



SCM-PD-COMBO
Power Distribution and Wireless Controller Installation and User
Instructions:



SCM-PD shown with optional wireless Controller Installed.

The SCM-PD is designed to give a convenient way to connect and control multiple Shadow Caster Lights.. The system is designed to service 6 lights and will handle up to 100 amps of current. The SCM-PD-COMBO also includes a wireless controller which provides several modes of control: Including, Dim, Strobe, Fade, Pulse and Chase.

Tools Required: Phillips screwdriver, and wire stripper.

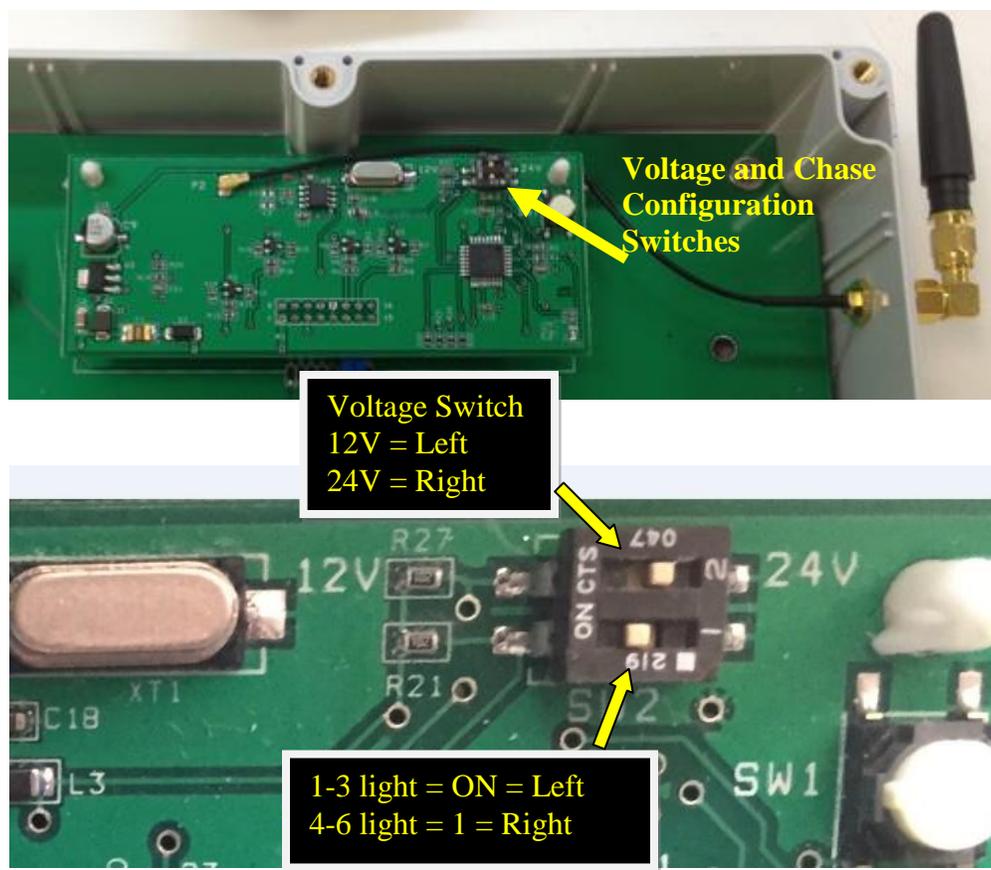
Power Distribution Box Includes	
1ea	NEMA Box with Power distribution Board and 6 outputs
1ea	Box Lid and 6 screws
6ea	7.5 Amp Fuses (Installed)
4ea	SS 316 Pan Head ,#8 x1/2" Mounting Screws
1ea	Wireless Receiver Circuit Board
1ea	Wireless Key Fob and lanyard
1ea	SMA antenna pig tail to connect the Circuit Board to the NEMA Box
1ea	Optional right angle SMA male to Female Adapter
1ea	Stubby Antenna with SMA connector

Installation Steps

1. **Find a suitable mounting location:** This box should be mounted in a dry location, such as high in the bilge area below the deck or inside the console. It is preferred to not have the cable glands or the power wire connector facing up where moisture will drain into the box.
2. **Select Antenna Mounting Location:** Once the power distribution box mounting location and orientation has been selected, a suitable location for the antenna should be determined. The ideal mounting option will have the Antenna mounted as high as possible, and as far as possible from large metal objects. Additionally, the antenna should be as far as possible from potential sources of electrical interference and oriented vertically. There is a right angle adapter included to increase mounting options.

