SCM-SZ-RGB

SINGLE ZONE LIGHTING CONTROLLER

shadow-caster® LED LIGHTING

DESCRIPTION

The Shadow-Caster® Single Zone Lighting Control is a low cost, marine grade RGBW LED controller.

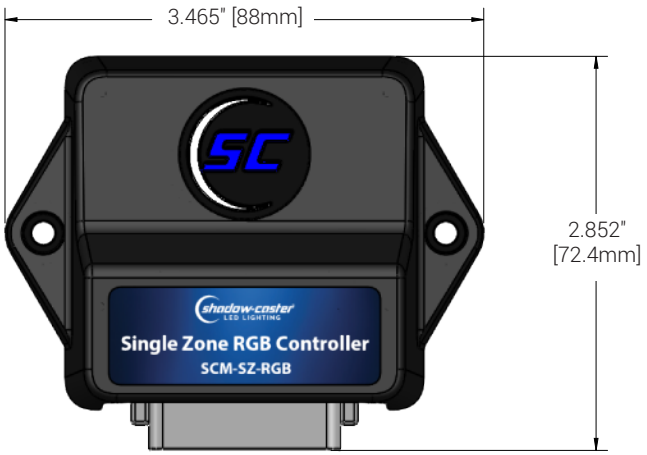
Operate from a either a standard momentary push button switch to set color brightness and color scroll, or by using Shadow-Caster's on/off/momentary switch to add control over additional color fading modes.

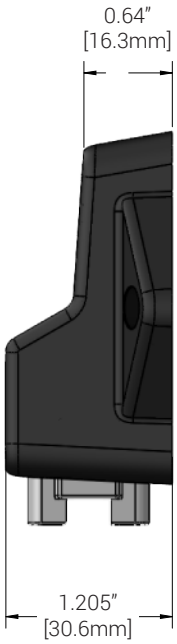
The Single Zone Controller also has a built-in Shadow-NET® interface, allowing the controller to synchronize color and brightness with other Shadow-NET® devices, for example; to make Shadow-Caster® underwater lights match the color of interior RGBW lighting.

SPECIFICATIONS

- Supports up to 10A load
- IP67 housing and connector
- 12V/24V operation compatible
- 3.5" x 2.9" x 1.2" [88 x 72.4 x 30.6mm]

DIMENSIONS





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THEORY OF OPERATION

The Shadow-Caster® Single Zone Lighting Controller is a compact IP67 rated lighting controller for marine and other off road vehicles. It provides an easy and compact way to add RGBW lighting control for aftermarket and OEM applications.

Depending on how the system is installed it can be controlled from a simple momentary push button switch, an on/off/momentary switch, or to extend an existing Shadow-NET® installation adding additional RGBW zones or capacity.

WHITE CHANNEL CONFIGURATION

To auto-detect the white channel:

- Connect the SCM-SZ-RGB's pin 8 (blue and white wire) to constant positive (+) DC lug,
- Apply power to the SCM-SZ-RGB (typically by holding down the push button, and turning on the main battery switch).
- The module will go into auto detect mode.
- If a load is detected on the white channel, the SCM-SZ-RGB will enter RGBW mode.
  Note: the minimum detection load is 40mA.
- The lights will flash green when auto-detect is complete.

FAULT DETECTION

The Shadow-Caster® Single Zone Lighting Controller is designed to protect itself in the event of an over-current or over-temperature condition.

In the event a fault is detected, the SC back light on the unit will flash red, and the main output power will turn off.

To clear the fault, cycle power to the unit.

