


# MLM WALL CO2 COMFORT & VENTILATION CONTROLLER

-  CONTROL TEMPERATURE
-  CONTROL MAX CO2 LEVELS
-  PRIMARY TEMP CONTROL STRATEGY
-  SECONDARY CO2 CONTROL STRATEGY
-  COMPATIBLE WITH RICKARDS MLM SYSTEM
-  BMS COMPATIBLE
-  MAKES CO2 CONTROL AFFORDABLE
-  NO MAINTENANCE
-  2 YEAR WARRANTY



## FEATURES

The Rickard MLM/MLC Wall CO2 Comfort & Ventilation Controller has been designed to give the user primary temperature control and secondary CO2 level control to maintain comfort levels and keep CO2 levels in check respectively. The CO2 Comfort & Ventilation Controller senses temperature and controls the temperature of the zone by modulating the damper of each VAV diffuser. When the CO2 value rises above a threshold value, the diffusers open fully until the CO2 value is brought down to an acceptable level. Thereafter the diffuser returns to primary temperature control mode.

If the diffuser is in CO2 flush mode, the user can override it to revert to temperature control mode if required. This can be activated by pressing and holding the enter button until the controller buzzes.

The CO2 Comfort & Ventilation Controller converts any slave 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/CO2 functionality of the CO2 Comfort & Ventilation 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) or do it manually. For detailed manual activation instructions please see the MLM CO2 Comfort & Ventilation Controller Setup Instructions Section. The Instructions are available on the Rickard website linked from this products page.



## AESTHETICS

### DISPLAY BUTTONS

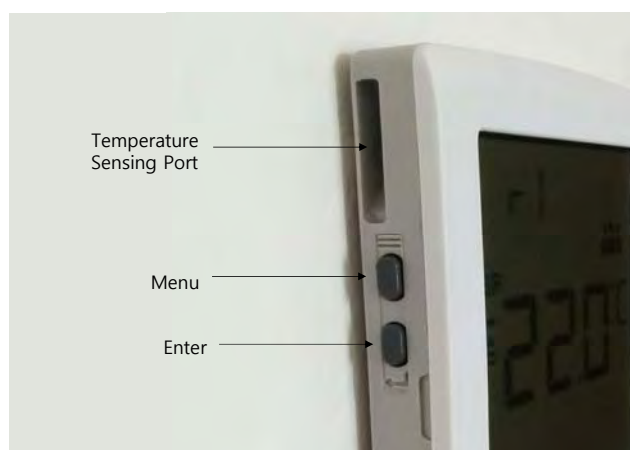
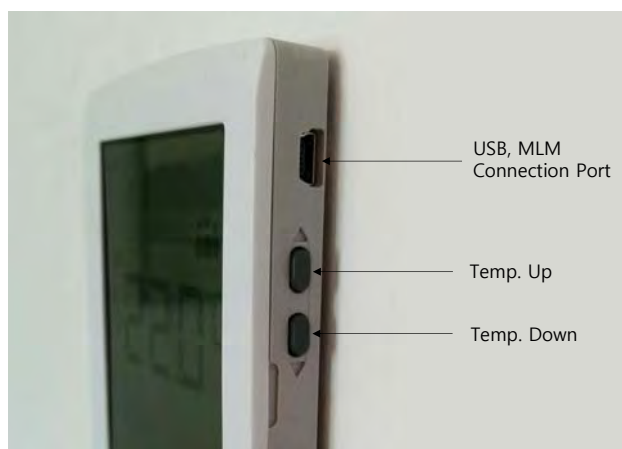
The Rickard Wall CO2 Comfort & Ventilation Controller has been designed with discreet buttons located on either side of its body. One side allows straight forward temperature adjustment and the other advanced user control.

#### 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 CO2 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	✓	□	□	□	✓	✓
Display Temp or CO2	□	□	□	✓	✓	✓
Mode	Comfort/Vent	Comfort	Ventilation	Comfort/Vent	Comfort	Ventilation
Controller Display	Setpoint	Temp value	CO2 Value	CO2 Value	CO2 Threshold Setpoint	CO2 Set-point

### CO2 DISPLAY

The CO2 value will be displayed during the CO2 flush mode. Once the normal CO2 value is reached, the display will reflect that the diffuser has returned to temperature control mode.

