Mini IP68 Multi-Zone RGBW LED Controller

rgbw-mini-RF / rgbw-mini-RF-receiver

User Manual

Introduction
The Mini IP68 Multi-Zone RGBW LED controller and matching receiver are designed to drive constant voltage LED products from 6-24VDC. The rgbw-mini-RF is the master controller with an RF remote. The rgbw-mini-RF-receiver acts as a slave receiver and can be used to set up wirelessly synchronized multi-zone systems.

Functions

1. Turn On/ Standby
   Press the ‘I’ key to turn the unit on and press the ‘O’ key to turn it off. The controller and receiver feature power-on memory and will return to the previous setting when powered back on.

2. White Mode
   These two keys enable/disable "WHITE ONLY" mode, which enables only the W channel and "WHITE OFF" mode, which enables only RGB channels.

3. White Brightness
   Adjusts the W channel brightness. Press the right side key to increase and the left side key to decrease brightness.

4. Static RGB Color Selection
   These keys control static RGB LED colors.
   a) The six colored shortcut keys will set the RGB LEDs to red, green, blue, yellow cyan or magenta.
   b) The 'COLOR+' and 'COLOR-' scroll over all preset static colors, including the 6 shortcut key colors.

5. Color Brightness
   Adjusts RGB color brightness. Press the right side key to increase and the left side key to decrease brightness.

6. RGB Dynamic Modes
   These keys control RGB dynamic color-changing modes.
   a) Press ‘MODE+’ and ‘MODE-’ key to cycle through preset dynamic modes.
   b) Press ‘SPEED+’ and ‘SPEED-’ to control the speed of the dynamic mode.

7. Zone Control
   The zone control buttons allow the user to select the specific zone they want to control at any time. Simply press the corresponding zone button and adjust the desired settings. The rgbw-mini-RF controller unit is always zone 1 and the rgbw-mini-RF-receiver units can be programmed to any zone. At power-on, the remote default setting is “All Zones”.

8. Remote Controller Indicator
   This blue indicator will blink when the remote is sending a command. The remote operates using an RF signal, so it does not need to be aimed at the controller or receivers.

Installation
The rgbw-mini-RF is a master controller that receives signals from the remote and sends out wireless commands to any paired rgbw-mini-RF-receiver units. The rgbw-mini-RF-receiver can only be programmed through the rgbw-mini-RF controller and must be within the wireless coverage area, about 15 meters (50 feet) in open space.
9. Power Supply
The rgbw-mini-RF and rgbw-mini-RF-receiver work from 6-24V DC. The red power input cable should be connected to power supply positive and black to negative. Always make sure the power supply voltage is the same as the rated LED voltage.

10. LED Output
The controller and receiver support constant voltage LED products and control the load using a PWM output. The black cable connects to LED positive. The red, green, blue and white cables connect to the respective colored LEDs.

11. Status Indicator
The indicator light displays the current status of the unit. It indicates the following:
- **Blue**: normal operation.
- **Short single white flash**: new command executed.
- **Long single white flash**: the user has cycled through all modes or colors.
- **Long single yellow flash**: the unit has reached maximum speed or brightness.
- **Red flashing**: overload protection active.
- **Yellow flashing**: thermal protection active.

### Advanced Features

#### 15. Waterproofing
When installing at wet environment, the cable connections must also be waterproofed. Waterproofing glue and heat-shrink are recommended, but waterproof connectors may also be used. Wireless signals are attenuated by water, so wireless range may be reduced if the receivers are installed underwater. Be sure to test the wireless range before permanently installing the receiver in water or very wet locations.

#### 16. Protection
The rgbw-mini-RF and rgbw-mini-RF-receiver have full protection circuitry for short circuit, output overload, reversed power polarity and overheating. The indicator will flash red for overload or short circuit protection and flash yellow for thermal protection. The controller will automatically recover from protection when conditions return to normal.

### Specifications

<table>
<thead>
<tr>
<th></th>
<th>rgbw-mini-RF</th>
<th>rgbw-mini-RF-receiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Modes</td>
<td>34 modes</td>
<td></td>
</tr>
<tr>
<td>Static Colors</td>
<td>30 colors</td>
<td></td>
</tr>
<tr>
<td>Color Resolution</td>
<td>256 levels</td>
<td></td>
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<tr>
<td>White Brightness</td>
<td>10 levels</td>
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<tr>
<td>Color Brightness</td>
<td>5 levels</td>
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<tr>
<td>Speed Adjustment</td>
<td>10 levels</td>
<td></td>
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<tr>
<td>Overload Protection</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Thermal Protection</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Working Voltage</td>
<td>6-24V DC</td>
<td></td>
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<tr>
<td>Remote Frequency</td>
<td>433.92MHz</td>
<td>None</td>
</tr>
<tr>
<td>Synchronization Frequency</td>
<td>2.4GHz ISM band</td>
<td>None</td>
</tr>
<tr>
<td>Remote Control Distance</td>
<td>&gt;15m in open area</td>
<td>None</td>
</tr>
<tr>
<td>Synchronization Distance</td>
<td>&gt;15m in open area</td>
<td>None</td>
</tr>
<tr>
<td>Zone Control</td>
<td>3 zones, infinite receivers in each zone.</td>
<td></td>
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</tbody>
</table>