SCM-SZ-RGB COLOR INDEX CYCLE

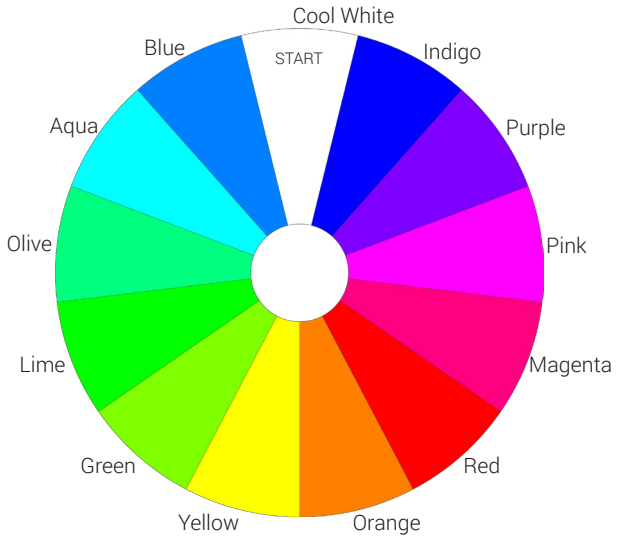
When the SCM-SZ-RGB controller powers up, it will begin to cycle through the color index, starting on white color and moving clockwise through the colors, as shown on the color index diagram.

One full cycle of the color index will complete in approximately 1 minute.

After the first cycle is complete the rate will slow to one full cycle every 7 minutes.

At any time, a single click of the push button will stop at the current color.

Multiple clicks will step to the next color on the chart.



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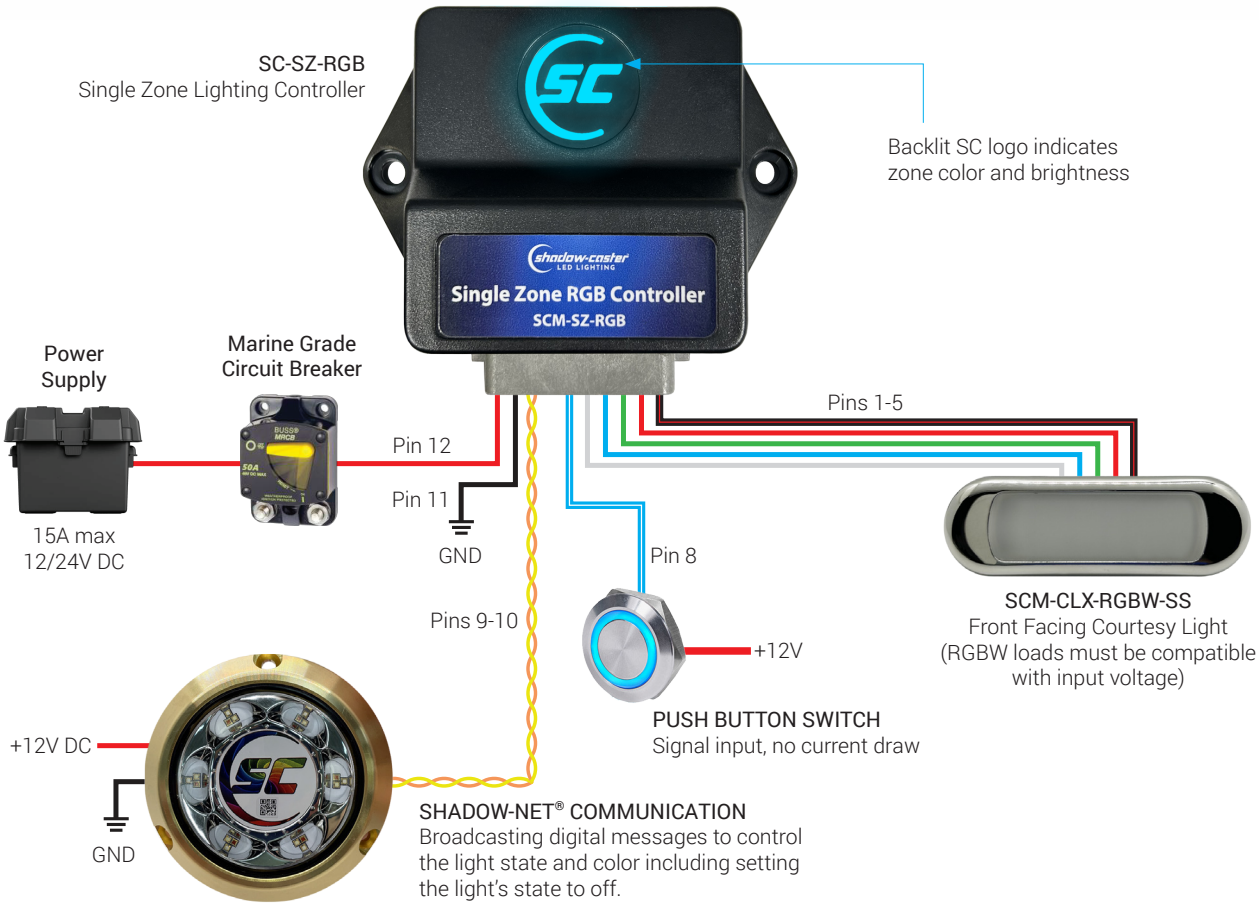
WIRING & USE SCHEMATICS - PUSH BUTTON SWITCH ONLY

