MAGNUM FIRST M9-USR-LM Single Channel Lighting Control Module Installation Guide

Contents

MAGNUM FIRST M9-USR-LM Single Channel Lighting Control Module

Product Information

- **Product Name:** MAGNUM OPUS Single Channel Lighting Control Module (0-10V) M9-USR-LM
- **Description:** The MAGNUM OPUS is a single channel lighting control module that operates on a 0-10V input voltage. It is designed to control the dimming and switching of lighting loads. The module has a relay output and a dimmer output for controlling different types of lighting fixtures. It also features a temperature probe for monitoring ambient temperature.
- **Dimensions:** The dimensions of the MAGNUM OPUS module are not provided in the text extract.

Technical Specifications:

- Part Numbers (Frequency Dependant)
- Range EnOcean Profile
- Input Voltage
- Minimum Switched Voltage
- Maximum Switched Voltage
- Max Switched Power
- Temperature Range
- Relay Output
- Dimmer Output
- Ambient Operating Temperature
- Accuracy (Metering)

- Dimensions
- Certifications

Compatible Devices: The MAGNUM OPUS module is compatible with other devices that support its EnOcean profile.

Product Usage Instructions

Installation
To install the MAGNUM OPUS module, follow the steps below:

1. Ensure you have all the necessary equipment for installation.
2. Refer to the provided wiring diagrams to properly connect the module.
3. Choose a suitable wireless mounting option based on your installation requirements.

Planning for Installation
If you are using the standard manual pairing process, refer to the "Learn In Procedure" section in the user manual. If you prefer manual commissioning with default settings, it is recommended toperform this process before installation unless you have access to the buttons and device. For advanced configuration using AirConfig, install the M9-USR-LM module as discussed and perform the commissioning process with the device installed. Ensure that the device is within wireless range.

Warnings & Cautions
Follow the technical specifications listed in the user manual to ensure proper connections to the Lighting Control Module. Make sure that the ballast is compatible with 0-10V dimming and that the wiring is correct.

Troubleshooting
If you encounter any issues with the MAGNUM OPUS module, refer to the troubleshooting section in the user manual. For problems related to lamps/luminaires not dimming or lighting load not switching ON/OFF, check the compatibility of the ballast with 0-10V dimming and ensure proper wiring connections to the module.

Ideal Product Placement
For optimal performance, consider the following recommendations for product placement:

- Utility Boxes / Relay Panels: Create separation distance away from interfering electronics and fluorescent lighting ballasts.
- Junction Boxes: Maximize separation distance between wireless receiver and ballast and pull antenna outside of the fixture. Avoid placing wireless receiver and antenna within 6 inches of tube sockets.
- Lighting and HVAC – PTAC Units: Place the receiver inside and the antenna outside for better performance. The best placement is to have both the receiver and antenna outside.

Description

The M9-USR-LM Lighting Control Module responds to a variety of wireless EnOcean devices to control and dim LED drivers, fluorescent ballasts, or other switchable loads. The M9-USR-LM offers bi-directional, ON/OFF and 0-10V dimming control when combined with a wireless light switch or automatic shut-off when combined with a wireless occupancy sensor. Additionally, the Lighting Control Module can perform occupancy-based setback dimming and self-contained daylight harvesting functions. The M9-USR-LM can be paired to compatible devices manually and for more sophisticated configuration, the MES software tool airConfig is available for download call or email **info@magnumfirst.com** to download the AirConfig software. For manual pairing instructions, please

refer to the M9-USR-LM Installation Guide.

Dimensions
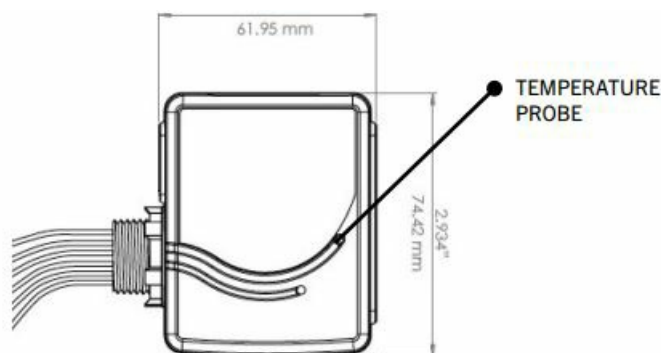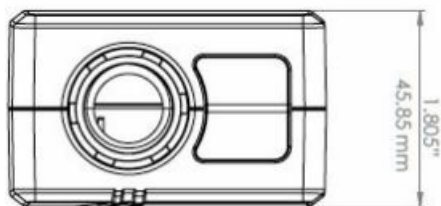
Technical Specifications

