

HOW TO WIRE AN RGB LED STRIP TO AN EXISTING OEM ON/OFF WALL SWITCH TO LIGHT UP WHITE WHILE ALSO BEING ABLE TO USE THE LED CONTROLLER TO GET MULTIPLE COLORS

Scenario

Customer wants to replace his existing single color LED awning light with a multi-color awning light (and all the features it comes with – eg: Bluetooth wireless control) but doesn't want to give up use of the existing on/off wall switch to provide white light whenever that wall switch is turned on.

Solution

Replace the existing single color awning light with a Boogey Lights multi-color (rgb) LED awning light. Connect the existing 12vdc + (hot) switched connection from the existing on/off wall switch to a group of 3 SPDT (or SPST) relays. When that on/off wall switch is turned on, 12vdc power is supplied to each of the RGB power leads (Red, Green, Blue) via the relay which creates the color white. Note: Equal amounts of RED + GREEN + BLUE = WHITE. When the switch is turned off, that 12vdc power is cut (the three relays open) and the light turns off. For multi-color operation, connect the Boogey Lights LED Controller power lead output to the input power leads of the LED strip on the awning light. Doing so will allow you to control the Boogey Lights awning light via the LED controller.

ONE CAVEAT: The on/off wall switch will over-ride any functionality of the Boogey Lights LED controller. If the wall switch is ON, the led awning light will only display bright white – nothing else. That wall switch has to be turned off before you can use the Boogey Lights LED controller to access any of the capabilities or features of the LED controller (e.g. multi-color, strobing, dimming, flashing, Bluetooth integration, etc.)

Wiring

For this solution you need three SPDT 30/40amp 12vdc automotive relays. We offer these relays on our website but they can also be purchased from any auto parts store. They're very common. Assuming you have three of these relays, twist the like colored together except the blue wires. See photo wiring diagram we include for more details. Here's the pin out configurations:

RED: PIN 30 = 12vdc INPUT from 30/40amp source. Important this circuit feeding this be capable of handling the max amperage of the LEDs connected to it.

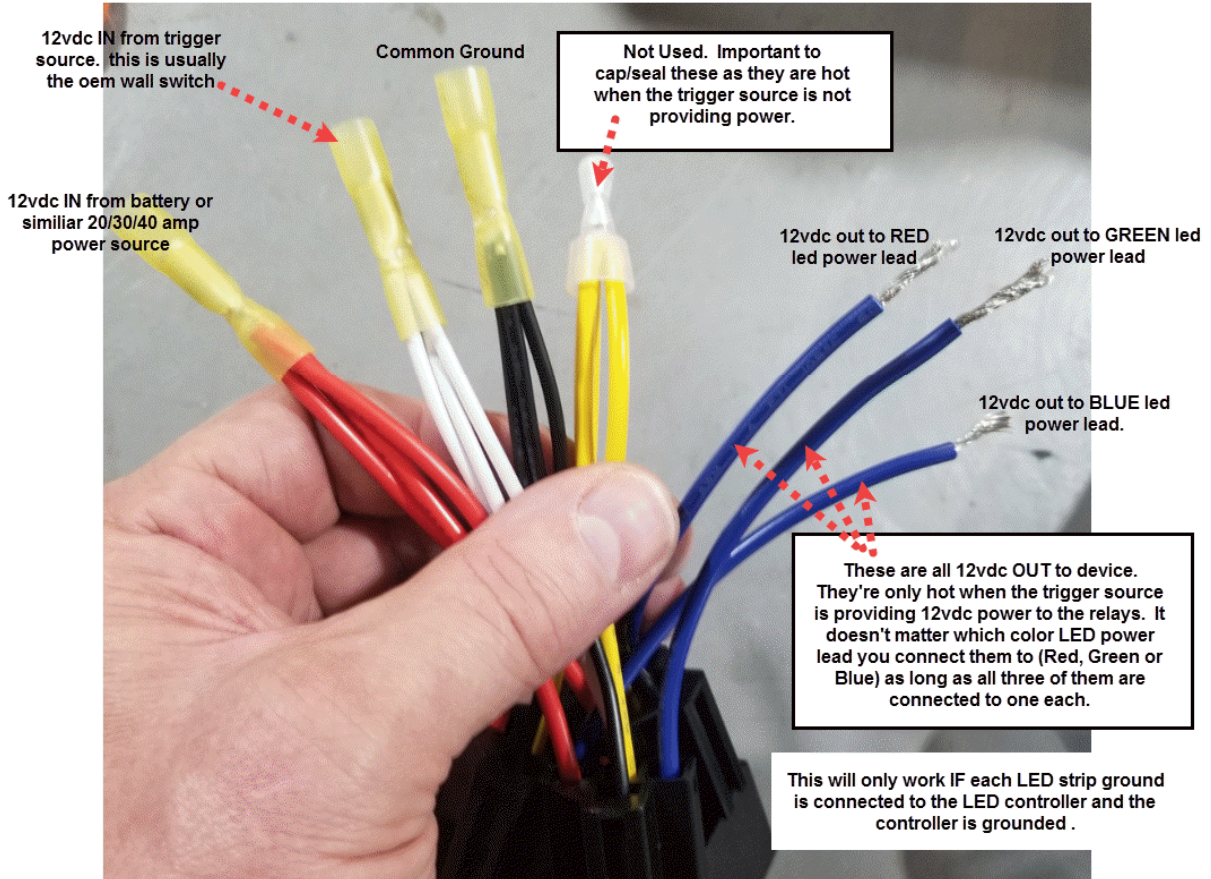
WHITE: PIN 86 = 12vdc INPUT from TRIGGER source