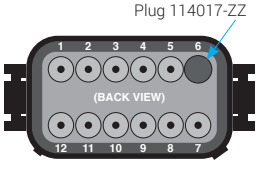


Note: Shadow-NET current draw does not add to the 10A budget for the Single Zone Controller

OPERATION - PUSH BUTTON SWITCH

- Press once for lights to come on to full brightness and start rotating colors
- Press again to start and stop color rotation. Multiple clicks will step through colors
- Press and hold for brightness
- Press and hold to dim lights to off

PIN CHART



PIN	GAUGE	COLOR	LABEL	DESCRIPTION
Pin 1	16	BLACK/RED STRIPE	V-OUT	+V-OUT
Pin 2	16	RED	RED-CH	RED OUT
Pin 3	16	GREEN	GRN-CH	GREEN OUT
Pin 4	16	BLUE	BL-CH	BLUE OUT
Pin 5	16	WHITE	WH-CH	WHITE OUT
Pin 6	**NOT USED**	**PLUGGED**		
Pin 7	18	RED/WHITE STRIPE		**NOT USED**
Pin 8	18	BLUE/WHITE STRIPE	PB-IN	PUSH BUTTON IN
Pin 9	18	ORANGE	CAN-L	CAN LOW
Pin 10	18	YELLOW	CAN-H	CAN HIGH
Pin 11	16	BLACK	GND	GROUND
Pin 12	16	RED	+ IN	POWER IN

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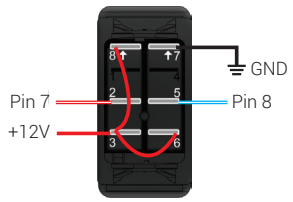
WIRING SCHEMATIC - ON/OFF/MOMENTARY SWITCH

Note: Shadow-NET current draw does not add to the 10A budget for the Single Zone Controller

MOMENTARY SWITCH WIRING

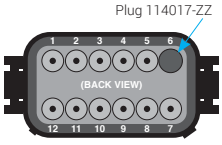


Rear of Momentary Switch
SCM-SWITCH-O/O/MOMENTARY

OPERATION - ON/OFF/MOMENTARY SWITCH

- Turn switch on: Lights will ramp up and start color rotation
- Click push button switch to stop rotation
- Click push button repeatedly to step to next color
- Press and hold push button for brightness
- Toggle ON/OFF to change mode:
  - Singe color fade
  - Multi-color fade
  - Solid/rotate

PIN CHART



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Pin 3	16	GREEN	GRN-CH	GREEN OUT
Pin 4	16	BLUE	BL-CH	BLUE OUT
Pin 5	16	WHITE	WH-CH	WHITE OUT
Pin 6	**NOT USED**	**PLUGGED**	**NOT USED**	**NOT USED**
Pin 7	18	RED/WHITE STRIPE	ON/OFF	ON/OFF
Pin 8	18	BLUE/WHITE STRIPE	PB-IN	PUSH BUTTON IN
Pin 9	18	ORANGE	CAN-L	CAN LOW
Pin 10	18	YELLOW	CAN-H	CAN HIGH
Pin 11	16	BLACK	GND	GROUND
Pin 12	16	RED	+ IN	POWER IN

