Manuals+ — User Manuals Simplified.
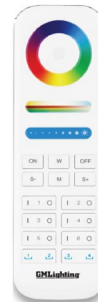
GM Lighting HC-RF-UNV-5CH 5 Channel Universal RF Control System

GM Lighting HC-RF-UNV-5CH 5 Channel Universal RF Control System Installation Guide

Contents

GMLighting®

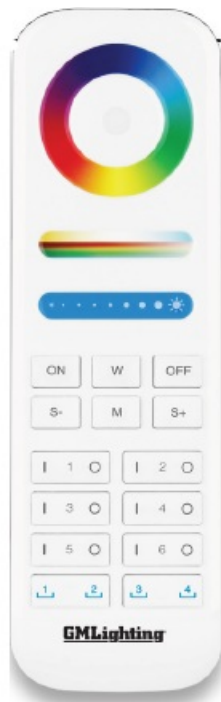GM Lighting HC-RF-UNV-5CH 5 Channel Universal RF Control System

Installation Instructions

FEATURES: The universal remote provides control for devices with 1 to 5 light channels. This includes LED lights with single color, tunable white, RGB and RGBW or RGB+ Tunable White Channels. The remote allows for smooth adjustments of RGB color and saturation, white color tempera- ture and brightness level for all combinations. This product uses the 2.4GHz frequency, GFSK control method and features low power consumption, long distance transmission, resistance to interference and fast communication rate.

TOOLS / PARTS NEEDED

- (2) AAA batteries for remote .
- 1/8" wide flat head screwdriver for screw terminals.
- Screw option for mounting compartments.
- Drill and driver bits for screw mounting

PARTS INCLUDED

- All devices sold separately.
- Hand Control includes a mounting clip and hardware. Batteries not included.
- Double-sided tape option for mounting control module and repeater

Installation steps for the RF Control System.

1. Check that LED power supply output wattage is larger than the LED load wattage.
2. Install LED power supply in proper location. See specific power supply installation instructions for details.
3. Install LED load in final location. See specific LED installation instructions for details.
4. Install LED control module and repeater amplifiers. Check for proper wiring to LED load and to the power supply. See details in this instruction for specific number of channels required for different LED sources.
5. Apply power to the system to make sure system lights turn on. Then follow instructions to select the number of channels.

6. AFTER PROPER NUMBER OF CHANNELS ARE PROGRAMMED, Follow instructions to link or unlink hand controls and control modules.

Maximum range of RF communication = 98 ft. (30m) between control modules and hand controls.

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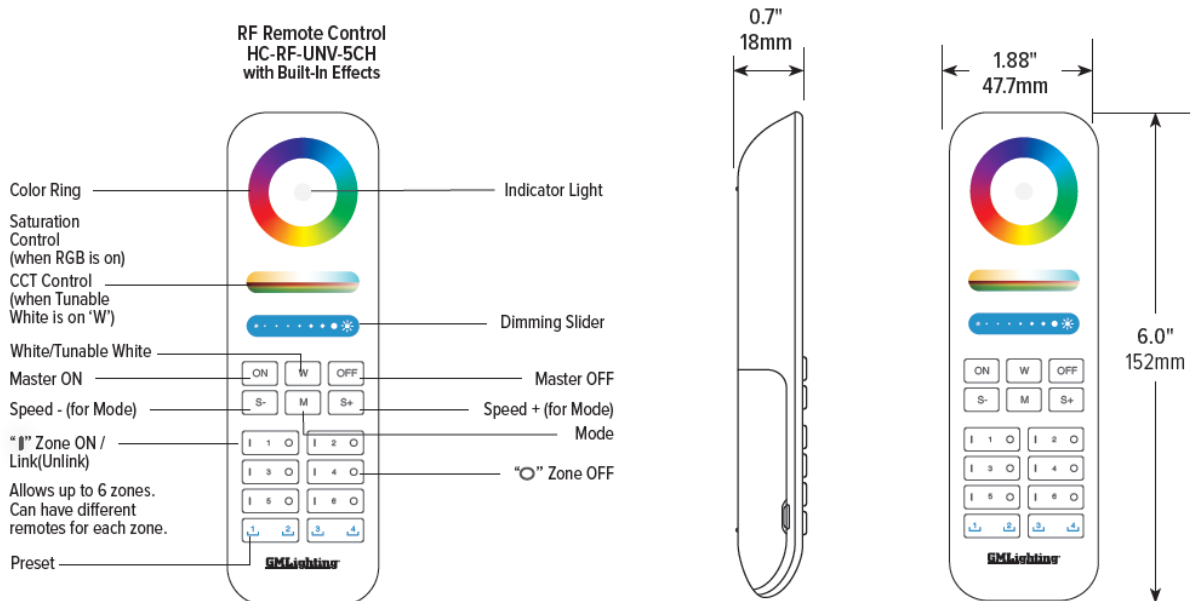
Touch the color ring to adjust light colors in RGB mode.

