
Owner's Manual

Revolution

MICRO



RLC-1 DIGITAL LIGHTING CONTROLLER

RLC-1 All Digital Lighting Controller

120/240/277v or 347v

Owner's Manual Jun 25, 2021

The RLC1 can control up to 512 lights in two zones with up to 256 lights in each zone. The RLC1 can control any Revolution or compatible light such as the Phantom, MaxiBright, etc.

This manual will tell you how to hang, connect and operate your new RLC-1.

The Box Contains

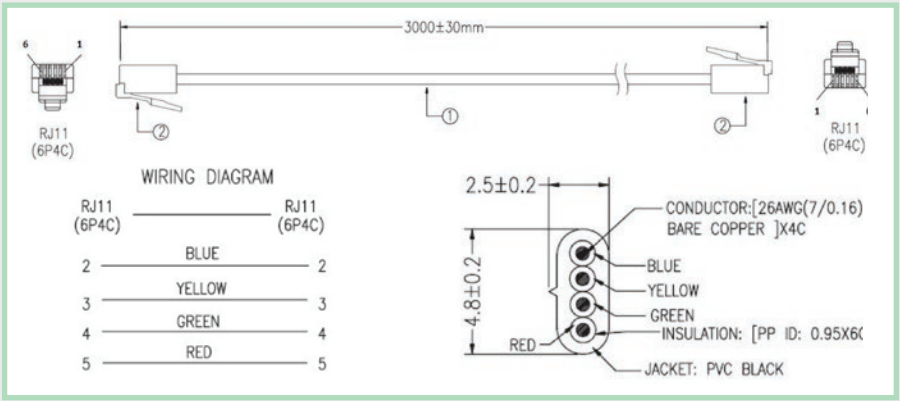
- The RLC-1
- Mounting Plate
- Mounting Hardware
- Two Temperature Sensors
- 6v DC Power Pack (120-240v)

Installing the RLC-1

Traditional lighting controls use mechanical relays to power ballasts on and off. The RLC1 uses a low voltage digital data stream to switch, dim, and boost any Revolution, Phantom, MaxiBright or other ballasts equipped with a Revolution-style RS-485 data port. The controller has two temperature sensors (one for each zone), and has the capability of automatically dimming lights during high temperatures and even shutting down lights at extreme temperatures. Ballast control wiring is done with common telephone cables (RJ14 plugs) which can be used to daisy-chain the ballasts together. Compatible ballasts and lighting systems include a cable and splitter for the RS-485 data port.

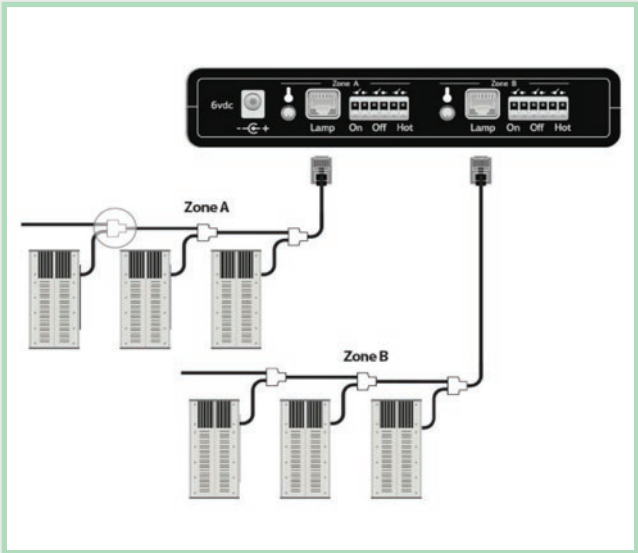
Data Cables and Connections

These are the data cables we supply. If you get longer or different ones, make sure they are wired like this.



RLC1 uses RJ14 splitters and RJ14 cables up like this.

If you get RJ-type cables from a local source, make sure they are straight-through and match the image below. RevMicro has the right cables of all sizes should you need them, or <http://digikey.com> is a good source in the USA.



These are the correct RJ14 cables.

Looking at these cables, you'll see the wires are the same by color, pin 1 to 1, pin 2 to 2, etc. on each connector.



Mounting the Controller

The RLC1 is designed to be wall mounted using the holes in its removable back plate. Remove the plate, attach to wall, then snap the controller back in.

The back plate has four holes that can be used for mounting. The top center hole is a “keyhole” style hole which can be used with a single large screw, so that the plate is hung on the screw head. For a more secure alternative, there are also three smaller holes in the plate which can be used to screw it tightly to a wall surface. The lateral measurement between the top two of these holes is 3 1/8”, and the lower hole is 3/4” below the top two, centered between them. Once the back plate is secured to the wall surface, the RLC-1 unit can be snapped onto the back plate.

Next, Plug it In

Plug the included AC adapter into a power outlet and connect the other end to the RLC1’s AC input jack on the bottom panel. Next plug the temperature probes into the corresponding jacks on the bottom panel and run your probe cables their full length up to and across the ceiling if possible, toward the center of the grow space. Ideally, suspend the probes down into the space above the plant canopy if possible. Take care not to stress or damage the probe cables when securing them to walls and ceilings.