BLACK: PIN 85 = Common Ground. Must be connected to a ground wire that is capable of handling the amperage of whatever the RED cable is connected to.

YELLOW: PIN 87A = Not used. Must be capped as it is 12vdc hot when relay is normally open.

BLUE: PIN 87 = 12vdc OUTPUT when relay is closed (e.g. Trigger is supplying 12vdc + to relays.)

Wiring 3 SPDT Relays For Using Existing OEM Light Switch to light up an RGB LED strip on White.

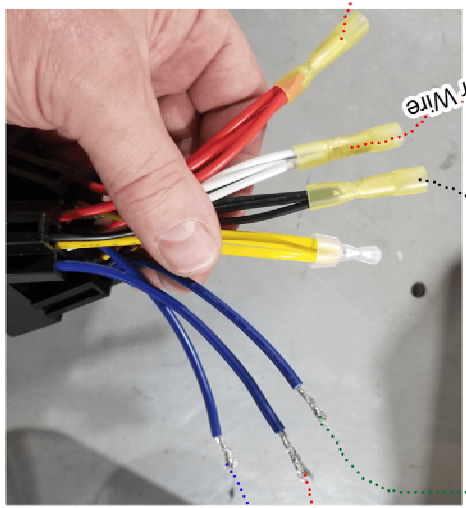


WIRING RGB LED STRIP TO OPERATE USING EXISTING OEM ON/OFF WALL SWITCH AND BOOGEEY LIGHTS RGB LED CONTROLLER TOGETHER.



12vdc power coming from existing oem wall switch. Pull this from the original awring light 12vdc input wire. It's usually a RED wire indicating 12vdc +. Cap the ground wire that would normally also be included.

Existing OEM Wall Switch



3 - SPDT 30/40amp RELAYS
Note: All wires except the blue are twisted together.

RED: PIN 30 = 12vdc INPUT from 30/40amp source. Important this circuit feeding this be capable of handling the max amperage of the LEDs connected to it.

WHITE: PIN 86 = 12vdc INPUT from TRIGGER source

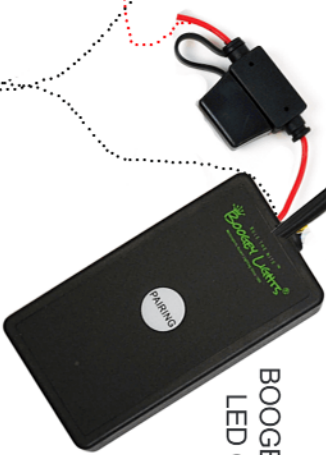
BLACK: PIN 85 = Common Ground. Must be connected to a ground wire that is capable of handling the amperage of whatever the RED cable is connected to.

YELLOW: PIN 87A = Not used. Must be capped as it is 12vdc hot when relay is normally open.

BLUE: PIN 87 = 12vdc OUTPUT when relay is closed (e.g. Trigger is supplying 12vdc + to relays.)



BATTERY



BOOGEEY LIGHTS LED Controller

To LED Strip

Note: Instead of connecting the LED controller to a 12vdc power source (BATTERY +), you could connect the red fused input wire going to the Boogey Lights LED controller to the YELLOW (PIN 87A) output coming from the RELAYS. This way the LED controller would not be energized when the wall switch is ON.