If a suitable mounting position still cannot be found, or if there is poor performance, contact Shadow-Caster regarding the availability of a remote-mount extended range antenna. Part # **SCM-Antenna-Extended**

3. **Mount Antenna in box:** Verify that the 5" SMA to U.FL Coax Jumper will reach from the Antenna PCB to the chosen location. Once Verified, drill a slightly larger than .25" diameter hole through the PD-PLUS box. **Exercise Caution to not damage any components on the PCB.** Install the SMA-bulkhead with included nut and washer. Use RTV or silicon to seal around the SMA bulkhead. Screw in stub antenna to the bulkhead.
4. **Set Voltage Mode:** See Picture below. The top dip switch should be set according to whether the voltage system on the vessel is 12 Volt or 24 Volt. 12 volt is to the Left and 24 volt is to the Right.
5. **Chase Mode Operation:** The bottom dip switch controls the selection of the chase mode operation. When this switch is in position **ON**, the controller operates in the 1-3 light mode. In position **1** the controller will be in 4-6 light mode.



In 1-3 light position you will want to insert your 3 lights in the number 1, 3 or 5 slots of the box. This will allow a nice flow pattern for the strobe or flash mode. The lights will alternate from 1-3-5 and back to 1-3-5...

In 4-6 light position you will want to insert your 4+ lights in the number 1, 2, 3, & 4 slots. Use 5 & 6 if you have the lights. The lights will rotate (1 and 5), (2 and 6), 3, 4 then back to (1 and 5).

6. **Mount the Box:** The box can be mounted with the #8 Stainless Steel pan head mounting screws.
7. **Connect the Lights:** Loosen the cable glands and route the cable through. Strip the outer cable pack approximately 1.5 inches, and the ends of the wire back approximately .25 of an inch. The connectors are color coded. Insert each wire into the respective location and snap the connector down.
8. **Connect Input Power:** Route power into the box directly from a switch, breaker, or main fuse panel. The breaker and incoming wire should be sized appropriately to the number of lights being connected. **Pwr (+)** and **Gnd(-)** are clearly marked on the printed circuit board. The connector will accept from 2awg to 20awg wire.
9. **Cinch the cable glands:** Hand tighten all cable glands. Verify that any unused cable glands have a nylon dowel inside so that a water-tight seal is maintained.

10. **Insert Fuses:** The Power Distribution box comes standard with 7.5Amp fuses to accommodate SC-10 Size light installation on a 12Volt power bus. If different size lights are being installed please see Chart 1 for appropriate fuse selection.

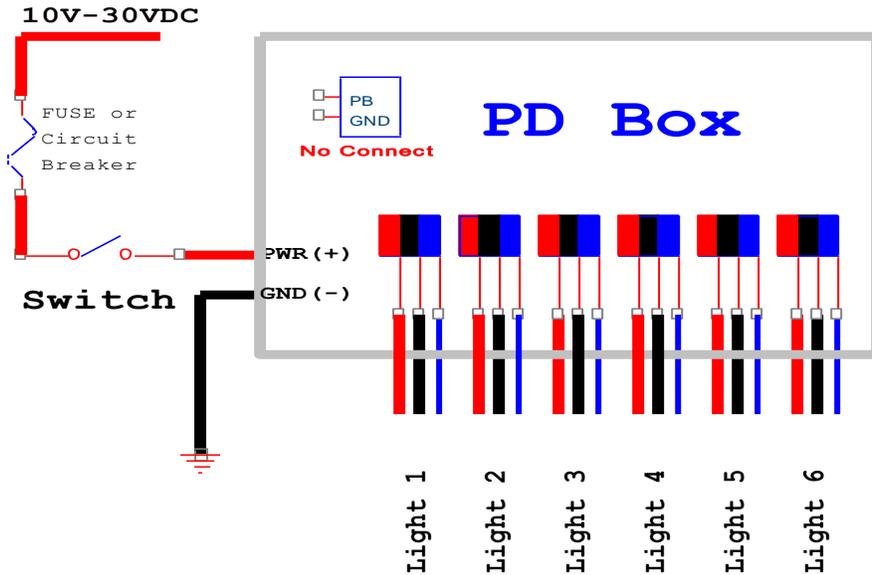
model	Suggested Fuse Size	
	12V system	24V system
SC-40	30 Amp	15 Amp
SC-10	7.5 Amp	3 Amp
SC-6	5 Amp	3 Amp
SC-4	3 Amp	3 Amp

Table 1: Suggested Fuse Sizes, Standard ATC style.

11. **Install Cover:** Install clear enclosure lid with 6 supplied screws.

Note: (Blue Jumpers are reserved for future expansion and should be left in place.)