- For white color tuning, adjust light color temperature; For RGB color light modes, adjust color saturation.
- Slide the brightness slider to adjust light the brightness.
- **W** Short press switch to white light mode.
- **NO** Short press: control all paired lights;
  Long press: dim top brightness for all lights.
- **OFF** Short press: turn off all paired lights;
  Long press: turn on "night light mode" for all lights.
- **M** Short press switch to Dynamic Mode.
- **S+**Under dynamic mode: Speed up dynamic mode while pressing shortly; Under static mode: 10min delay off while doing long press (countdown started once the light flashes one time).
- **S-** Under dynamic mode : slow down speed of dynamic mode once press shortly; Under static mode: 60s delay off while doing long press countdown started once the light flashes one time).
  There are 6 zone buttons for turning lights on/off.
  ZONE number is located in the middle of the button.
- **1-4** Press "I" for ON (or when linking), "0" for OFF.
  Short press: activate preset scene Long press 3 seconds: save color or dynamic mode. Save up to 4 preset scenes per zone. (the light flashes one time slowly once completed successfully).

PRESET DYNAMIC MODES: Adjustable Brightness / Saturation / Speed)

Mode Setting	Output for White, Yellow Setting on Control Module	Output for Red, Green, Blue Setting on Control Module		
		Speed	Change	LED Colors
1	N/A	Fast	Jump	C / Y / P / Random
2	N/A	Medium	Fade	R / O / G / C / B / P
3	N/A	Very Slow	Fade	G / C / B / P
4	N/A	Slow	Fade	G / C / B / P
5	N/A	Medium	Fade	R / G / C / B / P
6	N/A	Slow	Fade	R / W / B
7	N/A	Slow	Jump	P / B / W
8	N/A	Medium	Fade	R / W / G / W / G / B
9	N/A	Very Slow	Fade	R / P / C / B / LG / Y / P

LED Color Legend
B = Blue
C = Cyan
G = Green
LG = Light Green
O = Orange
P = Pink
R = Red
W = RGB White
Y = Yellow

