

MLM WIRELESS POD SENSOR

- ✿ ACCURATE TEMPERATURE SENSING
- ✿ FLEXIBILITY TO FIND THE PERFECT SENSOR LOCATION
- ✿ EASY INSTALLATION
- ✿ QUICK & EASY COMMISSIONING
- ✿ UNOBTRUSIVE MODERN DESIGN
- ✿ EASILY ADAPTS TO FLOORPLAN CHANGES
- ✿ 3–5 YEARS BATTERY LIFE
- ✿ NO WIRES REQUIRED
- ✿ NO TRUNKING OR DRAW BOX
- ✿ AVOID SETPOINT ADJUSTMENTS



FEATURES

The Rickard Wireless Pod Sensor or RF Pod Sensor has been designed to provide accurate room temperature sensing without compromising floorplan flexibility. The Wireless Pod Sensor functions primarily as a remote sensing station and therefore does not come with a display. VAV diffusers with onboard sensing have always had the advantage of flexibility as the built in sensor and diffuser 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 in heating can result in stratification and sensing inaccuracies.

Now accurate sensing and diffuser flexibility is possible without the potential inaccuracies of onboard sensing. The Pod Sensor can be placed anywhere in the occupied zone without any disruptions to the building structure or occupant. A wireless sensor pod is also a more affordable, less obtrusive and simpler alternative to a wired wall thermostat.

Every installation requires an Access Point (AP) per Power Supply Unit (PSU). Each AP can communicate with up to 15 wireless wall thermostats and has a range of 50m (radius). 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 Pod Sensor consists of the following hardware units: an Access Point and the RF Pod Sensor. 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 Pod Sensors 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:

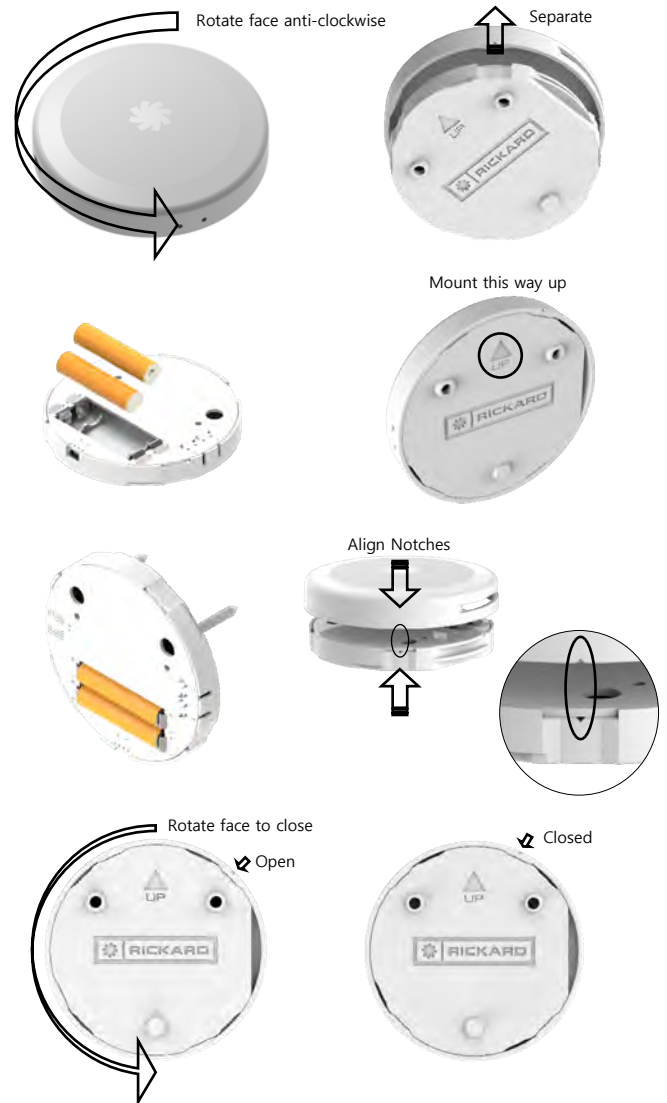
MLM 24 RF Access Point (2m connecting cable included)

MLM RF Wall Thermostat

MLM 24 RF Pod Sensor

HARDWARE INSTALLATION

The Rickard MLM RF Pod Sensor 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 Pod Sensor is mounted by screwing the back of the casing to the wall with two plastic screws. The casing is separated by twisting the front and back casing a few degrees. The Pod should be oriented with the up arrow moulded on the back facing upwards to ensure the sensor senses accurately.



