




# MLM WALL COMFORT & RELATIVE HUMIDITY CONTROLLER

-  CONTROL TEMPERATURE
-  CONTROL MAX RH LEVELS
-  PRIMARY TEMP CONTROL STRATEGY
-  SECONDARY RH CONTROL STRATEGY
-  COMPATIBLE WITH RICKARDS MLM SYSTEM
-  BMS COMPATIBLE
-  MAKES RH CONTROL AFFORDABLE
-  NO MAINTENANCE
-  2 YEAR WARRANTY



## FEATURES

The Rickard MLM/MLC Wall Comfort & Relative Humidity Controller has been designed to give the user primary temperature control and secondary RH level control to maintain comfort levels and keep RH levels in check respectively. The Comfort & Relative Humidity Controller senses temperature and controls the temperature of the zone by modulating the damper of each VAV diffuser. When the RH value rises above an adjustable threshold value (RH% Threshold High), the diffusers open fully until the RH value is brought down to an acceptable level (RH% Threshold Low). Thereafter the diffuser returns to primary temperature control mode. The Relative Humidity of the supply air should be lower than the RH% Threshold Low value to allow for the relative humidity to be controlled adequately.

**Note:** RH control has priority over temperature control i.e. temperature will not be controlled when RH levels have risen above the RH% Threshold High Level. This is not an issue however as high RH levels are associated with an increase in temperature that requires cooling with supply air that is cooler and drier. If temperature control mode is required while the diffuser is in RH flush mode, the user can override it to revert to temperature control mode. This can be activated by pressing and holding the enter button until the controller buzzes.



The Comfort & Relative Humidity Controller converts any drone diffuser into a master so that it can control a zone of up to 15 diffusers. The new design boasts a modern, slim body, a larger digital screen for easier reading and discreet buttons on each side for setpoint adjustment and advanced user control.

To use the temperature/RH functionality of the Comfort & Relative Humidity Controller it is necessary to activate it through the latest MLM application. You can either setup the system with the wizard (see setup at the end of this section).

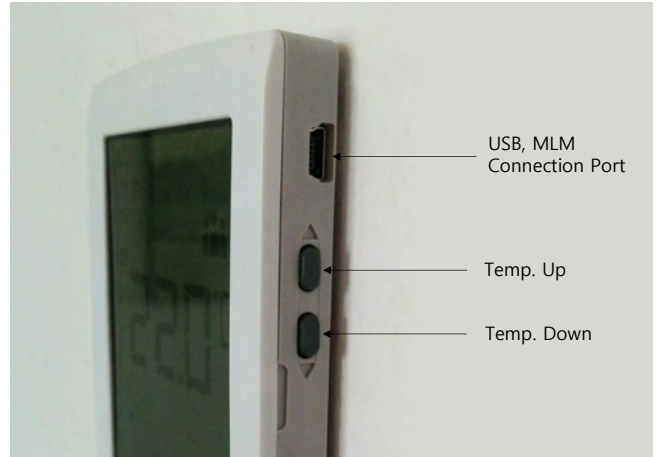
## AESTHETICS

### DISPLAY BUTTONS

The Rickard Wall Comfort & Relative Humidity Controller has been designed with discreet buttons located on either side of its body. One side allows straight forward temperature adjustment and the other advanced user control.

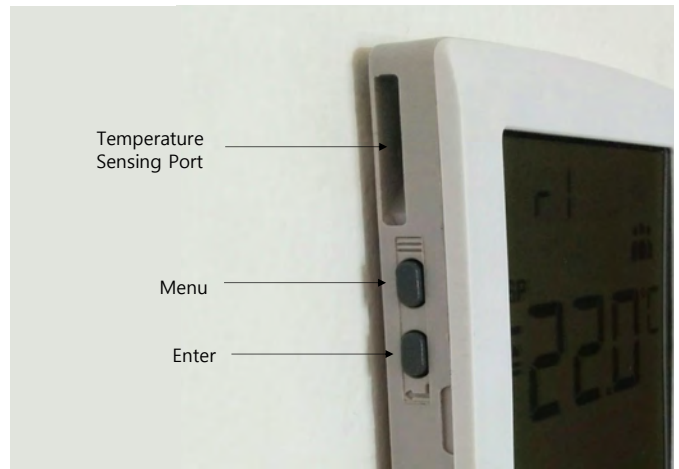
### Right Hand Side Buttons

The buttons located on the right hand side adjust the temperature up or down. The Up button increases and the Down button decreases the temperature set point.



