Wireless Dimming | Wireless DMX | Wireless Motion

RC4
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Wireless

LumenDimM2micro
Quick Start Guide
Rev. 1.0
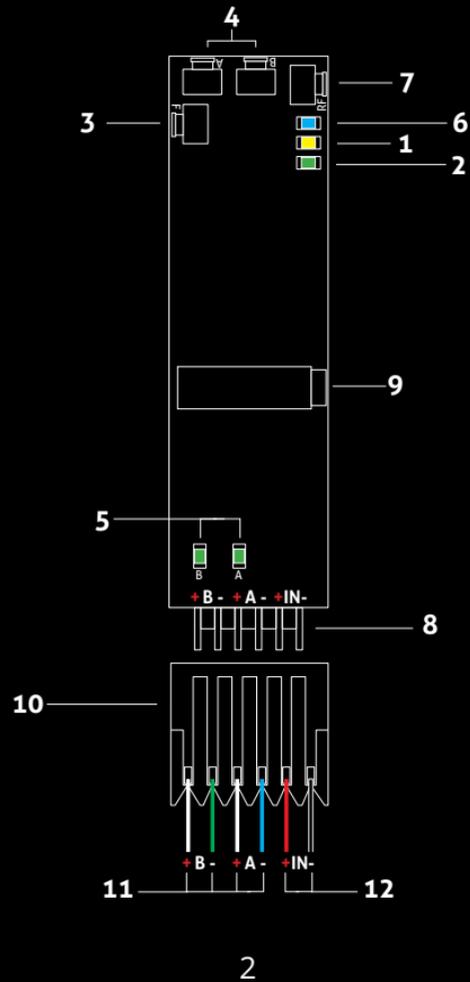
RC4 LumenDimM2micro

1. DMX Data Indicator
2. Function and COP [2] Indicator
3. Function Button
4. SetA - SetB Buttons
5. DimA - DimB Indicators
6. RF Connect Indicator for Transmitter Linking
7. RF Connect (Link) Button
8. Male Connector Pins for Power In and Dimmer Outputs
9. DMX In/Out Data Port
10. Disconnectable Female IDC Connector [1] for Power In and Dimmer Outputs
11. Load Connection Wires (DimB +/- DimB +/-)
12. Power Connection Wires (DCin +/-)

1. Connector is Amp MTA-100-Series, 0.1" pin spacing. Shell color indicates wire gauge. Red shell is for 22 AWG wire, Amp connector P/N 3-641190-6. Numerous alternatives are available, each with different P/Ns. Use the correct shell for the wire you are using. Amp also supplies crimping tools for these connectors. One 22 AWG connector assembly is incuded with each LumenDimM2micro. Additional cable assemblies are available from RC4 Wireless.

2. COP means "Computer Operating Properly." This indicator always shows a blink pattern, proving that internal firmware is running. Different patterns indicate various modes and advanced settings.

LumenDimM2micro Quick Start Guide

This guide will get you started using your RC4 LumenDimM2micro. Most LumenDimM2micro users will find all the information they need right here.

Your LumenDimM2micro also has a wide variety of expanded features for advanced users. You can find out more about all of them in the RC4 Knowledge Base at *http://rc4.info*.

Registering Your Product

Registering your LumenDimM2micro is quick and easy. After registration, you'll be notified of new firmware updates, and warranty claims can be resolved more quickly.

Please complete your registration at:
www.rc4wireless.com/support/register/

LumenDimM2micro System Components

To use your LumenDimM2micro wireless dimmer you will need:
- A DMX lighting console.
- A LumenRadio CRMX-compatible wireless transmitter like the RC4 LumenDimIO or the LumenRadio TX1.
- A battery or DC power supply for the dimmer and loads you will be operating with it.

MTA-100 Connector Shell Color and Wire Gauge Matter

The 6-pin connector on the LumenDimM2micro is the Amp MTA-100-Series, with 0.1" pin spacing. These are Insulation Displacement Connectors (IDC). An Amp MTA-100 tool is used to insert the wires.

One 22 AWG red-shell wire-tail assembly is provided with each LumenDimM2micro. Additional cable assemblies are available from RC4.

