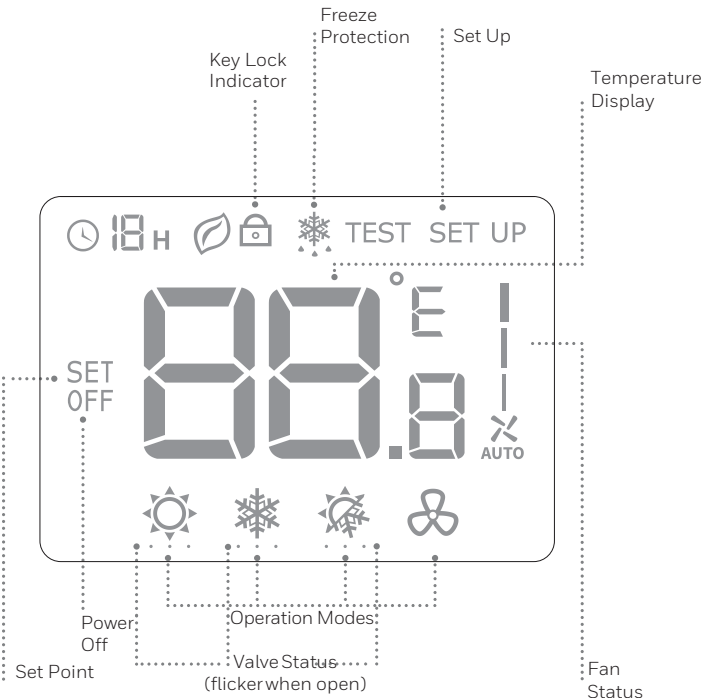
Model Number	Backlight	Application	Ventilation Mode	Operating Voltages
WS8B2WB/U	White	2-pipe	Yes	100-240Vac
WS8B4WB/U	White	2/4-pipe	Yes	100-240Vac

# Product Design

Outlook Design



## LCD Display



# Function

## Valve And Fan Control

The wall module reads indoor temperature through integrated temperature sensor and command valve to be opened or closed to achieve set temperature. There are three fan speeds which can be set manually or automatically. Under manual mode, fan speed is adjusted by FH, FM and FL outputs. Under automatic mode, the fan speed will depend on the difference between the room temperature and set temperature. The fan will shut down when the valve is not operating.

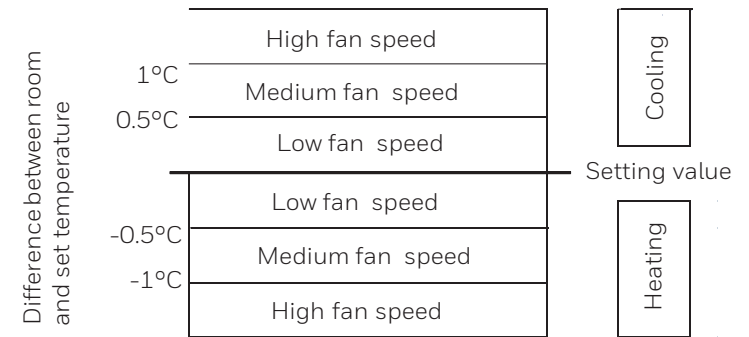


Figure 1. Automatic Fan Speed Control Algorithm

## Temperature Display

Room temperature or set temperature can be set to be displayed during the installation of the wall module.

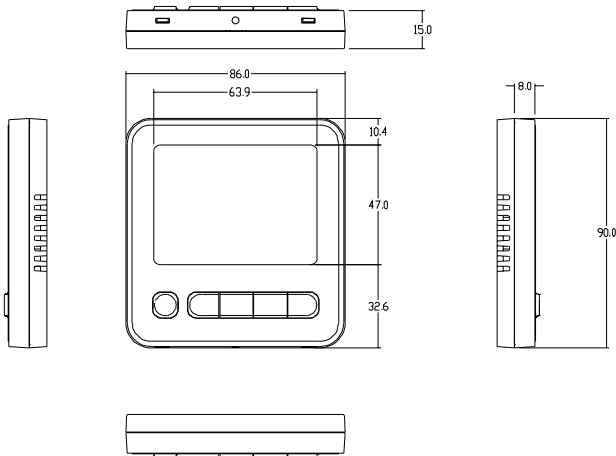
## Backlight

The Backlight will be activated when any button is pressed and will last for 8 seconds upon the last button pressed. In setting mode, the backlight will remain turn on for 60 seconds upon the last button pressed.

## Keypad Lockout

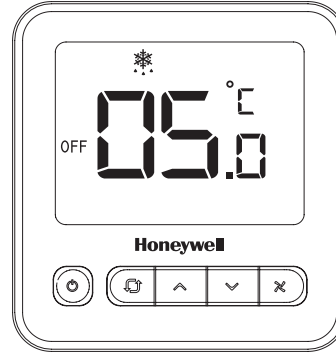
It is possible to lock or unlock the keypad while the device is not in setting mode. When in lock mode, the keypad will be inactive when pressing any button.