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SCM-SZ-RGB

SINGLE ZONE LIGHTING CONTROLLER

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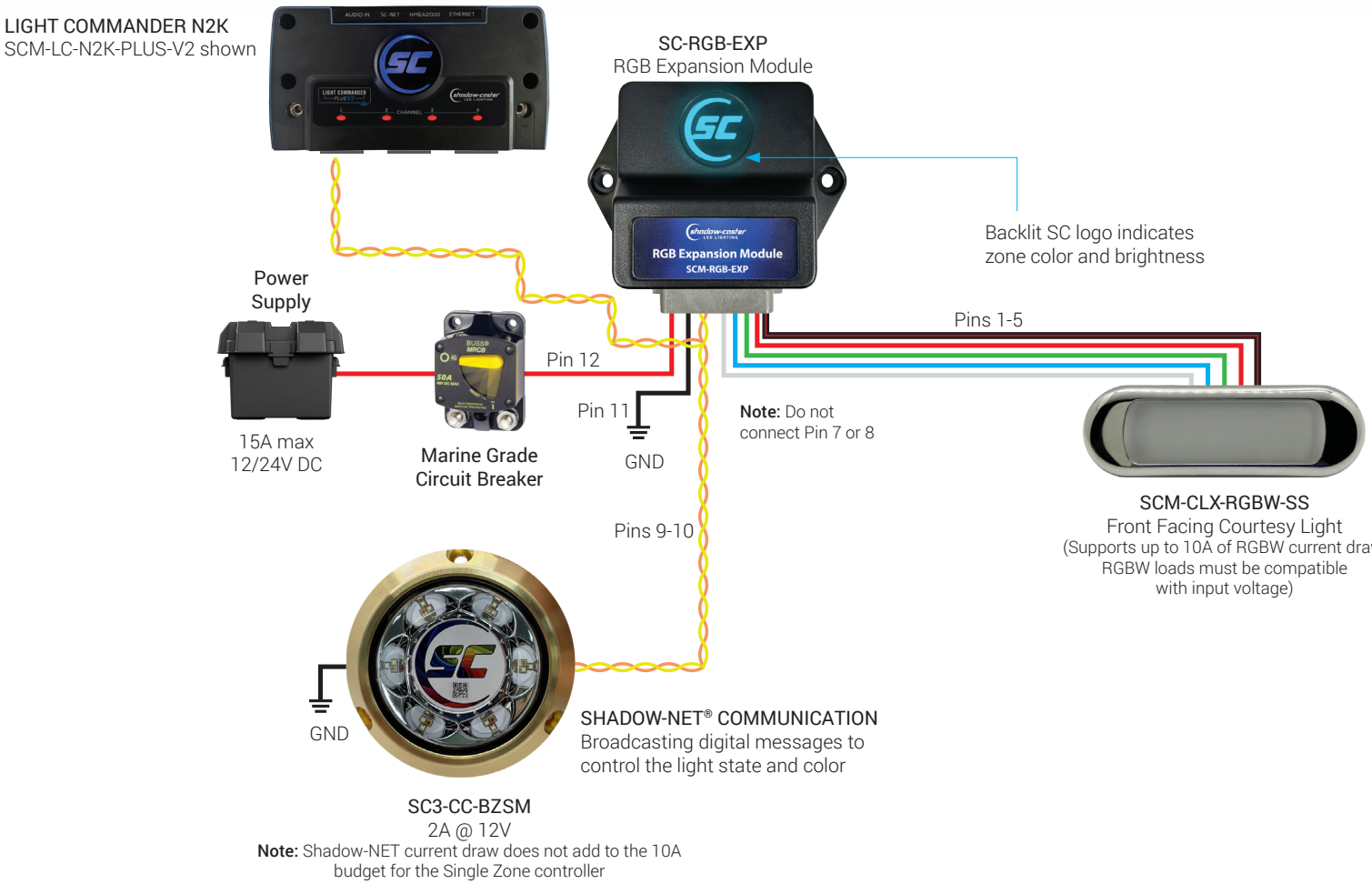
WIRING & USE SCHEMATICS - LIGHT COMMANDER N2K

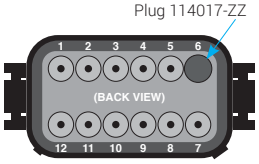


OPERATION - LIGHT COMMANDER N2K

The SCM-RGB-EXP module will follow messages that it receives on the bus.

For installation with a Light Commander, you will need to identify the device on the bus and assign it to a zone.