Power Supplies Suitable For 5 Channel Universal RF Control System

LD-E-UNV30

LD-XD-UNV60-12

LD-XD-UNV200-24

RECOMMENDED DRIVERS

Product No.	Description	Watts	Weight	Dimensions
LD-E-UNV30	12VDC / 24VDC — 30W — 120V or 277V – 12V/2.5A — 24V/1.25A	30W	1.0 lbs	6.10″L x 3.35″W x 1.33″H
LD-E-UNV60	12VDC / 24VDC — 60W — 120V or 277V – 12V/5A — 24V/2.5A	60W	2.5 lbs	8.25″L x 4.10″W x 1.56″H
LD-E-UNV96-24	24VDC — 96W — 120V or 277V — 4 amps	96W	2.5 lbs	8.25″L x 4.10″W x 1.56″H
LD-E-UNV200-24	24VDC — 192W — 120V or 277V — 4 amps/channel — 2 x 96W	192W (96W x2)	4.7 lbs	9.50″L x 6.35″W x 1.56″H
LD-E-UNV300-24	24VDC — 288W — 120V or 277V — 4 amps/channel – 3 x 96W	288W (96W x3)	4.7 lbs	9.50″L x 6.35″W x 1.56″H
LD-XD-UNV20-12	12VDC — 20W — 120V or 277V — 1.67 amps	20W	1.87 lbs	7.93″L x 3.36″W x 1.33″H
LD-XD-UNV40-12	12VDC — 40W — 120V or 277V — 3.33 amps	40W	1.87 lbs	7.93″L x 3.36″W x 1.33″H
LD-XD-UNV60-12	12VDC — 60W — 120V or 277V — 5 amps	60W	2.2 lbs	8.29″L x 4.10″W x 1.59″H
LD-XD-UNV180-12	12VDC — 180W — 120V or 277V — 5 amps/channel —3 x 60W channel	180W (60W x3)	4.4 lbs	9.51″L x 6.35″W x 1.59″H
LD-XD-UNV20-24	24VDC — 20W — 120V or 277V — 0.83 amps	20W	1.87 lbs	7.93″L x 3.36″W x 1.33″H
LD-XD-UNV40-24	24VDC — 40W — 120V or 277V — 1.67 amps	40W	4.4 lbs	7.93″L x 3.36″W x 1.33″H
LD-XD-UNV60-24	24VDC — 60W — 120V or 277V — 2.5 amps	60W	2.2 lbs	8.29″L x 4.10″W x 1.59″H
LD-XD-UNV96-24	24VDC — 96W — 120V or 277V — 4 amps	96W	2.2 lbs	8.29″L x 4.10″W x 1.59″H
LD-XD-UNV200-24	24VDC — 200W — 120V or 277V — 4 amps/channel — 2 x 96W	192W (96W x2)	4.4 lbs	9.51″L x 6.35″W x 1.59″H
LD-XD-UNV300-24	24VDC — 300W — 120V or 277V — 4 amps/channel — 3 x 96W	288W (96W x3)	4.4 lbs	9.51″L x 6.35″W x 1.59″H
Please see our website for updated power supply specifications and information.				

NOTE: Must not dim LD-XD power supplies when used to power a low voltage dimmer control.

CORD AND PLUG DRIVERS

Model	Description	Watts	Weight	Dimensions
LTP24-48	24VDC – 48W – 2 amps – 120V – 120V cord (72″) and plug	48W	1.8 lbs	4.68″L x 2.05″W x 1.25″H
LTP24-90	24VDC – 90W – 3.75 amps – 120V – 120V cord (72″) and plug	90W	1.8 lbs	4.68″L x 2.05″W x 1.25″H
LTP-2	12VDC – 24W – 2 amps – 120V – 120V cord (72″) and plug	24W	10.4 oz	3.75″L x 1.25″W x 1.25″H
LTP-6	12VDC – 60W – 5 amps – 120V – 120V cord (72″) and plug	60W	14.8 oz	4.5″L x 2″W x 1.25″H
Please see our website for updated power supply specifications and information.				