## Dimensions (mm)



## Anti-freeze mode

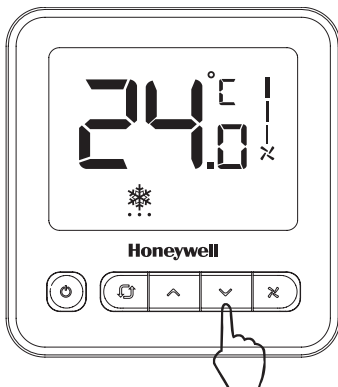
Anti-freeze mode is an option under the heating mode. When selected, if room temperature falls below 6C, the wall module (in off status) will be activated in heating mode until it reaches 8C.



## Operating Mode

### Comfort Mode

In the comfort mode, press the Up or Down button to set the temperature. The comfort mode is included in cooling, heating and automatic



### Ventilation Mode

Press the mode key to enter the ventilation mode. In ventilation mode, the fan speed will run as manually set with the valve st

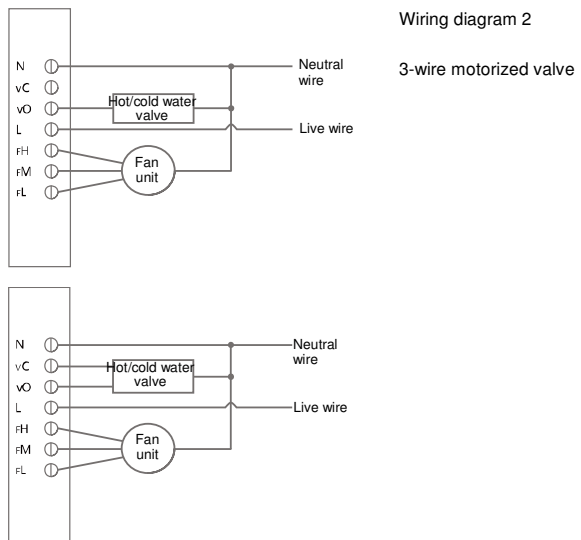


## PRODUCT WIRING DIAGRAM

### Part number: WS3B2WB/U

### Two-Pipe Application

220Vac, motorized valve wiring diagram

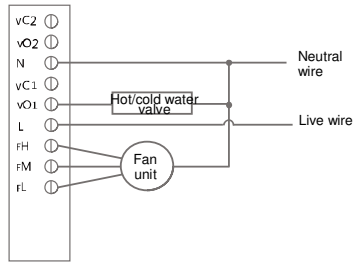


**Part number: WS8B4WB/U 2-pipe**

**Application**

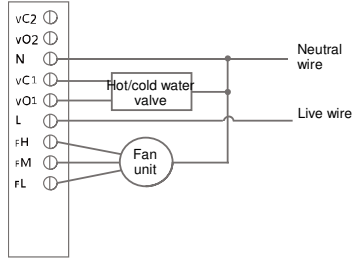
Wiring diagram 1

2-wire motorized valve



Wiring diagram 2

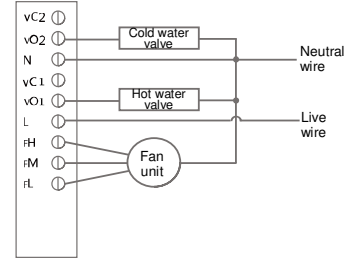
3-wire motorized valve



**4-pipe Application**

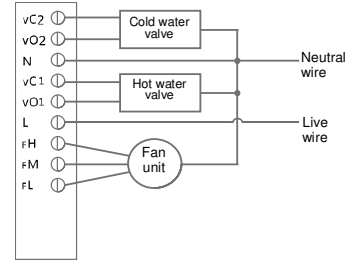
Wiring diagram 1

2-wire motorized valve



Wiring diagram 2

3-wire motorized valve



**Terminal Designations**

SYMBOL	Description
vC2	Cooling valve is closed (for quadruple-pipe only)
vO2	Cooling valve is open (for quadruple-pipe only)
N	Power source neutral wire
vC1	Heating/cooling valve is closed
vO1	Heating/cooling valve is open
FH	High fan speed
FM	Medium fan speed
L	Power source live wire
FL	Low fan speed

**Troubleshooting**

Syptoms	Solution
☀ Fails To Activate	<ul style="list-style-type: none"> <li>Pressing  to set the operation mode to  ( heating mode).</li> <li>Check whether the setting temperature is igher than the room temperature.</li> <li>Check whether the valve status ind icator is flickering.</li> <li>Wait for 5 minutes, check whether the heating system starts.</li> </ul>
❄ Fails To Activate	<ul style="list-style-type: none"> <li>Pressing  to set the operating mode to  ( cooling mode).</li> <li>C heck whether the setting temperature is lower than the room temperature. Check</li> <li>whether the valve status ind icator is flickering.</li> <li>Wait for 5 minutes, check whether the cooling system starts.</li> </ul>
Fails to work	<ul style="list-style-type: none"> <li>Check if the button is locked.</li> <li>Check if the device is in OFF mode</li> </ul>
Fails to work	<ul style="list-style-type: none"> <li>Check whether the buttons is locked.</li> <li>Check whether is in  mode</li> <li>Check whether is in the OFF state.</li> </ul>

**For more information,**

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**T6865 SERIES  
2-PIPE FAN COIL  
CONTROL**

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