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RICKARD MLM+ and Bluetooth Series Control Options

This is a generic specification. Please contact your Rickard representative for any specific requirements

GENERAL

1) Product covered

Control Options for Rickard Diffusers fitted with MLM+ or Rickard Bluetooth Controls.

2) Related Standards

- a. The latest related standards apply.
- b. ASHRAE Standard 55 – Thermal Environmental Conditions for Human Occupancy

3) Support

Rickard believes part of its success lies in the way we support our customers.

We understand that our diffusers forms part of a bigger system that needs to work seamlessly with ours.

If you have a product specific query, or general system query, please do not hesitate to contact our experienced Sales or Engineering staff.

4) Quality

- a. Rickard specialize in the manufacturing of VAV diffusers and controls with 47+ years' experience.
- b. 100% testing of product produced by Rickard before shipping
- c. Rickard warranty covers electronic controls to be free from defects in material or workmanship for a period of 24 months from date of shipment.
- d. Full terms and conditions available on request

RICKARD CONTROLLER PRODUCT SPECIFICATION

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1) Introduction

The Rickard VAV controls essentially consist out of two components:

- a. Interface board with:
 - i. Two inter diffuser mini-fit connectors
 - ii. Wall thermostat RJ connector
 - iii. Heater control cable connector for connection to:
 1. Rickard heater neck complete with Triac controller
 2. Rickard hot water coil valve controller
 3. Rickard base board heater controller?
 - iv. Rickard Flow sensor connector
 - v. Supply Air sensor connector
- b. Diffuser Controller:
 - i. Mounted on every diffuser
 - ii. Also located in the Wallstat Thermostat/Setpoint adjuster

2) Rickard Diffuser Controller

- a. Free MLM+ software is available to change controller setting. (MLM+ controls only)
- b. Free Bluetooth app is available to change controller settings. (Bluetooth controls only)
- c. Require a Room sensor to understand Room condition
- d. Require a Setpoint to understand expected Room condition
- e. When a supply air sensor (CO sensor) is fitted, it can be programmed to use Supply Air Temperature, to change direction of control disc travel, when required to optimize cooling or heating as required.
- f. Only one Diffuser Controller should be activated per diffuser or control zone. If a Wallstat is connected, the on-board controller must be deactivated.
- g. The diffuser controller is a proportional/ integral controller.
 - i. The further room temperature is away from setpoint the faster the motor will drive to correct air volume requirement.
 - ii. The longer room temperature is away from setpoint, the faster the motor will drive to correct air volume requirement.

3) On-board sensing Configuration Options

- a. VCD, VRD, VSD, VSW, VRW diffuser options. (All neck sizes)
 - i. When fitted with MLM+ or Bluetooth controls
 - ii. Standard On-board sensing with occupancy sensing.
 - iii. Central Trim Plate Induction system remote from supply air path.
 - iv. Patented induction system introduces induced room air onto the sensor.
- b. VLN and VLA diffuser options. (All sizes)
 - i. When fitted with MLM+ controls.
 - ii. Optional On-board sensing without occupancy sensing
 - iii. End of track mounted induction system separating induced and supply air.
- c. WBD and VLB diffuser options
 - i. No on-board sensing available.

4) On-Board Selection overview

- a. Select when supply air is within 10 °C of room temperature to limit room stratification.
- b. Individual Wall temperature adjustment and display not available
- c. Software offsets are available to reduce stratification error. (MLM+ only)
- d. Setpoint adjustment:
 - i. Using Rickard free MLM software tool. (Connected using USB module or MCU network connection)
 - ii. BMS when connected to Rickard MCU.
 - iii. Optional adjustment with infrared remote. (Factory fitted infrared receiver module required)

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5) Wired Sensor configuration Options

- a. Wired remote sensor
 - i. Available as an option on all VLN, VLA, VLB and WBD models fitted with MLM+ controls.
 - ii. Ex-factory optional availability on VCD, VRD, VSW and VRW diffusers fitted with MLM+ controls. (Occupancy functionality and on-board sensing capability not available any longer)
- b. Wired Wall Thermostat
 - i. Available on all VAV diffusers fitted with MLM+ controls

6) Wired Sensor Selection Overview

- a. Select remote sensor when on-board sensing is not advisable due to reduced induction or increased stratification problems.
- b. The sensor can be located where the occupied space temperature is best represented.
- c. Setpoint adjustment:
 - i. Using Rickard free MLM software tool. (Connected using USB module or MCU network connection)
 - ii. BMS when connected to Rickard MCU.
- d. Select Wall Thermostat when “a” to “c” above applies, but in addition Setpoint Adjustment capability on the wall and Temperature/Setpoint display is required.
- e. Locate the Wall thermostat where the occupied space temperature is best represented, and temperature adjustment location is convenient.

7) Wireless Sensor configuration Options (with MLM+ controls)

- a. One Wireless Access Point (AP) required per Power Pack (PSU).
- b. Access Point should be installed as central as possible on the 15-diffuser network served by the PSU.
- c. Wireless remote sensor
 - i. Available as an option on all Rickard diffusers fitted with MLM+ controls
- d. Wireless Wall Thermostat
 - i. Available on all Rickard diffusers fitted with MLM+ controls

8) Wireless Sensor Selection Overview (with MLM+ controls)

- a. Select remote sensor when on-board sensing is not advisable due to reduced induction or increased stratification problems.
- b. The sensor can be located where the occupied space temperature is best represented.
- c. Setpoint adjustment:
 - i. Using Rickard free MLM software tool. (Connected using USB module or MCU network connection)
 - ii. BMS when connected to Rickard MCU.
- d. Select Wall Thermostat when “a” to “c” above applies, but in addition Setpoint Adjustment capability on the Wall and Temperature/Setpoint display is required.
- e. Locate the Wall thermostat where the occupied space temperature is best represented, and temperature adjustment location is convenient.

9) Rickard Bluetooth Diffuser configuration options:

- a. Available as an option on Rickard VCD, VRD, VSD, VSW, VRW range of VAV diffusers.
- b. Future availability on Rickard VLN, VLA, WBD range of diffusers.
- c. Only available with On-board sensing.
- d. Android Application available using Bluetooth connectivity.
- e. Available as standalone devices.
- f. Future availability with networking and BMS capabilities.

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