Installation and Operating Instructions Universal RF Controller CM-RF-UNV-5CH
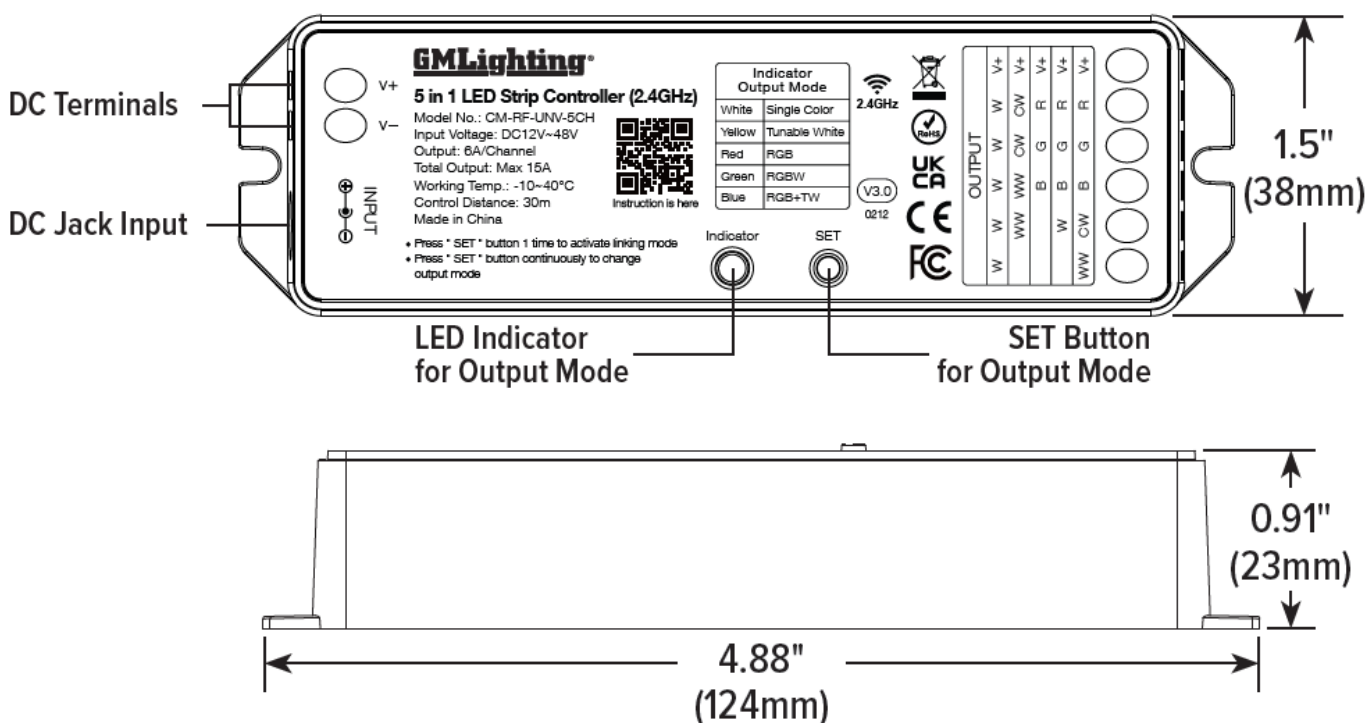Low Voltage Control System for 1 to 5 Channel LED Sources

CONTROL MODULE

Class 2 Operation:

60W maximum on 12V power supplies for each control module
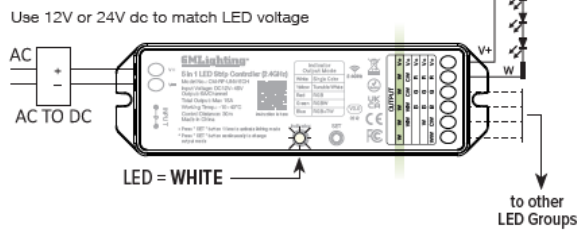96W maximum on 24V power supplies for each control module

Controller
CM-RF-UNV-5CH

OPERATIONAL SETTINGS

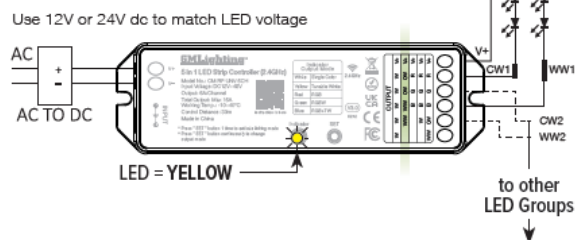| LED Indicator	Control Module Output Mode	OUTPUT					
		Terminal 1	Terminal 2	Terminal 3	Terminal 4	Terminal 5	Terminal 6
White	Single Color	White	White	White	White	White	V+
Yellow	Tunable White	—	Warm White	Warm White	Cool White	Cool White	V+
Red	RGB	—	—	Blue	Green	Red	V+
Green	RGBW	—	White	Blue	Green	Red	V+
Blue	RGB+TW	Warm White	Cool White	Blue	Green	Red	V+

LED Channel Codes:

R = Red   CW = Cool White (used with TW)

G = Green   WW = Warm White (used with TW)

B = Blue   W = White (single color)