The shell color of MTA connectors indicates the wire gauge it is designed for. Red shells, **Amp P/N 3-641190-6**, are for 22 AWG wire. Each different wire gauge uses a connector with a different color and P/N. Use the correct shell for the wire you are using.

Connections to the wires on RC4 wire-tail connector assemblies can be made by soldering, crimp connectors, wire caps, or other joiners. Be sure to cover soldered connections with tubing or tape to avoid accidental short circuits.

Performing a Factory Reset

If someone else has used your LumenDimM2micro, or you just want to get back to a known configuration, performing a factory reset is easy:

Power on the device. The green COP indicator will be blinking.

Press and hold Func, briefly tap (press and release) the SetA button, then release Func. Four indicators will blink to confirm that factory settings are restored.

NOTE: This does NOT affect transmitter linking.

PRO TIPS:
Bending a single paper clip into a U shape will enable you to easily reach and press both buttons together.

If you are not sure what mode or setting you may have selected, you can always get back to a known starting point by returning to factory default.

SetA SetB

Func —

RF Conn
DMX Data
DMX Data

B   A

+ B - + A - +IN-
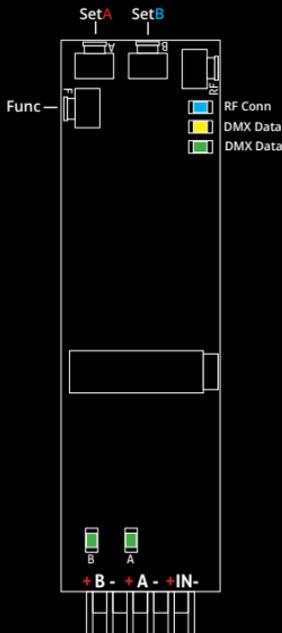
Unlink the LumenDimM2micro

If the blue RF Connect LED on the LumenDimM2micro blinks continuously, it is looking for a transmitter that it was previously linked with.

To unlink it, press and hold RF Connect for several seconds until the blue LED goes off and stays off.

If the RF Connect LED remains on, or is blinking, repeat the process until it stays off.

When the RF Connect LED is off, the LumenDimM2micro is ready to be linked to your transmitter.

NOTE: Link status is not affected by performing a Factory Reset.

Linking Transmitter and Receiver

In this example, we're using an RC4 LumenDimIO transmitter. Have both devices powered on. Put the LumenDimIO Mode switch in the transmit position, then tap the Link button. The Link button is recessed under the small slot to the right of the blue RF Connect LED. Tap it with a small screwdriver or the end of a bent paperclip.

The blue RF Connect LEDs on both the LumenDimIO and the LumenDimM2micro will flash for several seconds and then remain steady, indicating that they are linked.

PUSH

MODE

Link Button
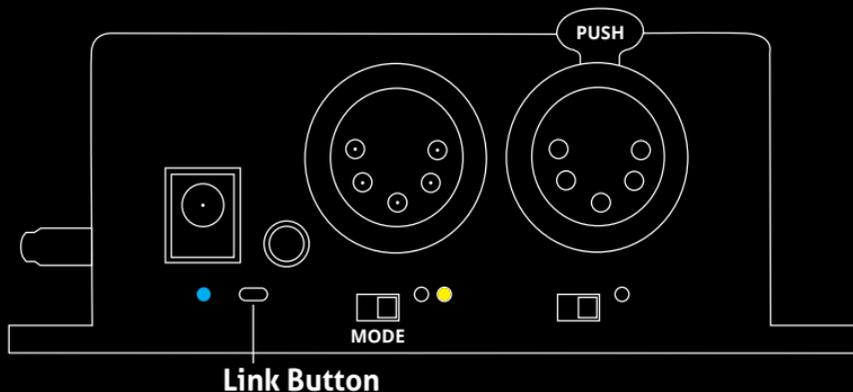
Test the Wireless Link with Default Address Settings

When you receive your new LumenDimM2micro, or after restoring default settings, it will be set to DMX address 1 for dimmer A and address 2 for dimmer B.

Before changing any dimmer settings, play with the DMX levels for these addresses and see your wireless dimmer outputs work.