Remove the back plate, mount it to the wall using the holes, then snap the controller in place on the plate.



Operating the RLC-1

The RLC-1 is designed for easy use.



Page

Moves page to page.



Next

Moves from item to item.



Up and Down

Makes changes in values.



Enter

Saves the data.

Helpful Hints

If you change your mind on something, simply press Page to go to another page without saving.

If you get called away in the middle of changing something, RLC1 goes back to the Main screen without saving after 30 seconds.

The blinking underline indicates the cursor position.

Quick Set Up

Step 1

When the RLC-1 powers up, the display will default to the Main page showing zone temperatures, power levels and lights on or off as Day / Night.



Step 2

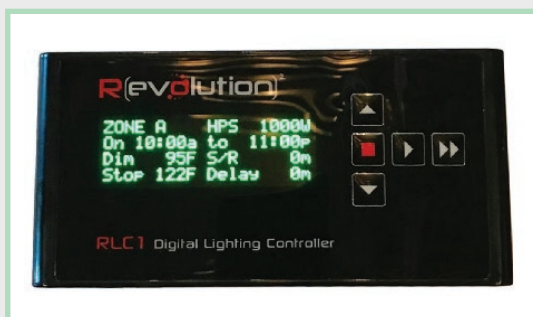
Press the Page button to get to the Setup page where you can set the Date, Time, and Time Format (12 or 24 hours). You can also setup to show Power in W or %, and Temperature in degrees F or degrees C.



Step 3

Press the Page button until you bring up Zone A to set up your first room.

Each Zone page lets you choose the type of light you have and the size ballast driving it. A 1000w HPS like the DEva has six (6) power settings while a 315w CMH has two.



Step 3 cont.

Set this for the type and size of light you have.

You can set time for Lights On, Lights Off, what temperature to start Dimming, and what temperature to Stop and switch the lights off.

Sunrise Sunset

Some light types (like HPS) have the optional Sunrise/Sunset function where you can choose how many minutes to gently bring the lights up to (and down from) full power. That's shown as S/R in the image in Step 3.

Delay Function

You can also set the Delay function to delay the lights coming back after a power outage.

Step 4

Press the Page button to bring up Zone B and set up your second room the same



NOTE: You can change the names from Zone A and Zone B to whatever you like best. Just push Next until the blinking underline is on the letter you want to change and use Up/Down to spell the name.

Internal Clock

The RLC1 has an internal clock and starts counting when the power goes out so a 30 minute on-delay will only have 10 minutes to run if the power comes back on in 20 minutes, minimizing changes to your photoperiod.

LED Spectrum Control

Choose from Presets

When you choose LED, you can also select spectrum presets for Clone, Veg, Flower and Finish. The Flower preset is shown in the photo above. To choose a preset, press Next until the preset is selected by the blinking underline and use Up/Down to choose.

Customize your Spectrum

The Blue / White / Red levels go from 0-10 and can also be changed individually as desired for custom spectra. You can change the presets any way you like by pressing Next until the color is selected by the blinking underline and then use Up/Down to choose. Make sure to press the red Save button to save your changes.

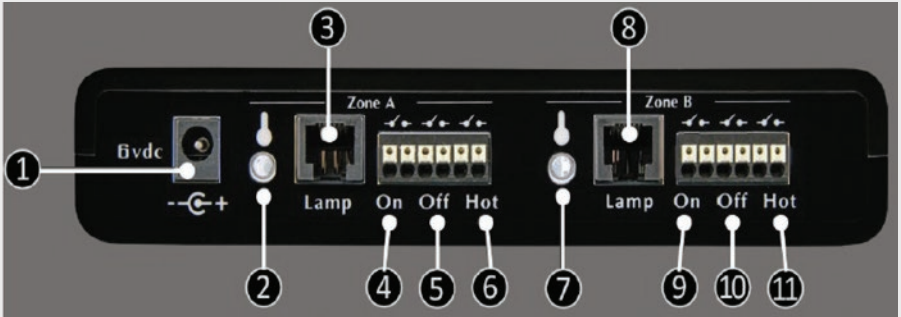
LED Default Settings

If you've made changes and want to go back to our defaults, here's how the RLC1 is set up from the factory:

Preset:	Blue	White	Red
Clone	5	10	5
Veg	10	10	10
Flower	8	10	10
Finish	10	10	5

External Connections

The bottom of the RLC-1 has eleven (11) connectors:



1. Power (6v DC)
2. Zone A temperature sensor
3. Zone A Communications port to lights
4. Zone A Low-voltage external equipment trigger for Lights On
5. Zone A Low-voltage external equipment trigger for Lights Off
6. Zone A Low-voltage external equipment trigger for over temperature
7. Zone B temperature sensor
8. Zone B Communications port to lights
9. Zone B Low-voltage external equipment trigger for Lights On
10. Zone B Low-voltage external equipment trigger for Lights Off
11. Zone B Low-voltage external equipment trigger for over temperature

External triggers are two wires, dry contacts, 1/2 amp maximum.