RICKARD

INTELLIGENT COMFORT CONTROL

MLM WIRELESS WALL THERMOSTAT

- EASY INSTALLATION WITH NO CABLES
- FLEXIBILITY TO FIND THE PERFECT SENSOR LOCATION
- INDIVIDUAL ROOM TEMPERATURE CONTROL
- ACCURATE ROOM TEMPERATURE SENSIING
- QUICK & EASY COMMISSIONING
- NEW MODERN SLIM DESIGN
- NO TRUNKING OR DRAW BOX

FEATURES

The Rickard MLM Wireless Wall Thermostat or RF Wall Thermostat has been designed to give the user individual temperature control and accurate room temperature sensing without compromising floor-plan flexibility. Since it is wireless the cost of installation is reduced considerably. VAV diffusers with onboard sensing have always had the advantage of flexibility as the built in sensor and the outlet can be moved together when a floorplan design is changed. Although considerable effort has been made to sense accurately with onboard sensing, inadequate pressure and large temperature differences between supply air and room air especially in heating can result in sensing inaccuracies.

Now that the Rickard Wireless Wall Thermostat is available, accurate sensing and diffuser flexibility is possible without the cost and inconvenience of moving a wired Wall Thermostat. Wireless wall thermostats are also considerably cheaper to install since they don't need draw boxes fitted for their mounting, trunking fitted for cabling and the hassle of pulling and routing wall thermostat cables to the diffuser.

Every installation requires an Access Point (AP) per Power Supply Unit (PSU). Each AP can communicate with up to 15 wireless wall thermostats. Commissioning is made simple with Rickard's free MLM software and an intuitive thermostat/diffuser pairing procedure. A simple guide is available to get you started.

HARDWARE

The MLM RF Wall Thermostat consists of the following hardware units: an Access Point and the RF Wall Thermostat. These hardware units in combination with the MLM Tool rev 8.xx application software form the MLM RF system.

The Access point is powered by the MLM bus and the RF Wallstats are each powered by a pair of Lithium AAA batteries, with a typical operational life of 3-5 years. To conserve power, the RF communication is adaptive and could vary between 1 and 10 minutes, depending on the operational requirements of the control system. During commissioning however, this period is reduced to a few seconds.

The following MLM RF hardware models are available:

MLM 24 RF Access Point (2m connecting cable included)

MLM 24 RF Wallstat

MLM 24 RF Pod Sensor

HARDWARE INSTALLATION

The Rickard MLM RF Wall Thermostat is simple and easy to install. Since no cable is used, no draw box is required and can be fitted to any wall surface in any position. The diagonal slots allow horizontal and vertical alignment with 2 screws. There are four additional round holes if required.

The RF system requires an AP (Access Point) to be installed within a 50 meter radius of the RF Wallstat. One AP can be installed per Power Pack Unit at any point on the MLM24 slave cabling link. Ensure the AP is installed centrally among the RF wallstats, normally inside a ceiling void. Ensure the antennae wire protruding from the AP enclosure is fixed in a vertical position. Install the AP at least one meter away from any sheet metal objects. Ensure the AP is securely attached to a solid object.

A maximum of 15 Wallstats can be installed per AP. Please follow the installation instruction provided with the RF Wallstat to fit the back shell to a wall. Fit the two batteries provided orientated according to the polarity indicated on the board. **NOTE:** 1.5V AAA lithium cells should always be used. Lithium cells are readily available off the shelf. If standard AAA's are used, the RF wallstat will stop functioning long before the batteries are depleted. Lithium cells maintain their Voltage until completely depleted and therefore last considerably longer. The RF wallstat will not operate when the voltage drops. After installing the batteries, clip the remote unit onto the back shell. The remote unit will be in sleep mode and the LCD screen will be switched off.

Note: Do not mix wired and wireless wall thermostats on the same Power Supply Unit (PSU).

Note: One onboard controller and change-over sensor (supply air sensor) is required per zone on sites that switch between heating and cooling. This allows the diffuser to reverse direction when the supply air temperature changes between heating and cooling. Please ensure the diffusers are correctly commissioned. The onboard controllers sensing and setpoint should be disabled, the change over sensor enabled and sensing and setpoint should be enabled on the RF Wall thermostat. These settings can be adjusted through the MLM Application.

COMMISSIONING

Commissioning is a simple two stage process. First, link the remote RF Wallstats to the correct Access Point. This is achieved by activating the Access Point linking mode on the MLM application and the wallstat pairing mode on the device. Once the linking is complete, the wallstats need to be zoned to the appropriate diffuser. The zoning follows a simple procedure using the MLM application. Please see the MLM RF User Manual for full commissioning Instructions.

