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Model: TS16-11EL-A-3PCS | Brand: DAIERTEK

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of the DAIERTEK TS16-11EL-A-3PCS 12V RGB LED Marine Toggle Switch. This heavy-duty, waterproof toggle switch features an RGB triple LED design, offering multiple illumination options for various applications in automotive, marine, and other 12V systems.

2. PRODUCT FEATURES

- **RGB LED Illumination:** Features a triple LED design (Red, Green, Blue) allowing for various color options based on wiring configuration.
- **ON/ON Functionality:** This is an ON/ON Single Pole Double Throw (SPDT) switch, enabling three distinct illumination modes depending on wiring: LED on when switch is ON, LED on when switch is OFF, or different LEDs lighting up for ON and OFF positions.
- **High Rating:** Rated for 12V 20A, suitable for a wide range of heavy-duty applications.
- **Waterproof Design:** Achieves IP67 waterproof performance without requiring an additional waterproof cover.
- **Wide Application:** Ideal for use in automotive, marine, truck, boat, and other 12V electrical systems.

RGB LED LIGHT

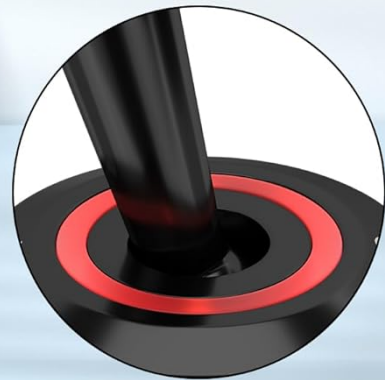
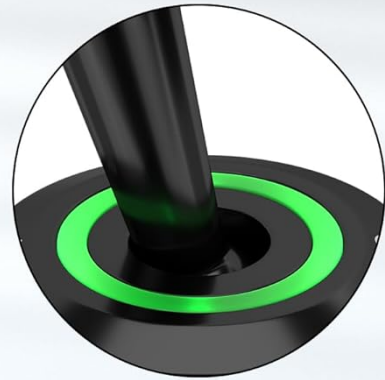
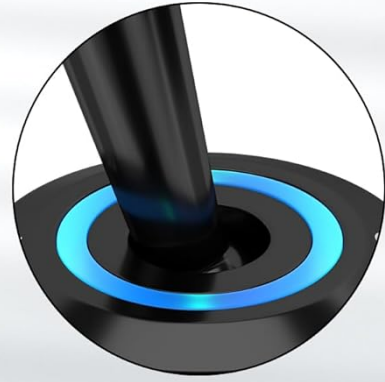


Figure 2.1: RGB LED illumination options for the toggle switch.



Figure 2.2: Demonstration of the switch's IP67 waterproof capability.

3. SPECIFICATIONS

Model Number	TS16-11EL-A-3PCS
Voltage Rating	12 Volts DC
Amperage Capacity	20 Amps
Wattage	240 Watts
Switch Type	ON/ON (SPDT)
Switch Style	Toggle
Terminal Type	Solder
Mounting Type	Panel Mount
IP Rating	IP67 (Waterproof)
Material	Plastic
Color	Black
Included Components	3 Lighted Toggle Switches (per package)

