coloronix®

SS2 - DIRECT POWER LIGHTING MANUAL

Coloronix, Inc.
5461 West Jefferson Boulevard
Los Angeles, California 90016
(323) 677-4242
http://www.rgbw.com

Coloronix, Inc.
5461 West Jefferson Boulevard
Los Angeles, California 90016
Tech Support: (909) RGBW-555
http://www.rgbw.com

Contents

Summary

Introduction

RGBW Color Changing Adjustable Flood Lights are active, top-of-the-line color changing fixtures. They draw on solid-state elements in order to produce highlights and washes in architectural spaces.

More specifically, "RGBW" is an acronym for "Red, Green, Blue, and White". RGBW LED color mixing luminaires have the potential to produce 4.3 billion colors, and 16.7 million white light tones.

When installed and operated according to this manual, these downlights will operate safely and dependably for their rated lifespan.

These luminaries require a USITT DMX 512 control signal on four consecutive channels total. The unit includes a DATA OUT output for connection to additional units or other DMX512 devices.

The flood lights are UL 1598 wet location rated for use in indoor or outdoor environments.

Scope

The purpose of this manual is to properly install and use color-changing flood lights at peak performance.

This manual must be complimented by additional references, consultation from qualified professional(s), and observance of state and local codes and regulations. This rule applies to any interior structure, exterior structure, or environment.

Therefore, it is important to: *"please read and comply with all instructions and warnings in this manual when installing or using this product."*

Who Is This Manual Intended for?

This manual is intended for electrical contractors, electrical engineers, and licensed electricians.

Additional Supplies

DMX512 compatible controller (optional)
DMX extension (optional)
DMX feed connector
4x4 inch electrical junction box rated for the application (optional)
Controller (DMX512 compatible)
Proper mounting bolts, washers and lock washers to secure the fixture to the mounting surface.

Safety

Hazard Icon Key:

The "**DANGER**" icon means avoiding *pending* danger will result in serious injury, or death.

The "**WARNING**" icon means avoiding this warning may result may in serious injury, or death.

The "**CAUTION**" icon means not exercising caution here may result in minor to moderate injury, or property damage.

The precautions are:

DANGER: Not turning off the main power before wiring, installing, connecting, or disconnecting this product may result in serious injury, or death.

WARNING: Not following NEC codes, local codes, or consulting a certified professional may result in property damage, serious injury, or death.

WARNING: Not following instructions, or safety labels may result in property damage, or serious injury.

WARNING: Modifying, servicing, or ignoring these safety indications may void the warranty.

WARNING: Inspect product before use. DO NOT use if damaged.

WARNING: Install safety cables per local and structural engineer's code.

CAUTION: Hot swapping, not turning off fixtures before connection or disconnection, will void the warranty, and damage property.

CAUTION: Do not go beyond the specified voltage, input current, maximum number of fixtures, or run length.

CAUTION: Do not use sharp tools near the reflector or lens.

CAUTION: Do not look directly into beam, with or without optical instruments.

Note: Instructions and warning referenced in this installation guide are not necessarily all-inclusive, all conceivable, or all relevant to all applications as Coloronix cannot anticipate all conceivable or unique situations.

Specifications

Power Input: Direct 120-240VAC 50Hz/60Hz
Power Consumption: 52W for "-6" version, 79W for "-9" version
L70 Life: 35,000 Hours.
Temperature Rating: 14°F - 104°F Ambient.
LED Die Colors: Red (620-635nm)
Green (520-535nm)
Blue (450-465nm)
Neutral White (5000k)
Safety: Complies to UL1598 and ANSI/UL 8750.

Planning for Installation

Unpacking

The data enabler and trim are shipped assembled with no additional assembly needed. Housing and trim are shipped in two different boxes.

Any optional accessories are included in the package. Use the packing list located on the outside of the box to ensure all accessories are included.

Survey the unit to make sure the data enabler/trim are all intact—not cracked or damaged. Any damages to the package or its contents are of the buyer's responsibility; please follow protocol for filing damage claims. Please recycle or appropriately discard of any packing materials.

Preparation

Before Installation, Coloronix suggests:

- Consulting the provided submittal drawings to recognize layouts of luminaries, power supplies, and wiring layouts.
- Drawing out a layout plan consisting of locations of luminaries and wiring.
- Record DMX addresses on a mapping grid for easy reference and addressing (where applicable).
- An electrical inspector reviews all wiring plans.