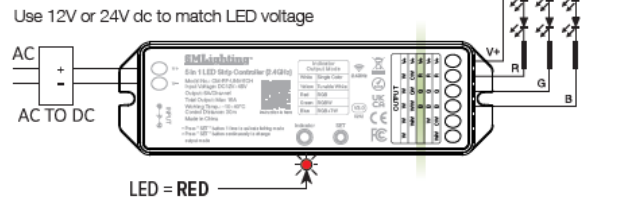**Single Color Mode Setting**

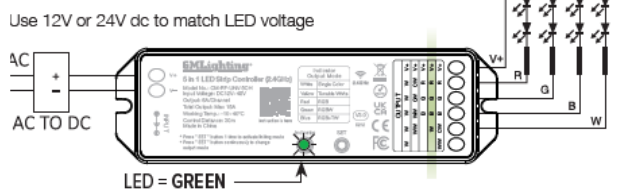Use 12V or 24V dc to match LED voltage

LED = WHITE

to other LED Groups

Tunable White Mode Setting

Use 12V or 24V dc to match LED voltage

LED = YELLOW

to other LED Groups

RGB Mode Setting

Use 12V or 24V dc to match LED voltage

LED = RED

RGBW Mode Setting

Use 12V or 24V dc to match LED voltage

LED = GREEN

RGBTW Mode Setting

Use 12V or 24V dc to match LED voltage

LED = BLUE
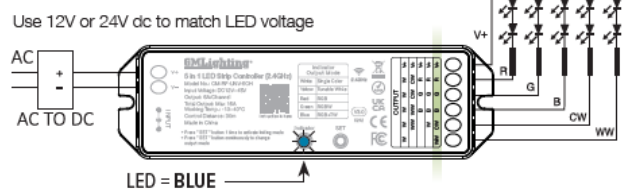
Wiring and Installation Tips

1. Check whether the input wattage of the constant voltage power supply is what the LED load requires. Check for proper voltage and connection of (+ and -) leads to terminals otherwise the controller will not function.
2. Do not connect wires with power on.
3. Turn on again only when it is in the right connection and no short circuit.
4. Do not use the controller anywhere that is near large amounts of metal or a strong electromagnetic field from commercial equipment and electric motorsREPEATER AMPLIFIER

Class 2 Operation:

- 60W maximum on 12V power supplies for each control module
- 96W maximum on 24V power supplies for each control module
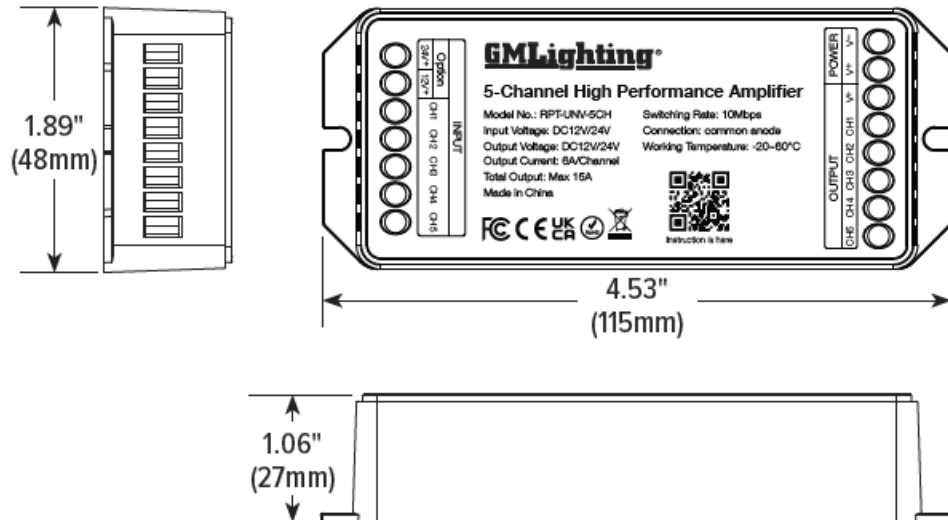
OPERATIONAL SETTINGS

LED Indicator	Repeater Module Output Mode	OUTPUT					
		Terminal 1	Terminal 2	Terminal 3	Terminal 4	Terminal 5	Terminal 6
White	Single Color	White	White	White	White	White	V+
Yellow	Tunable White	—	Warm White	Warm White	Cool White	Cool White	V+
Red	RGB	—	—	Blue	Green	Red	V+
Green	RGBW	—	White	Blue	Green	Red	V+
Blue	RGB+TW	Warm White	Cool White	Blue	Green	Red	V+

AC

+
−

AC TO DC

V+

NOTE: Connect only +12V or +24V to the proper repeater input terminal, not both. All LED loads and input voltages must match for proper operation.