PIN CHART



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Pin 3	16	GREEN	GRN-CH	GREEN OUT
Pin 4	16	BLUE	BL-CH	BLUE OUT
Pin 5	16	WHITE	WH-CH	WHITE OUT
Pin 6	**NOT USED**	**PLUGGED**		
Pin 7	18	RED/WHITE STRIPE	ON/OFF	**NOT USED**
Pin 8	18	BLUE/WHITE STRIPE	PB-IN	**NOT USED**
Pin 9	18	ORANGE	CAN-L	CAN LOW
Pin 10	18	YELLOW	CAN-H	CAN HIGH
Pin 11	16	BLACK	GND	GROUND
Pin 12	16	RED	+ IN	POWER IN

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SCM-SZ-RGB

SINGLE ZONE LIGHTING CONTROLLER

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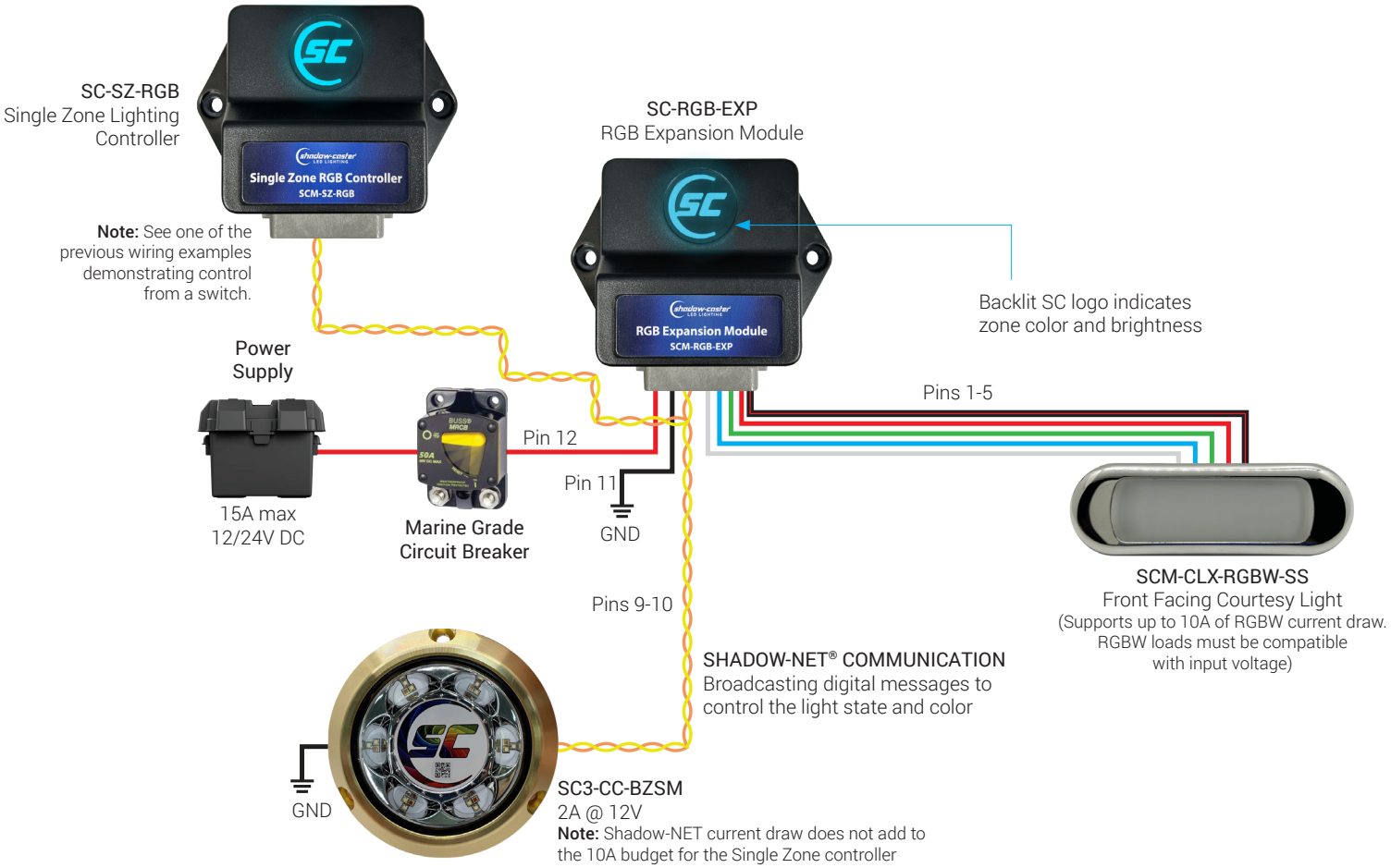
WIRING & USE SCHEMATICS - SCM-SZ-RGB & SCM-RGB-EXP

Use an SCM-RGB-EXP expansion module to add more capacity to your single zone system.