### Left Hand Side Buttons

The buttons located on the side left hand side give the installer access to advanced commissioning functions. The Menu button is located above the Enter Button. Standard symbols depict Menu and Enter. Each press of the Menu buttons cycles through each option, the up and down buttons adjust the value and the enter button writes the value to memory. The RH flush mode can be overridden to revert to temperature control mode by pressing and holding the enter button until the controller buzzes.



### TEMPERATURE DISPLAY

The room temperature (default) or setpoint value will be displayed during normal temperature control mode.

### FUNCTIONAL EDITING OPTIONS

The following display options are available.

- Edit Set point Disable:** When activated, the user is prevented from editing set point.
- Setup Menu Enabled:** When activated, the user has access to the Setup Menu.

Menu Selection						
Setpoint Display	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Display Temp or RH	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mode	Comfort/ RH	Comfort	RH	Comfort/ RH	Comfort	RH
Controller Display	Setpoint	Temp value	RH Value	RH Value	RH Threshold Setpoint	RH Setpoint

## RH DISPLAY

The RH value will be displayed during the RH flush mode. Once the normal RH value is reached, the display will reflect that the diffuser has returned to temperature control mode.

## TEMPERATURE SENSING ACCURACY

The Rickard Wall Comfort & Relative Humidity Controller has a built in sensing port designed to accurately sample room temperature.

**NOTE:** Consider the effect of a hot or cold wall on the Wall Comfort & Relative Humidity Controller sensing accuracy. External conditions can affect internal wall temperatures to such a degree that the Wall Comfort & Relative Humidity Controller sensing ability is also affected. Mount the Wall Controller on an opposite or adjacent wall if necessary.

## RH SENSING ACCURACY

The Rickard MLM Wall Comfort & Relative Humidity Controller has a sensor port designed to accurately sample RH.

**NOTE:** Consider the effect of the RH controller location on sensing. The sensor should be positioned so that it senses a representative sample of room air.

## COMPATIBILITY

Compatible with MLM or ML Controls provided each diffusers controller is loaded with RH sense firmware. Install the latest MLM application from the support section of the Rickard website to ensure you are prompted install the correct firmware.

## INSTALLATION

The Rickard Wall Comfort & Relative Humidity Controller is simple to install. It has been designed to be fitted to a standard 2 x 4 draw box or dry wall partitioning. To attach to a draw box use the 2 machine screws supplied. The diagonal slots allow horizontal and vertical alignment. Four additional round holes can be used for dry wall partitioning attachment. The controller comes with a 8 meter RJ12 cable for connection to a slave diffuser.

## HARDWARE LIMITATIONS

### PSU2 LIMITATION

1. A maximum of 10 Ventilation Controllers/PSU
2. A maximum of 10 diffusers and a total of 100m of inter-diffuser cables if the inter-diffuser cable between the PSU2 and 1st diffuser is 30m  
or  
A maximum of 15 diffusers and a total of 120m of inter-diffuser cables if each length is  $\leq 8$ m each.

### RH WALL CONTROLLER LIMITATION

A maximum cable length of 15m between the diffuser and controller is recommended.

## APPLICATION

The Rickard Wall Comfort & Relative Humidity Controller;

- Accurately senses and sets room temperature.
- Accurately senses the RH ppm value. The threshold and normal setpoint is set using the MLM application.
- Converts any Slave diffuser into a Master so that it can control a zone of up to 15 diffusers.
- Compatible with MLM and MLC systems.
- Accesses and adjusts advanced commissioning settings.

## SELECTION

Used when floor layout plans are less likely to change and sensing accuracy is a priority.

### TEMPERATURE SENSING ACCURACY

The Rickard Wall Comfort & Relative Humidity Controller has a built in sensing port designed to accurately sample room temperature.

**NOTE:** Consider the effect of a hot or cold wall on the Wall controllers sensing accuracy. External conditions can affect internal wall temperatures to such a degree that the Wall controllers sensing ability is also affected. Mount the Wall controller on an opposite or adjacent wall.

### RH SENSING ACCURACY

The Rickard MLM Wall Comfort & Relative Humidity Controller has perforations in the face designed to accurately sample RH. **NOTE:** Consider the effect of the RH controllers location on sensing. The sensor should be positioned to sense a representative sample of room air.

## SETUP

To use the temperature/RH functionality of the Wall Comfort & Relative Humidity Controller it is necessary to activate it with the wizard through the latest MLM application. Contact Rickard for instructions.