Part Numbers (Frequency Dependant)	M9-USR-LM (902 MHz – North America) M8-USR-LM (868 MHz – Europe and China) MJ-USR-LM (928 MHz – Japan)
Range	150 feet (50-150 typical) / 45.72 m (15.24 m – 45.72 m)
EnOcean Profile	Magnum Proprietary Profile, A5-38-08 Type 0x02 Dimming
Input Voltage	100-277 VAC
Minimum Switched Voltage	100 V @ 10 A
Maximum Switched Voltage	277 V @ 10 A
Max Switched Power	3300W @ 277VAC
Temperature Range	32°F – 95°F (0° C – 35°C)
Relay Output	1 N.O. (normally opened) and 1 Common contact
Dimmer Output	0-10V, 30 mA (sinking drivers) 5mA (sourcing drivers)
Ambient Operating Temperature	0-35°C for 3300 W load @ 277 VAC (preliminary)
Accuracy (Metering)	0.5% (preliminary)
Dimensions	2.439" x 2.934" x 1.805" (61.95 mm x 74.42 mm x 45.85 mm)
Certifications	FCC (United States) SZV-TCM3XXX, IC (Canada) 5713 A-TC- MXXX, CE, DLC

Equipment Needed for Installation

- Electrical tape
- Screwdriver
- Wire nuts

For advanced configuration, additional equipment is required, including laptop, USB 300U (available for order from

MES) and AirConfig, which is available for free download at http://download.magnumes.net

Planning for Installation

Take a moment to prepare for installation and ensure optimal communications with other system components in the space

- To assess signal strength prior to and during installation, you can utilize the following:
    - MES's free range testing tool "AirSpy", email info@magnumfirst.com to request a copy of AirSpy. Requires USB 300U.
    - If utilizing Mx-eBox (BACnet to IP) gateway, utilize BACnet point available for signal strength (RSSI)
- Always utilize a qualified installer
- Straighten antenna out and away from any surrounding metal
- Create separation distance between interfering electronics such as fluorescent tube ends, ballasts, electronic transformers, and motors. Avoid mounting inside of metal enclosures.
- Obstructions of metal, concrete and dense building materials will reduce the range. Mount higher and away from obstructions to maximize range.

In applications using HVAC units a Relay Contactor is required for the units per AMP rating. If following the standard, manual pairing process, please refer to the "Learn In Procedure" section at the end of this document. If manual with default settings is the preferred method of commissioning, it is recommended this process be done prior to installation, unless access to buttons and device is possible.

For advanced configuration using AirConfig, install M9-USR-LM as discussed and perform commissioning process with device installed. Make sure that device is still within wireless range.

Installation

COMMON APPLICATIONS:

WARNING: TO AVOID RISK OF FIRE, SHOCK, OR DEATH, TURN OFF POWER AT CIRCUIT BREAKER OR FUSE AND VERIFY THAT IT IS OFF BEFORE INSTALLATION BEGINS. MAKE SURE THAT IT REMAINS OFF UNTIL INSTALLATION IS COMPLETE. PLEASE BE AWARE THAT WITH THIS VERSION OF THE PRODUCT, IT IS POSSIBLE TO HAVE MULTIPLE BRANCH CIRCUITS FEEDING THE RELAY RECEIVER.

NOTE: Read the WARNINGS AND CAUTIONS section before beginning these installation options. Read all steps for this option before taking any action to install receiver.

1. For in-wall installation, a wiring box must be used. For ceiling installation make wire connections inside a junction box. Ensure that the temperature in the ceiling box will not exceed 50 degrees C. For best wireless signal performance install receiver in plastic box away from floor and away from metal objects.
2. Connect wires as shown in Figure A. Twist wire nuts on clockwise making sure no bare wires show. Wrap connections with electrical tape.
3. Stow all wires in wiring box.
4. Restore power and follow instructions under the "Setting Up Your Device via airConfig" section at the end of this document, or follow manual pairing procedures to use default settings.
5. To test that the device is working, press and release SW1. This will toggle ON/OFF. (If receiver is not working, review wiring and programming instructions).

6. Finish any installation of fixture or wall switch.

Documents / Resources

MAGNUM FIRST M9-USR-LM Single Channel Lighting Control Module [pdf] Installation Guide
M9-USR-LM Single Channel Lighting Control Module, M9-USR-LM, Single Channel Lighting Control Module, Channel Lighting Control Module, Lighting Control Module, Control Module, Module

References

- 🌐 **[BMS | Building Management Systems | Magnum First](#)**