Points to Consider About Data

- Max power links is 9 per power feed
- AC Power and DATA cables may NOT run in the same conduit or within one foot due to possible induced errors.
- 32 DMX DATA links max per run

Quick Step-by-Step Instructions

To successfully install RGBW Recessed Lighting, the steps are:

1. Mounting and alignment of fixture
2. AC power connections
3. DMX connections
4. Ready to go.

Setting Color Mode

DMX Mode

For installations requiring DMX control, set the personalized DMX address using the address table (Below) for LCD menu settings. See figure.
Note: Up to 128 unique 4-channel addresses can be set per DMX universe.

1. Press the "MODE", enter the DMX mode "d.×××".
2. Press the "UP" or "DOWN", set up the DMX address value d.001-d.512
3. Press the "SETUP", enter the DMX working mode: X-ch
4. Press the "UP" or "DOWN", set up the DMX working mode (See below)

DMX Working Mode 1: 1-CHANNEL (For static color control, 1 channel per fixture)

CH1		
No.	DMX Value	Function
1	0	No use
2	1-22	Red
3	23-45	Green
4	46-68	Blue
5	69-91	Cyan
6	92-114	Yellow
7	115-137	Orange
8	138-160	Pink
9	161-183	Purple
10	184-206	Dark Blue
11	207-229	Light Green
12	230-252	White
13	253-255	Warm White

DMX Working Mode 2: 4-CHANNEL
(For individual color dimming control)

Channel	Value	Function
CH1	0-255	Red
CH2	0-255	Green
CH3	0-255	Blue
CH4	0-255	Cool White

DMX Working Mode 3: 5-CHANNEL
(For individual color control and master dimmer function)

Channel	Value	Function
CH1	0-255	Master dimmer
CH2	0-255	Red
CH3	0-255	Green
CH4	0-255	Blue
CH5	0-255	White

Lock Function:
If MENU is IDLE for 20 seconds, MENU will lock. Hold "MODE" and "DOWN" button to release lock.

Pre-Programmed Mode (Static Color)

1. Press "MODE", enter the mode "Prxx"
2. Enter Pr.01
3. Press "SETUP" and toggle between static color to achieve desired show

No.	Color
1	Red
2	Orange
3	Green
4	Green/Blue
5	Blue
6	Purple
7	RGB
8	White
9	Bright White
10	Pink
11	Light Green
12	Light Blue

*Consult factory for custom colors in the RGBW spectrum.

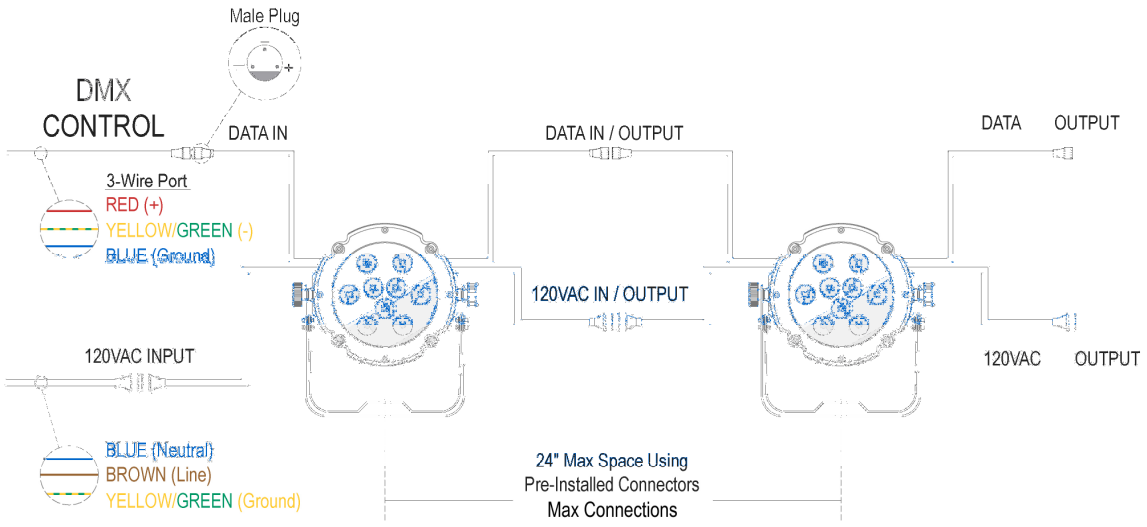
Pre-Programmed Mode (Show Mode)