GMLighting®

5-Channel High Performance Amplifier

Model No.: RPT-UNV-5CH
Input Voltage: DC12V/24V
Output Voltage: DC12V/24V
Output Current: 6A/Channel
Total Output: Max 15A
Made in China

Switching Rate: 10Mbps
Connection: common anode
Working Temperature: -20~60°C

Instruction is here

Use the wiring method in the chart to match the wiring from the control module.

Use 1 to 5 channels as needed for the application. Match up input and output terminal number. Leave unneeded terminals disconnected.
Not all 5 channels required.

Example: A single color LED load can be used as the White channel and connected to Terminal 1 and Terminal 6 (common).

Using the wiring scheme in this chart for specific LED colors will make it easier to install and troubleshoot if required.
This scheme aligns with the wiring required by the CM-RF-UNV-5CH controller.

UNIVERSAL RF CONTROLLER WIRING DIA-
Incoming power for (L N G) options can be 120V or 277V.
Check power supply for proper input voltage and output power required. Power Supply output voltage must match LED operating voltage. (12VDC or 24VDC)Power supply used MUST NOT BE DIMMED at the input to properly power the controls.
See Controller instructions for pairing and wiring details.

The number of wires required by the cables below are derived from the number of channels in a tape.

1. CHANNEL (Single color LED) = 2 wires
2. CHANNELS (Tunable White) = 3 wires
3. CHANNELS (RGB) = 4 wires
4. CHANNELS (RGBW) = 5 wires
5. CHANNELS (RGB+TW) = 6 wires

*Multiple power supplies can be replaced with a single multi-output power supply.
Example: (3) LD-E-UNV96-24 can be replaced by (1) LD-E-UNV300-24

Linking Code / Unlinking Code Instructions

- Power supply, RF control, repeaters and LED load must be wired properly b efore hand comtrols can be linked.
- Each control module with a LED load must be linked with the remore control before use.
- More than one control module can be linked to each hand control.
- More than one hand control can be linked to each control module.

Linking Code Instructions

1. STEP 1: Select choice A or B to link the hand control to the control module. Not both.

   Switch OFF power to control module for at least 10 seconds, then switch power on again.

   OR

   Leave power ON and press the SET button on the control miodule.

2. STEP 2

   Select desired zone button. Short press "1" button 3 times within 3 seconds of switching on power to the control module.

3. STEP 3

'LED LOAD blinks 3 times slowly showing that linking is successful.

If light does not blink slowly, linking has failed. Follow above steps again.

NOTE: Lights that have been linked cannot be linked again until they are unlinked. See below for unlink-ing instructions.
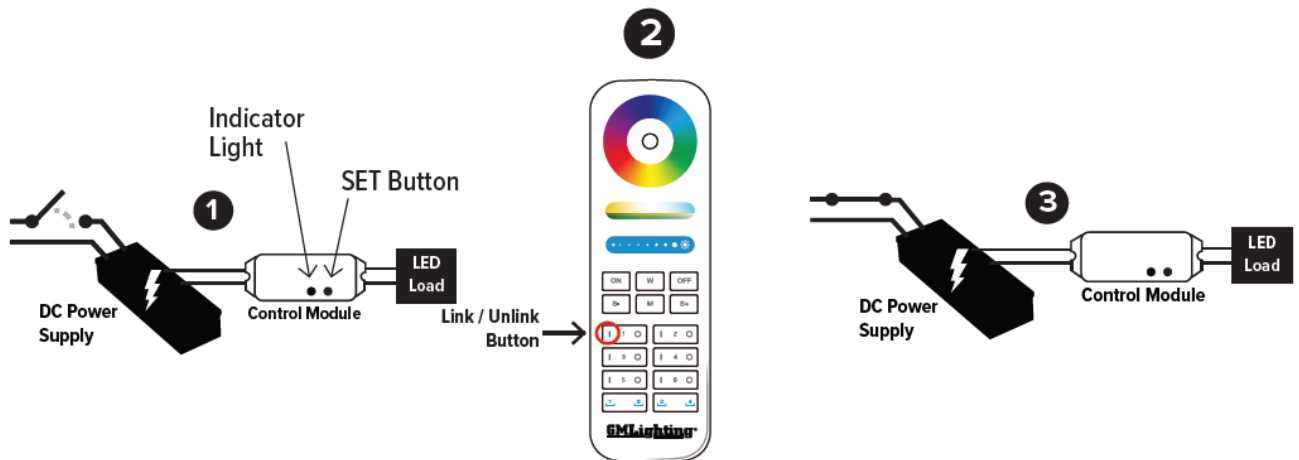
Unlinking Code Instructions