### TEMPERATURE SENSING ACCURACY

The Rickard Wall CO2 Comfort & Ventilation 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 CO2 Comfort & Ventilation Controller sensing accuracy. External conditions can affect internal wall temperatures to such a degree that the Wall CO2 Comfort & Ventilation Controller sensing ability is also affected. Mount the Wall Controller on an opposite or adjacent wall if necessary.

### CO2 SENSING ACCURACY

The Rickard MLM Wall CO2 Comfort & Ventilation Controller has perforations in the face designed to accurately sample CO2.

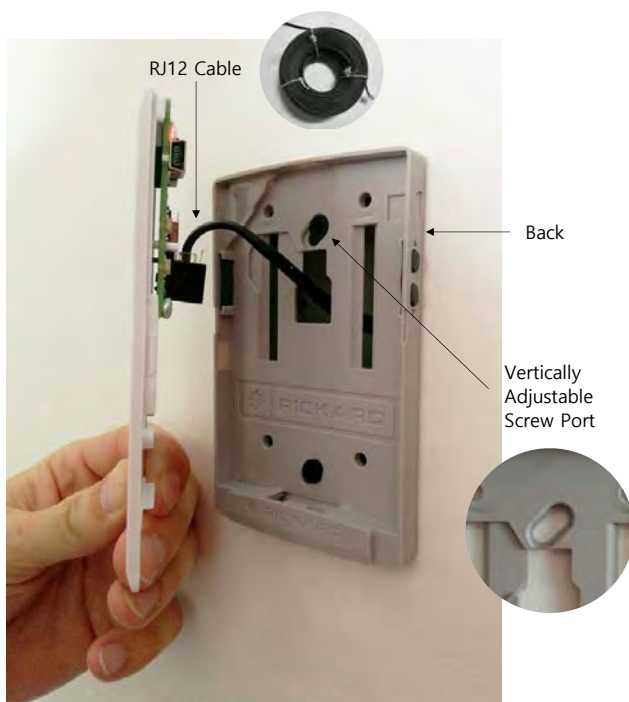
**NOTE:** Consider the effect of the CO2 controller location on sensing. The sensor should be positioned so that it senses a representative sample of room air.

### COMPATIBILITY

Compatible with MLM or ML Controls provided each diffusers controller is loaded with CO2 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 CO2 Comfort & Ventilation 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.

### CO2 WALL CONTROLLER LIMITATION

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

## APPLICATION

The Rickard Wall CO2 Comfort & Ventilation Controller;

- Accurately senses and sets room temperature.
- Accurately senses the CO2 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 CO2 Comfort & Ventilation 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.

### CO2 SENSING ACCURACY

The Rickard MLM Wall CO2 Comfort & Ventilation Controller has perforations in the face designed to accurately sample CO2. **NOTE:** Consider the effect of the CO2 controllers location on sensing. The sensor should be positioned to sense a representative sample of room air.

### CO2 SENSING CALIBRATION

The CO2 sensor has a built in calibration period to ensure the unit is measuring accurately. In order to calibrate accurately, power to the unit should not be interrupted for a 2 week period. Once completed,