1. Same as above
2. Toggle between Programs 2-11 to achieve desired show

No.	Show
2	Different shades of: Red, green, blue, gray, yellow, hot pink, light pink, turquoise, green-blue, light blue, gray, gray, turquoise, pink **(slow fade to and from black between colors)**
3	RGBW **(fade to and from black between colors)**
4	RGBW **(quick jump between colors)**
5	RGBW **(strobe effect)**
6	RGBW **(blend between colors-slow)**
7	RGBW **(blend between colors-fast)**
8	Red **(long duration on, then quick jump off and on)**
9	Green **(long duration on, then quick jump off and on)**
10	Blue **(long duration on, then quick jump off and on)**
11	White **(long duration on, then quick jump off and on)**

Mounting and Alignment of Fixture

- Mount and secure each fixture into the designated position in accordance to the installation plan. Ensure there is sufficient cable length between the fixture and junction box to allow for final alignment of the fixture.
- Secure the fixtures to a solid mounting surface using three threaded fasteners minimum of 3/8 inch (10mm) stainless steel complete with flat and locking washer.
- Rotate the fixtures using the pan and tilt method into the desired position.



Electrical Connection (Hardwire)

WARNING: Do not expose bare wires outside wire nut connectors.

1. Per local or "National Electric Code", provide electrical service to junction box located on the housing.
    a. The insulation of supply wire must be rated for at least 90°C.
    b. Junction boxes should be rated for:
        i. Max. 8 No. 12 AWG Circuit Conductors
        ii. Also suitable for at least 90°C
2. Remove cover of junction box.
3. Remove proper round pryout, and then connect junction box with (not included) proper connector.
4. Using properly sized wire nuts, connect lead wires of junction box (line, neutral, and ground) to supply lead wires in the fixture.
    a. WARNING: Do not leave bare conductors outside wire nut connectors.
5. Connect green (from electrical service) to the supply side to the green wire in the junction box. Connect black-to-brown, and white-to-blue.
    a. Any excess wiring and connectors should be put in the junction box. Then, replace the cover.

NOTE: Supply lead wires should not be connected to a dimmer of any sort.
Maximum power connection should not exceed 9 units at 120V.

Data Connection

Note: Inline DMX amplifier required if run length exceeds: 125 feet between fixtures (others)
Note: Maximum run length from DMX controller to last fixture: 1000 feet.
Note: DMX must be continuous from controller to last fixture in a run. A splitter is needed if signal is split.

Please follow below if provided data cables will not be used

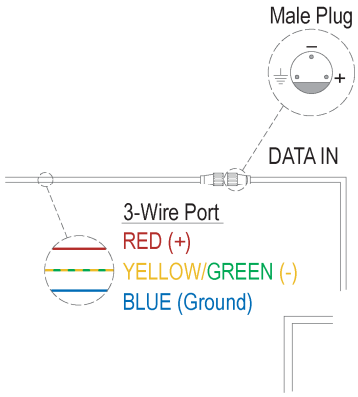
Note: Fixtures on a serial data link must be daisy chained in one single line. To comply with the EIA-485 standard, no more than 32 fixtures should be connected on one data link. Connecting more than 32 fixtures on one serial data link without the use of a DMX optically-isolated splitter may result in deterioration of the digital DMX signal.

Maximum recommended serial data link distance: 500 m (1640 ft)
Maximum recommended number of fixtures on a serial data link: 32

DMX Data Cable

If installer prefers 3-wire data cables, we suggest a Belden© 9481 or equivalent cable which meets the specifications for EIA RS-485 applications. Standard microphone cables cannot transmit DMX data reliably over long distances. The cable must have the following characteristics:

Type:	*shielded, 2-conductor twisted pair*
Maximum capacitance between conductors:	*30 pF/ft*
Maximum capacitance between conductor and shield:	*55 pF/ft*
Maximum resistance:	*20 ohms/1000ft*
Normal impendance:	*100~140 ohms*



Note: To comply with all local codes and jurisdiction, qualified communications technicians must do communications wiring.

Note: Communication cables and AC power lines must not be run in the same conduit.

A. Route Data Cables in series between fixture and any communications accessories using DATA IN and DATA OUT.
B. In order that they may be easily accessed once construction is complete, secure data cables in the immediate proximity of the fixtures.

Note: To avoid signal transmission problems and interference, it is always advisable to connect to a DMX signal terminator.

