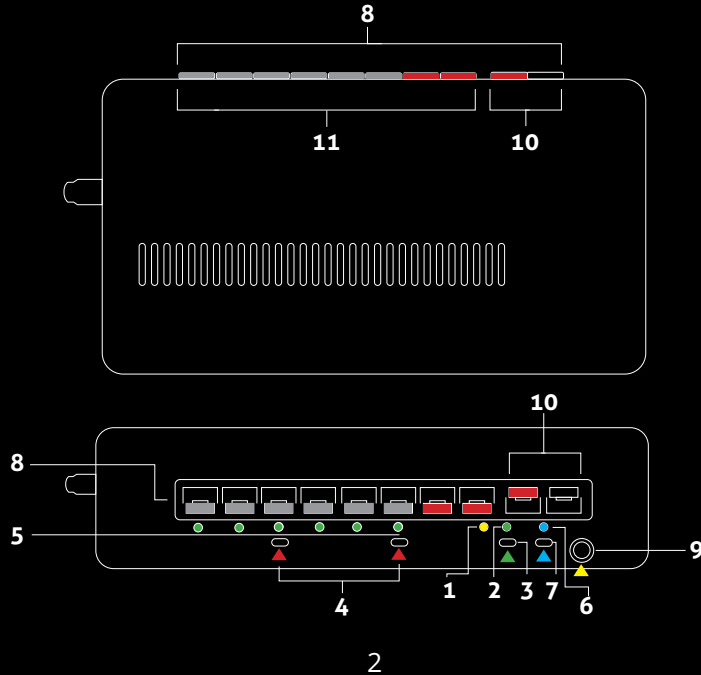Wireless Dimming | Wireless DMX | Wireless Motion

RC4

Since 1991

Wireless

LumenDim6
Quick Start Guide
Rev. 1.0

RC4 LumenDim6

1. DMX Data Indicator
2. Function and COP* Indicator
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7. RF Connect (Link) Button
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9. DMX In/Out Data Port
10. Power Input Connections (45A PowerPole)
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* 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.

LumenDim6 Quick Start Guide

This guide will get you started using your RC4 LumenDim6. Most LumenDim6 users will find all the information they need right here.

Your LumenDim6 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 LumenDim6 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/

LumenDim6 System Components

To use your LumenDim6 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.
- Anderson PowerPole shells and pins (one set has been provided with your LumenDim6), and a crimping tool for those pins.

Anderson PowerPole Connectors

PowerPole shells are available in a range of colors. Pins are available with 15A, 30A, and 45A ratings. If you are running your LumenDim6 at close to the maximum rated power handling, you MUST use 45A pins at the power input. Do not exceed 45A in total for the 6 combined dimmer loads.

Each dimmer output can deliver up to 10A of dimming power, but you cannot run all 6 channels at 10A because this exceeds the input power limit. If all channels are loaded equally, the maximum load per channel is 7.5A.

The legend on the back of your LumenDim6 provides part numbers of commonly used shells and pins. A complete set of shells and pins is also available directly from RC4 Wireless.

Performing a Factory Reset

If someone else has used your LumenDim6, 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 SetABC 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 defaults.
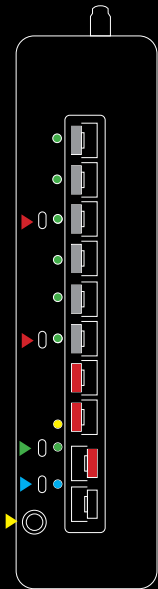
Unlink the LumenDim6

If the blue RF Connect LED on the LumenDim6 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 LumenDim6 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 LumenDim6 will flash for several seconds and then remain steady, indicating that they are linked.

Link Button
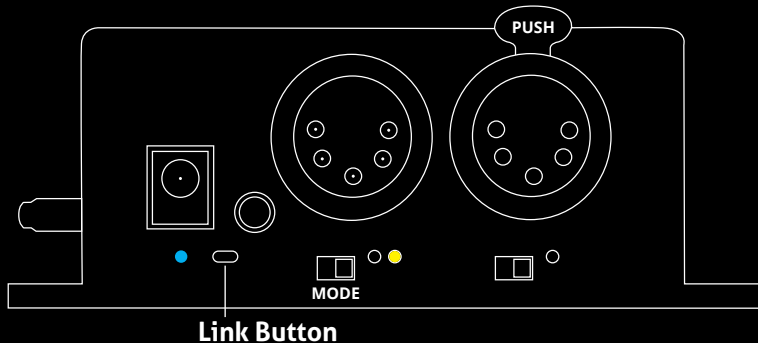
Test the Wireless Link with Default Address Settings

When you receive your new LumenDim6, or after restoring default settings, it will be set to DMX address 1 for dimmer A, address 2 for dimmer B, etc.