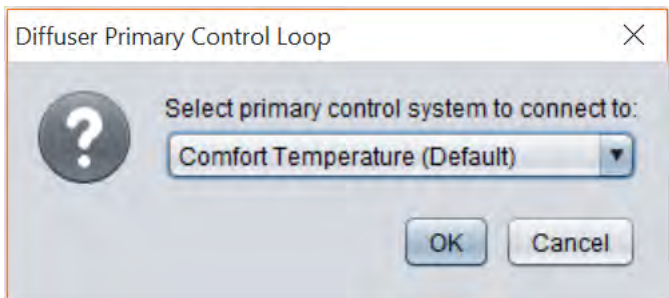
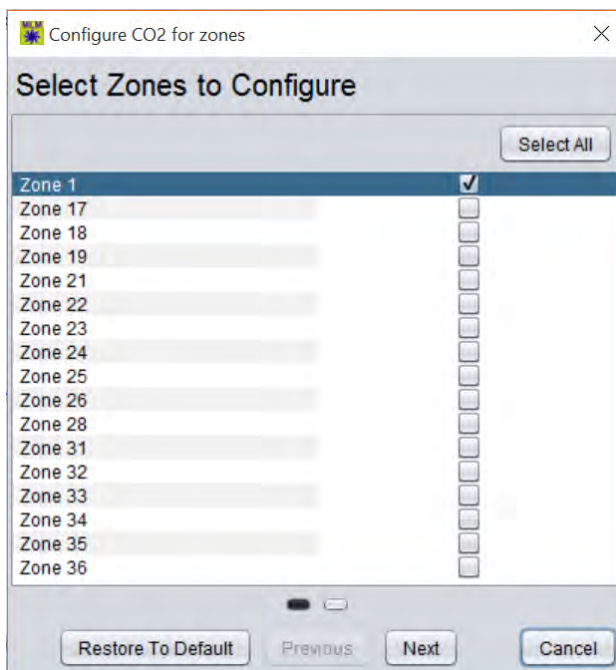
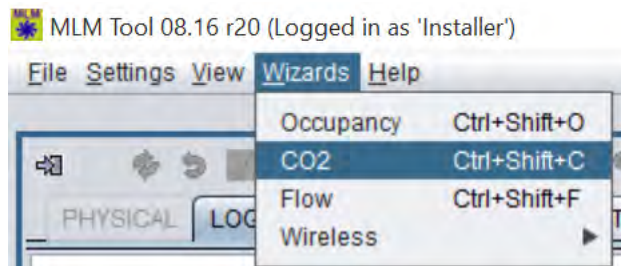
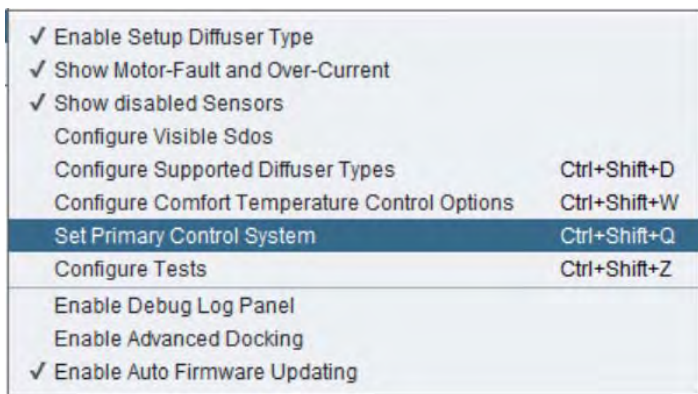
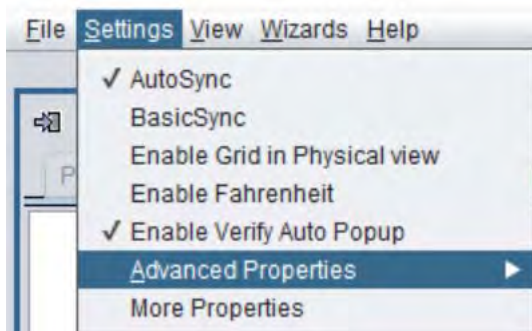
it is not necessary to keep the unit permanently powered to maintain calibration. The system can be shutdown daily provided the unit is powered for an additional hour outside of the normal occupancy of the building.

## SETUP

To use the temperature/CO2 functionality of the Wall CO2 Comfort & Ventilation Controller it is necessary to activate it through the latest MLM application. You can either setup the system with the wizard or do it manually. For detailed manual activation instructions please see the MLM Wall CO2 Comfort & Ventilation Controller Set-up Instructions Section. The Instructions are available on the Rickard website linked from this products page.

Select CO2 from the wizard menu and follow the wizard instructions.

Select the Zones to Configure, enable CO2 control and set the high and low CO2 threshold. The high threshold sets the maximum CO2 ppm value (1200ppm default) and the low threshold sets the CO2 value (800ppm default) at which temperature control is reinstated. Click Apply and the all the zones selected will be activated with the thresholds selected.



### WIZARD SETUP INSTRUCTIONS

Set the Primary Control System to Comfort Temperature (on by default).

Please use the latest MLM software tool available from the Rickard support section of the website, this will ensure the latest Wall CO2 Comfort & Ventilation Controller & diffuser controller firmware is loaded and the latest wizard is available in the wizard menu.

The Firmware versions should be:

WallstatTouch\_load\_V\_04\_08 (or later)

DiffuserController\_load\_V\_06\_14.zip