Diagram 1: Standard Single Color Light Wiring Diagram:

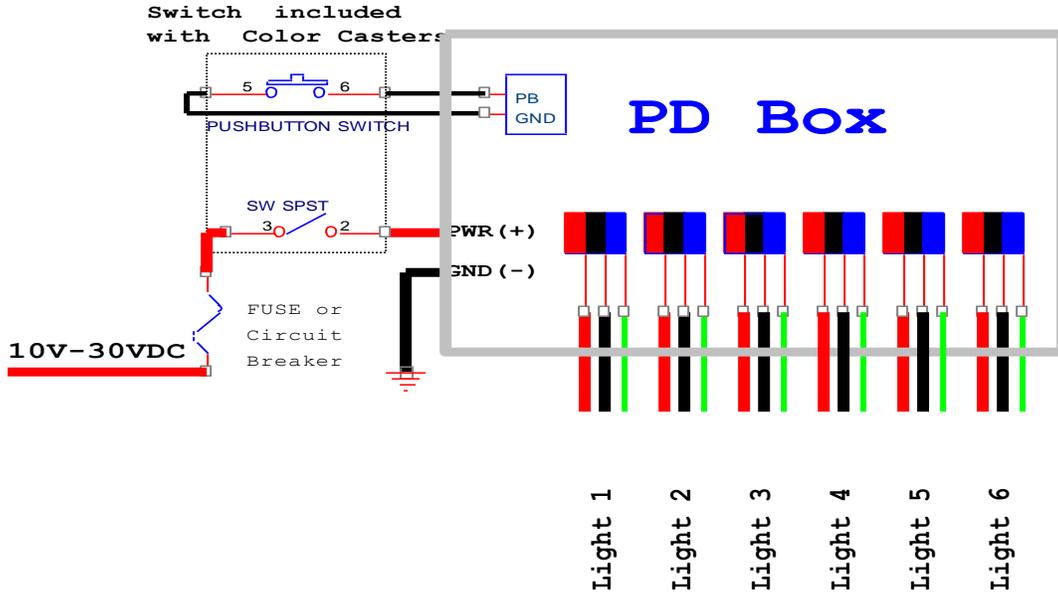


Special Notes for Color Caster Installation:

When installing Color Caster lights (SCM-CC) with the PD Box, connect the Green wires into the Blue connectors. Install the push button connector included with the Color Casters into the 2 position connector located on the upper left hand corner of the board according to **Diagram 2**. Below

Diagram 2: Wiring for Power Distribution Box with Color Caster Lights.

SCM-PD-COMBO User Instructions



Operation:

There are two buttons located on the Key Fob. Press the “Mode” button to cycle through the modes. The modes are: On, Fade, Strobe, Flash, Dim and Chase. Press the “Control” button to change speed or intensity. See Table 2 for a complete list of the “Mode” and “Control” Options.

To turn the lights off, press and hold either remote button for two seconds.

Note: The lights should be turned off at the switch when the underwater lights are not in use, as the lights will still draw standby current when only powered down via the wireless controller.

Low Battery Detection: If the battery voltage drops below 10V (for a 12 Volt system) or 20Volts (for a 24 Volt system). The controller will shut down the lights to prevent damage to the battery.

Timed Shutdown: If the system has not detected a signal from the Transmitter in 4 hours, the lights will automatically shut off.



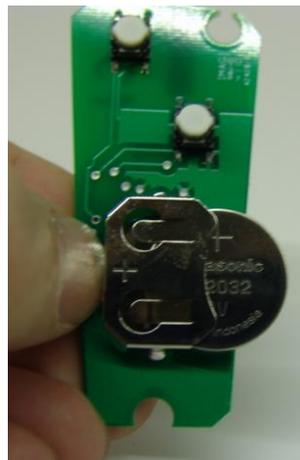
Table 2: Description of Modes.

	Mode	Control
Default		All Lights on 100%
1	Fade	5 different speed settings.
2	Strobe	Slow Single, Slow Double, Faster Single, Faster Double, Faster Triple
3	Flash	3 speed settings, faster to slower
4	Dimmer	Steps from 85%,51%,51%, 34% and 17%,34%,51%,68% and 85%
5	Chase	Chases between 2 LEDs and 4 LEDs depending on position of switch 2, There are 5 different speeds
6	All off	
		Sequence starts over.

Figure 10

Replacing the battery in the FOB:

The Key FOB transmitter uses a CR2032 lithium coin cell battery. These are commonly available where batteries are sold. To replace the battery, remove the two Phillips head screws on the back of the transmitter. The battery slides out as shown in figure 10. Be careful to have the “+” side of the battery facing as shown in figure 10. When reassembling the FOB case, exercise caution to verify that the watertight seal is properly seated on the perimeter of the case.



Programming a new remote FOB:



If the remote FOB must be replaced, the new one can easily be coded to the wireless receiver. To do this, power the PD Box on, then press the programming button on the receiver and release. Then press and release the MODE button on the wireless receiver, repeat this until the code is picked up by the receiver. This can be verified by seeing the Shadow-Caster Lights changing color. Note that the wireless controller will only support one remote at a time.

Please contact Shadow-Caster Lighting for additional support:

Shadow-Caster Lighting
1237 Lady Marion Lane
Dunedin, FL 34698

info@shadow-caster.com

727-474-2877