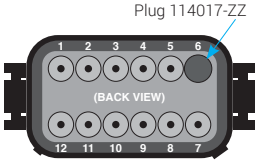


OPERATION - SCM-SZ-RGB & SCM-RGB-EXP

The SCM-RGB-EXP will simply follow whatever colors the main LED module is doing.

An additional 10A amps of current capacity will be added per SCM-RGB-EXP.

PIN CHART



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Pin 5	16	WHITE	WH-CH	WHITE OUT
Pin 6	**NOT USED**	**PLUGGED**		
Pin 7	18	RED/WHITE STRIPE	ON/OFF	**NOT USED**
Pin 8	18	BLUE/WHITE STRIPE	PB-IN	PUSH BUTTON IN
Pin 9	18	ORANGE	CAN-L	CAN LOW
Pin 10	18	YELLOW	CAN-H	CAN HIGH
Pin 11	16	BLACK	GND	GROUND
Pin 12	16	RED	+ IN	POWER IN

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MOUNTING INSTRUCTIONS

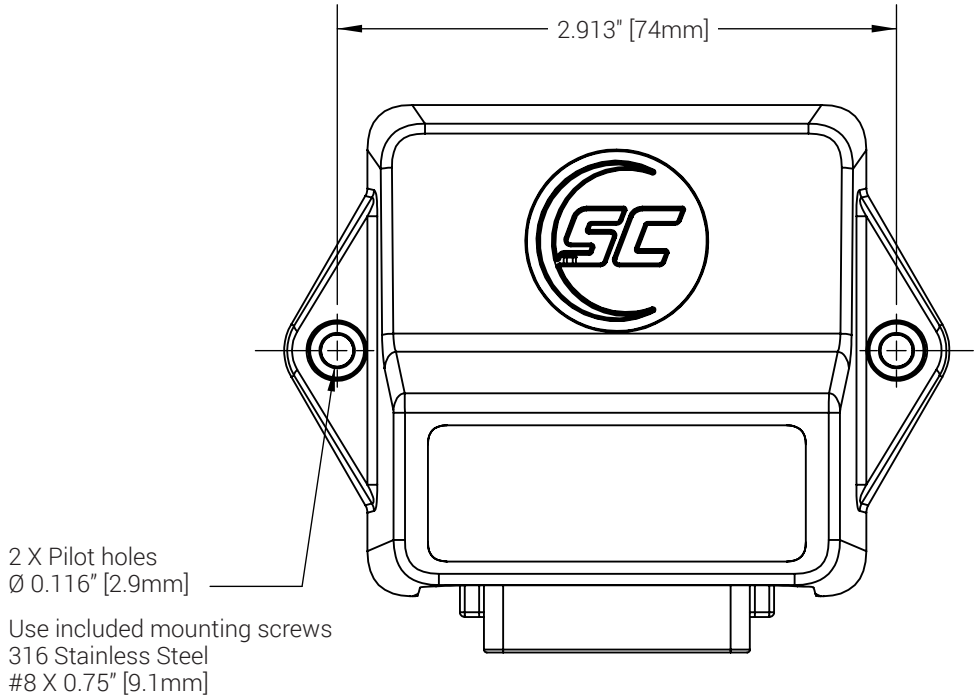
1. Find a flat spot to mount the SCM-SZ-RGB Single Zone Controller or SCM-RGB-EXP Expansion unit.
2. Print the mounting template below and tape to your preferred mounting location.
3. Drill the pilot holes and center hole.
4. Use a marine sealant around the base and mounting hardware.
5. Use Perma-Seal connectors for the wiring.

MOUNTING TEMPLATE

IMPORTANT!

When printing installation templates, please ensure your printer is set to print at 'Actual Size' and double check all printed dimensions exactly match the specified dimensions.

SCALE 1:1



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