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

The DimA, B, C, D, E, and F indicators on the side of the LumenDim6, below the grey negative terminals for each, are directly connected to the 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 LumenDim6 starting address. For example, if you want your first LumenDim6 dimmer on DMX channel 60 with a curve that is optimized for LEDs, bring up 60 @ 30% at the console. Tap SetABC and the DimA indicator will come on @ 30%.

The channel 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 DimABC, all 6 dimmers are automatically set sequentially. For example, if you have set DMX channel 60 for DimA, DimB is now assigned to channel 61, DimC is on 62, and so on, all the way up to DimF being set on channel 65.

Non-Sequential Channel Assignment

Each set of 3 dimmers, ABC and DEF, are always sequential, but the two sets do not have to be.

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

Remember: SetABC assigns all 6 dimmers sequentially. The SetDEF button work individually to set only the last 3 dimmers. Always use SetABC first, then set DEF differently if you need to.

Connecting Your Lamps, LEDs, Motors and More*

To really use your LumenDim6, you must connect a lamp, LED, motor, or other load to each dimmer. When you're connecting anything to your LumenDim6, be sure that the LumenDim6 is powered down. Connect everything first, then turn on power.

The red output connections are positive (+), the grey connections are negative (-).

Dimming occurs on the negative side. The positive connections are all connected together inside the LumenDim6.

* DimC , D, E, and F on the LumenDim6 can control a variety of devices including solenoids, relays, servo motors, and much more. DimA and B are intended for LED dimming only.

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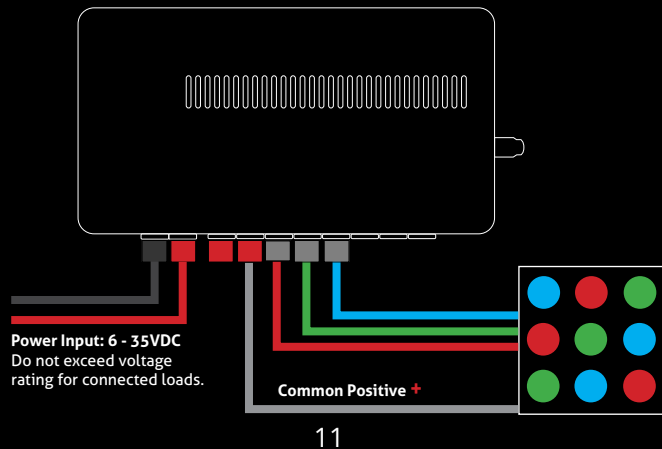
Common Positive +

Dimming and Controlling Multicolor LEDs

The illustration on the previous page shows an RGB color mixing LED device. There are 4 wires: a black wire for the 12V common positive (+), and three colored wires, red/green/blue, for the three unique negative leads. The color of the common positive may vary, it is not always black.

The common positive should be connected to one of the two red output terminals. All of the (+) terminals are connected together inside the LumenDim6. The two (+) terminals make it easy to connect two RGB light sources, each with their own common positive wire.

Dimming happens on the negative (–) connections.
The red wire should be connected to the grey (–) connection for DimA.
The green wire should be connected to the grey (–) terminal for DimB.
The blue wire should be connected to the grey (–) terminal for DimC.

If using an RGBA, RGBW, RGBA, RGBTD (T is tungsten or warm white, D is daylight or cool white), or other multi-channel fixture or LED device, the additional wires (often amber, yellow, warm white, or cool white) should be connected to the grey (–) terminals for DimD, E, and F as needed.

If using two RGB fixtures or LED devices, connect the first one to DimA, B, and C, and connect the second to DimD, E, and F.

Choosing Other Dimmer Curves or Profiles

The LumenDim6 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 LumenDim6 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 LumenDim6 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 LumenDim6 for cinema (motion picture capture), PWM frequencies can be adjusted for the smoothest dimming without banding or other camera artifacts.

- The LumenDim6 has a wide variety of dimmer curves that can ring telephones and more (using DimC, D, E, and F).

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

- An HSL (Hue/Saturation/Level) processor can be enabled, making it easy to find a specific color and dim it up and down without color variation.

Caring for Your LumenDim6

- **The LumenDim6 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 LumenDim6, which is 45A. That is 500W at 12V, 1000W at 24V, shared across the six 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 40A fuse, use wire that can safely carry 40A.

- The LumenDim6 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 LumenDim6 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 LumenDim6 at your own risk.

Get in Touch

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Website: *www.rc4wireless.com*
Knowledge Base: *http://rc4.info*

We're here to help you at any time.
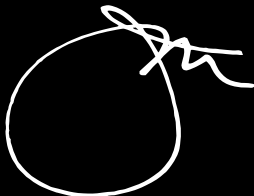
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