The DimA and DimB LED indicators on the side of the LumenDimM2micro are directly connected to dimmer outputs: they show you exactly what the dimmers are doing.

Setting the DMX Address

Assigning DMX channels and dimmer curves is easy using RC4 OneTouch™:

On your DMX lighting console, bring up one dimmer (DMX output channel) that will be your LumenDimM2micro starting address. For example, if you want your first LumenDimM2micro dimmer on DMX channel 60 with a curve that is optimized for LEDs, bring up 60 @ 30% at the console. Tap SetA and DimA indicator will come on @ 30%.

The level of 30% selects one of several different curves. This one is optimized for LEDs. Other curves are explained on Page 13.

Subsequent Channel Assignment

When you set DimA, the other dimmer is automatically set sequentially. For example, if you have set DMX channel 60 to DimA, DimB is now assigned to channel 61.

Non-Sequential Channel Assignment

Dimmers don't have to be sequential.

You can use RC4 OneTouch™ with the Set buttons for each individual dimmer. For example, if you want DimB to be set to DMX address 11, bring up 11 @ 30% (for the LED curve) at the board and press the SetB button.

Remember: SetA assigns the 2 dimmers sequentially. The other Set button works individually. Always use SetA first.

SetA   SetB

Func —

RF Conn
DMX Data
DMX Data

B   A

+ B - + A - +IN-
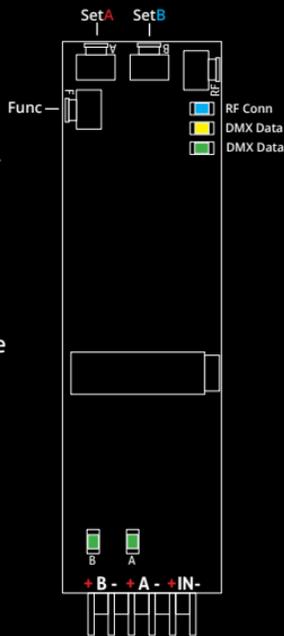
Connecting Your Lamps, LEDs, Motors and More*

To really use your LumenDimM2micro, you must connect a lamp, LED, motor, or other load to each dimmer. When you're connecting anything to your Lumen-DimM2micro, be sure that the LumenDimM2micro is powered down. Connect everything first, then turn on power.

Connections should be made to an MTA-100 connector. Attach the connector to the LumenDimM2micro after wiring is completed and checked, then apply power.

* The LumenDimM2micro can control a variety of devices including solenoids, relays, servo motors, and much more.

One 22 AWG MTA-100 connector assembly is incuded with each LumenDimM2micro. Find additional information about MTA-100 connectors on page 5.

Connections to wire-tail connections can be made by soldering, crimp connectors, wire caps, or other joiners. Wires can also be directly inserted into a connector shell using an Amp MTA-100 insertion tool.

Power Input: 6 - 35VDC
Do not exceed voltage rating for connected loads.
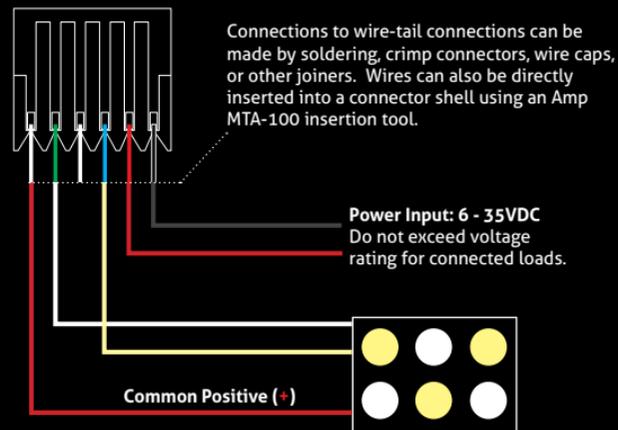
Common Positive (+)

Dimming and Controlling Multicolor LEDs

The illustration on the previous page shows a 2-color LED device. There are 3 wires: one for the 12V common positive (+), and two wires for the unique negative leads. The common positive color is shown as red, but may vary.