Maintenance

Coloronix recommends periodic cleaning of the heat sink and lens. Over time these components can become dirty or full of debris. This can result in lack of cooling or can limit the capabilities of the fixture.

Lens Maintenance

Clean the front Lexan® as required using any of the following cleaners:

- Window Cleaner
- Mild soap and water solution

In addition, dry the Lexan® with a quality paper towel to avoid scratches or streaks.

Mount/Fasteners Maintenance

Check all fasteners annually for tightness and security to avoid damage to the fixture and possibly liability.

Troubleshooting

If problems occur during usage, unplug the product immediately and call or email:

Coloronix, Inc.
Tech Support: (909) RGBW-555
support@coloronix.com

Replacing a Failed Fixture

"Hot Swapping" a fixture is not allowed. If a fixture needs to be replaced, the steps are to:

1. Disconnect the DMX input at the junction box of the fixture needing replacement.
2. Disconnect DMX output.
3. Replace fixture.
4. Reconnect AC negative.
5. Reconnect AC positive.
6. Reconnect DATA output.
7. Reconnect DATA input.
8. Reconnect power.

Make sure the replaced fixture and the entire system is in working order.

Troubleshooting Guide

If does not light, check if:
- Electrical power is not connected.
- Electrical power is less than specific voltage.
- Electrical power is greater than specified voltage.

If does not respond to DMX control signal, check if:
- DMX control device and RGBW are addressed differently.
- DMX cable is damaged.
- DMX control device is disconnected or not operating.
- DMX device needs to be restarted.
- LED fixture was not restarted after address change.
- Restart fixture.

If the fixture is not responding to DMX, check if:
- DMX addressing is incorrect:
  - Check Control Panel and unit addressing.
- The wrong polarity settings may be on the controller:
  - Check polarity switch settings on the controller.
- DMX cables may be loose:
  - Check cable connectors.

If DMX control operation flickers or is intermittent, check if:
- RGBW fixture or final DMX device in daisy chain is not terminated.
- DMX cable is damaged.
- DMX control device is operating at less than 25Hz.

If there is a loss of signal, check if:
- Non-DMX cables are being used:
  - Use only DMX compatible cables (see page 10).
- Signals are bouncing:
  - DMX terminator is not installed as suggested.

If output is less than normal, check if:
- Environment temperature may be in excess of 40°C/105°F.
- Lens may be damaged or dirty.
- DMX control or RGBW channels may be set at low level.

Warranty Information

3 YEAR PRODUCT LIMITED WARRANTY

Coloronix, Inc. provides a warranty to fixtures in case of physical or assembly-related malfunctions. This warranty is valid up to three years from the product's purchase date. Furthermore, Coloronix, Inc. offers to repair products with no charge for labor, or at its own discretion, may offer to replace parts at no charge. However, any labor to remove or install fixtures is not covered. This warranty is only valid for the original purchaser of the product. Proof of date of purchase by receipt or by other means (deemed acceptable by Coloronix, Inc.) is necessary for any warranty service. The warranty only covers product failures due to failure in parts or labor resulting from normal use. The warranty does not cover product failure due to mistake, improper use, mistreatment, neglect, modification, improper installation, inappropriate application of product, or any other defect not resulting from the manufacturer's construction or labor. This warranty does not cover damages resulting from products interacted with non-Coloronix, Inc. brand products. Corrosion or discoloration in components or products are not covered. Except as written above, no other warranties are applicable.

Coloronix, Inc. is not liable for any damages—accidental, unusual, or resulting—in breach of this warranty. Any warranties, stated here or implied, are only valid for the duration of this warranty.

The length, limitation, or cancellation of a warranty, whether incidental or resulting from use, may not apply to individuals in certain states.
This warranty is the only warranty, written or verbal, accepted by Coloronix, Inc. The rights of the consumer herein may be different from state to state.

For warranty service, please write to:

Coloronix, Inc.
5461 W. Jefferson Blvd.
Los Angeles, CA 90016

Please include the product name, a description of the product, and address and telephone contacts.

Coloronix, Inc. will offer a solution to the problem, or provide instructions for return. Any returns must include the return material authorization code (provided by Coloronix, Inc.), as well as return freight prepaid. Returns without a return authorization code will not be accepted.

Coloronix, Inc. accepts no liability for any damages incurred in shipping. All products are inspected as packed. Damages, apparent or not, must be claimed with the delivery carrier.