1. STEP 1: Select choice A or B to link the hand control to the control module. Not both.

   Switch OFF power to control module for at least 10 seconds, then switch power on again.

   OR

   Leave power ON and press the SET button on the control module.

2. STEP 2

   Select linked zone button. Short press "1" button 5 times within 3 seconds of switching on power to the control module.

3. STEP 3

   LED load blinks 10 times quickly when unlinking is done successfully.

   Unlinking failed if light is not blinking quickly. Repeat above steps.

   NOTE: Lights that have not been linked do not need to be unlinked.
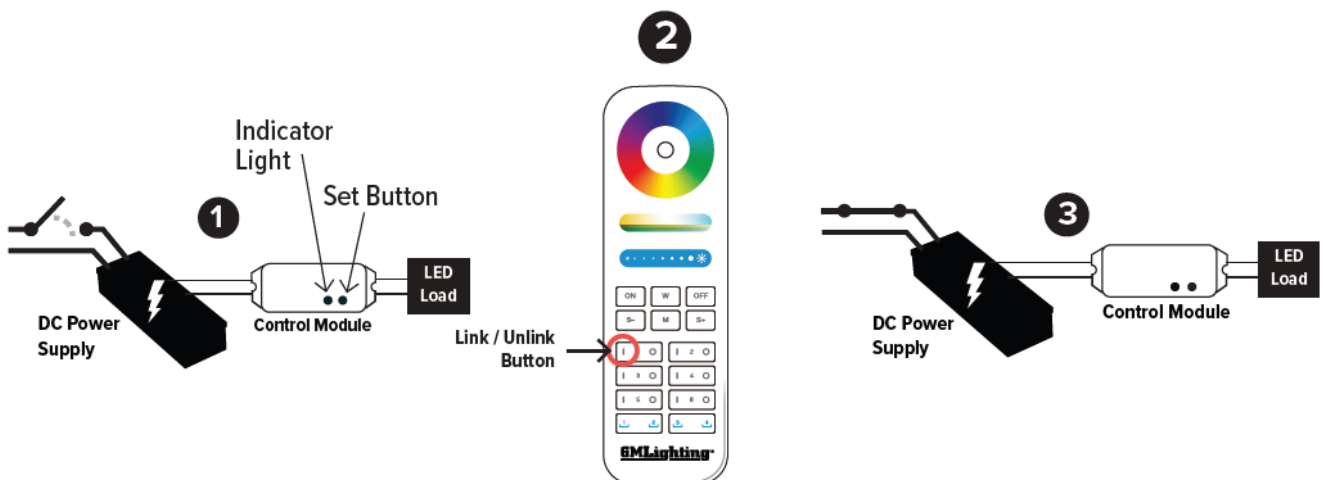
Zone Use for Group Control

1. Linking lights in different groups allows flexibility of dimming and different zone control. (Example: Press "1" first and adjust dimming slider to either lower or raise group light level).