The RF system requires an AP (Access Point) to be installed within a 50 meter radius of the RF Sensor Pod. 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 Pods, 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 (See Hardware Layout and the end of this section)

A maximum of 15 RF Sensor Pods can be installed per AP. Please follow the installation instruction provided with the Pod 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, twist the face back onto the back shell. The remote unit will be in sleep mode.

Note: Do not mix **wired** wall thermostats and wireless sensor pods 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 Pod Sensor. These settings can be adjusted through the MLM Application. Please see our MLM Commissioning Guide for more information.

COMMISSIONING

Commissioning is a simple two stage process. First, link the remote RF Sensor Pods 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 pods 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.

Access Point status:						
Channel	Serial Number	No. of EndDevice	No. of Unsaved	Battery status	RSSI status	Link mode
1	16110001	3	0	High	High	No
2	17110001	0	0	High	High	No
3	17110000	0	0	High	High	No
4	16110000	0	0	High	High	No

WallStat status:						
Channel	Serial Number	EDType	Battery voltage	RSSI DB	Tx Interval	F.W Version
1	10040011	RF Wallstat	3.5	-80	660	0412
1	10062117	RF Wallstat	3.5	-55	400	0412
1	10040014	RF Wallstat	3.5	-72	519	0412

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

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

Re-zoning pods is a simple matter of re-assigning them with the MLM application.

SETPPOINT ADJUSTMENT

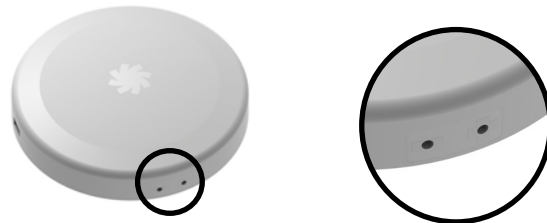
The RF Sensor Pods setpoint can be adjusted through the MLM application.

AESTHETICS

The RF Sensor Pod is designed to sense temperature without attracting attention to it. It's clean lines and unobtrusive round shape makes it easy on the eye. Standard colour is off-white.

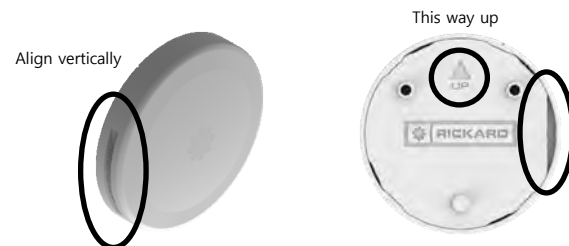
BUTTONS

The Sensor Pod has been designed with an up and down or +/- button hidden on the side of its body. The buttons are marked with a + and a - and are accessible through a hole in the casing with a paper clip. The buttons are used to wake the pod and pair it with the Access Point (AP).



SENSING ACCURACY

The Rickard MLM Pod Sensor has a built in sensing port designed to accurately sample room temperature. The sensing port should be aligned as shown below.



It is important to find a mounting location that best samples the occupants environment.

NOTE: Consider the effect of a hot or cold wall on the Pods 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 Pod Sensor;

- Accurately senses 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 comfort control is a requirement.

Use when flexibility and sensing accuracy is a priority.

Use when stratification in heating is a problem.

Use when room temperature display and setpoint adjustment is not a priority.

- 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)

SPECS

- RF frequency 868MHz ISM band
- Max TX level 10dbm
- Receive level up to -100dbm
- Encoding 2-GFSK
- Communication rate 38 kBaud

HARDWARE LAYOUT