RF NETWORK STATUS AND HEALTH

The MLM Application has the functionality to monitor the RF Networks status and health.

The Battery and Signal Strength health of the RF network can be determined using the built in MLM RF Network Status Wizard.

If required, a Wireless Wallstat can be removed from the system by using the built in wizard or by manually selecting the end point displayed on the application.

Communication errors are also displayed on the Wallstat icon if they occur i.e. when a WS is non-responsive the WS icon in the network view will be displayed in yellow.

Rezoning wallstats is a simple matter of re-assigning them with the MLM application.

SETPOINT ADJUSTMENT

The wallstats setpoint can be adjusted as follows:

1. When in temperature or setpoint display, press the up or down arrows on the right side of the wallstat to increase or decrease the setpoint one degree at a time. The value can be accepted by pressing the enter button (bottom left). Alternatively it will be accepted automatically after a short delay.

Using the menu button (top left), select setpoint adjustment mode (SP). Follow procedure (1) above to adjust.

AESTHETICS

DISPLAY BUTTONS

The Rickard Wall Thermostat 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.

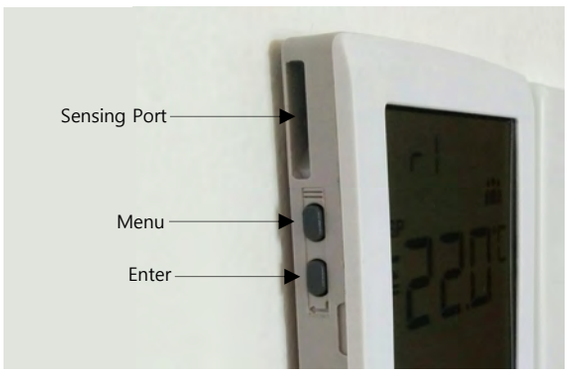
Right Hand Side Buttons

The buttons located on the right hand side adjust a value up or down.

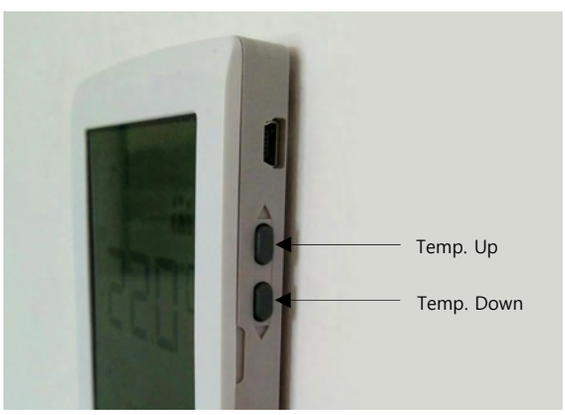
Left Hand Side Buttons

The buttons located on the side left hand side give the user access to advanced commissioning functions. The Menu button is located above the Enter Button. Standard symbols depict Menu and Enter on the side of the casing. Each press of the Menu button cycles through each option and the enter button writes the value to memory.

LEFT-HAND SIDE



RIGHT-HAND SIDE



DISPLAY OPTIONS

FUNCTIONAL EDITING OPTIONS

1. **Set point Display:** When activated Set point is displayed instead of room temperature.

2. **Temperature Display:** By default the room temperature is displayed.

3. **RTC Display:** Real Time Clock is displayed.

SENSING ACCURACY

The Rickard MLM Wall Thermostat has a built in sensing port designed to accurately sample room temperature. It is important to find a mounting location that best represents the occupants environment.

NOTE: Consider the effect of a hot or cold wall on the Wall Thermostat's sensing accuracy. External conditions can affect internal wall temperatures to such a degree that the Wall Thermostat's sensing ability is also affected.

CONTROLS

1. Compatible with MLM or MLC.

APPLICATION

The Rickard MLM RF Wall Thermostat;

- Accurately senses and sets room temperature.
- 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.

SELECTION

Use when individual temperature control is a requirement.

Use when flexibility and sensing accuracy is a priority.

Use to reduce the cost of a Wall Thermostats Installation.

Use when stratification in heating is a problem.

SPECS

- RF frequency 868MHz ISM band
- Max TX level 10dbm
- Receive level up to -100dbm
- Encoding 2-GFSK
- Communication rate 38 kBaud
- Battery 2 x 1.5V AAA Lithium cell
- Battery life 3 to 5 years.
- Battery low voltage indication (< 2.8V)
- RSSI RF signal strength indication (RSSI low at < -85 dbm)
- Selectable setpoint/RTC/Room temperature display
- Info display – Battery Voltage or RSSI display.

HARDWARE LAYOUT