2. Each zone must have the same number of channels for all lights within a group. (Example: Zone 1 = TW or RGBW, not both in a group).
3. Different zones can have a different number of channels for each group of lights. (Example: Zone 1 = TW, Zone 2 = RGBW).
4. There can be up to 4 preset scenes per zone. Each one can have different scene settings.
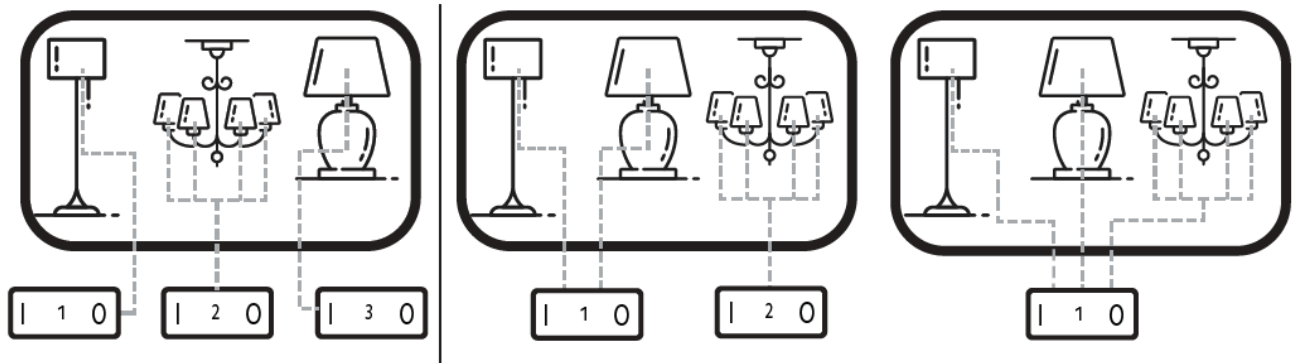
Notes for Proper Operation

1. Many lights / control modules can be added to each zone.
2. Only 1 light per zone from a single remote can be linked.
3. If when using the remote the indicated lamp is blinking quickly, change the battery to avoid improper operation. Do not use sub-standard or poor-quality batteries. These are prone to leakage which can damage the remote.'
4. This remote utilizes precision electronics and should not be exposed to high temperatures or humidity. When remote is not used for a long period of time, remove batteries and store in a dry, static-free environment.
5. Do not mount the control module or use the hand control near electric motors or appliances. Electrical noise from these devic-es may reduce control distance.

Replacements for Discontinued Controls:

- HCCM-RF-RGBTW:
  Replacing each HCCM-RF-RGBTW requires using (1) CM-RF0UNV-5CH and (1) RPT-UNV-5CH for a complete substitution. These discontinued controls ARE COMPATIBLE with new controls. You may only need to replace the hand control or control module.
- RPT-RGBTW:
  Replacing each RPT-RGBTW (repeater) requires (1) RPT-UNV-5CH for a complete substitution. This discontinued repeater IS COMPATIBLE with new controls. You may only need to replace the hand control or control module. If repeater is functioning, a new replacement is not needed.
  IMPORTANT: Replacements must be wired properly to the control module for proper operation of the number of channels.
  RGBW-RWC (RGBW – 4-Channel) or CTK-RWC (Color tuning white – 2-Channel) Replacing each RGBW-RWC or CTK-RWC requires using (1) CM-RF0UNV-5CH and (1) HC-RF-UNV-5CH as updated versions. The discontinued controls are NOT COMPATIBLE with new controls. Replacements must be set up and linked for proper operation of the number of channels used (4 channel RGBW or 2 channel Color Tuning White).
- RGBTW-RP:
  Replace each RGBW-RP (repeater) requires (1) RPT-UNV-5CH for a complete substitution. This discontinued repeater is NOT COMPATIBLE with new controls for all functions. Replacements must be wired properly to the

control module for proper operation of the number of channels.

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tech@gmlighting.net

Documents / Resources

	GM Lighting HC-RF-UNV-5CH 5 Channel Universal RF Control System [pdf] Installation Guide HC-RF-UNV-5CH, CM-RF-UNV-5CH, RPT-UNV-5CH, HC-RF-UNV-5CH 5 Channel Universal RF Control System, HC-RF-UNV-5CH, 5 Channel Universal RF Control System, Universal RF Control System, RF Control System, Control System, System

References

- **User Manual**