Dimming happens on the negative (–) terminals. All of the (+) terminals are connected together inside the LumenDimM2micro. The common positive should be connected to the (+) under DimA.   The other wires connect to the negative (–) terminals under DimA and DimB.

Cross-Fade Mode for Warm/Cool White Control

One popular 2-color device is a warm-white/cool-white LED panel. Cross-fading between warm and cool produces a range of color temperatures, allowing you to find the exact rendering of white that you need. This is particularly useful for motion-picture applications.

The LumenDimM2micro includes a color Cross-Fade mode (sometimes called X-Fade). In Cross-Fade mode, one DMX channel controls color temperature, and another DMX channel controls total brightness. This ensures that the selected color temperature does not change when the level is adjusted.

Cross-Fade and many other features can be explored further at *http://rc4.info/* or by asking us for help at *support@rc4wireless.com.*

Choosing Other Dimmer Curves or Profiles

The LumenDimM2micro default is the ISL dimmer curve, which is best for LEDs. This is also the curve that is selected with RC4 OneTouch™ when the DMX level is at 30%.

There are dimmer curves for different kinds of lamps, motors, and more. Detailed information can be found online by searching dimmer curves at *http://rc4.info/.*

The most common curves are selected using these DMX channel levels and RC4 OneTouch™ with the Set buttons as outlined on page 9:

Non-Dim **100%** (80% or higher)
Use for relays, solenoids, air valves, etc.

Linear **70%** (60 - 79%)
For incandescent, halogen, tungsten lamps.

ISL Fast **50%** (40 - 59%)
For LEDs when fast blinks and flashes are required.
RC4 Digital Persistence™ is disabled.

ISL Slow **30%** (20 - 39%)
Best for typical LED applications, with RC4 Digital Persistence™
For super smooth 19-bit dimming. (default setting)

Advanced Features

The LumenDimM2micro is a multifaceted device for users of all experience levels. The features below can be explored further at *http://rc4.info/* or by asking us for help at *support@rc4wireless.com*:

- Using a small adaptor cable, the LumenDimM2micro can be used as a wireless data receiver to deliver DMX to other devices. It can also be used as a wired DMX dimmer: the miniplug DMX port becomes an input when the device is not linked to a transmitter.

- When using the LumenDimM2micro for cinema (motion picture capture), PWM frequencies can be adjusted for the smoothest dimming without banding or other artifacts.

- The LumenDimM2micro has a wide variety of dimmer curves that can ring telephones, position servo motors, and more.

- Using the RC4 Flkr Effects Engine™, you can create many unique effects including candle flicker, analog tv screen noise, welding spark, and much more.

Caring for Your LumenDimM2micro

- The LumenDimM2micro is a circuit-board assembly without a protective case. **This makes it more sensitive to damage by static discharge than enclosed devices.** When wiring and installing this device in an application, take appropriate precautions for handling exposed electronics, including a grounded work mat and static discharge strap. *Failure caused by static damage is not covered under warranty.*

- **The LumenDimM2micro should not be used with AC power or with any voltage higher than 35VDC.** Doing so will severely damage the device and is extremely dangerous for the operator.

- Do not exceed the maximum total power handling of the LumenDimM2micro, which is 6A. That is 72W at 12V, 144W at 24V, shared across the two dimmer channels.

- Always use a fuse or circuit breaker at the source of power and always use an appropriate wire size for the fuse rating. For example, if using a 3A fuse, use wire that can safely carry 3A.

- The LumenDimM2micro should be kept away from excessive heat, cold, dust and moisture.

- Do not immerse in water or other fluids.

- Dimmers generate heat when operating. Allow space for air to move around the unit for cooling, especially when using high-current loads.

The LumenDimM2micro is a high-power, high-current device. Failing to observe appropriate safety precautions can result in fire or other risk. RC4 Wireless cannot be held responsible or liable in such cases. Operate the LumenDimM2micro at your own risk.

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We're here to help you at any time.
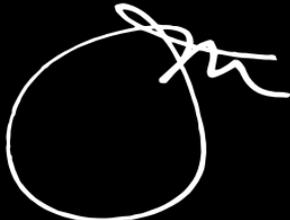
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