3.1. Dimensions

DIMENSION

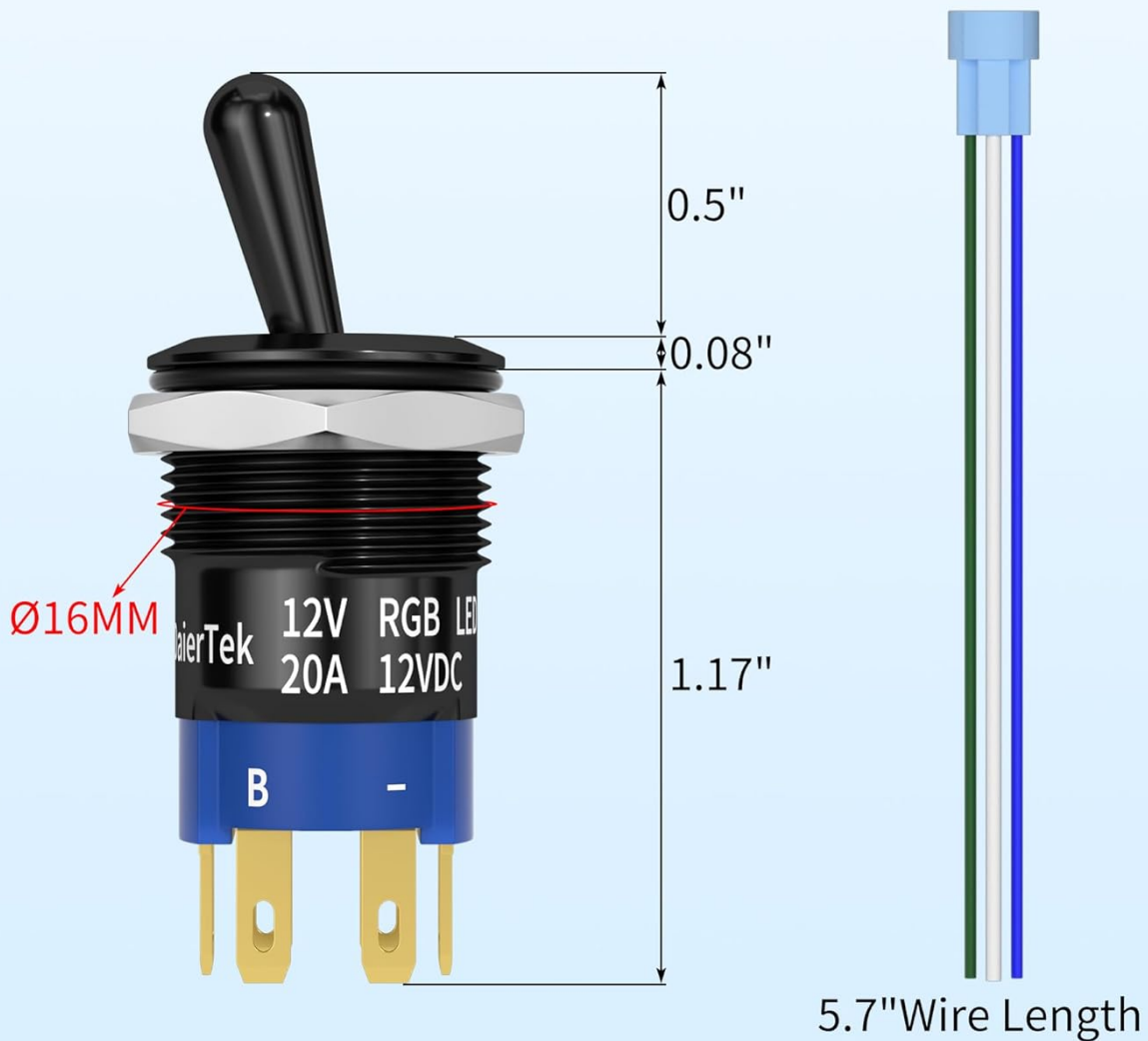


Figure 3.1: Product dimensions and wire length.

Mounting Hole Diameter: Approximately 16mm (0.63 inches)

Switch Body Length: Approximately 1.17 inches

Toggle Lever Length: Approximately 0.5 inches above panel, 0.08 inches below panel

Wire Length: 5.7 inches (for pre-wired versions)

4. INSTALLATION & WIRING

Proper wiring is essential for the correct function and illumination of the switch. The TS16-11EL-A-3PCS is an ON/ON switch with RGB LEDs, allowing for flexible illumination modes. It features 6 pins for connection.

4.1. Panel Mounting

1. Ensure the power source is disconnected before installation.
2. Drill a 16mm (0.63 inch) diameter hole in the desired mounting panel.
3. Insert the toggle switch into the drilled hole.

- Secure the switch using the provided nut on the threaded portion of the switch body. Tighten firmly but do not overtighten.

4.2. Wiring Instructions for LED Illumination Modes

The switch has 6 pins. The specific wiring configuration determines the LED color and when it illuminates. The following diagrams illustrate common wiring setups for different LED behaviors.



Figure 4.1: General concept of ON/ON switch with variable LED illumination.

Mode 1: Light Green LED When Switch is ON

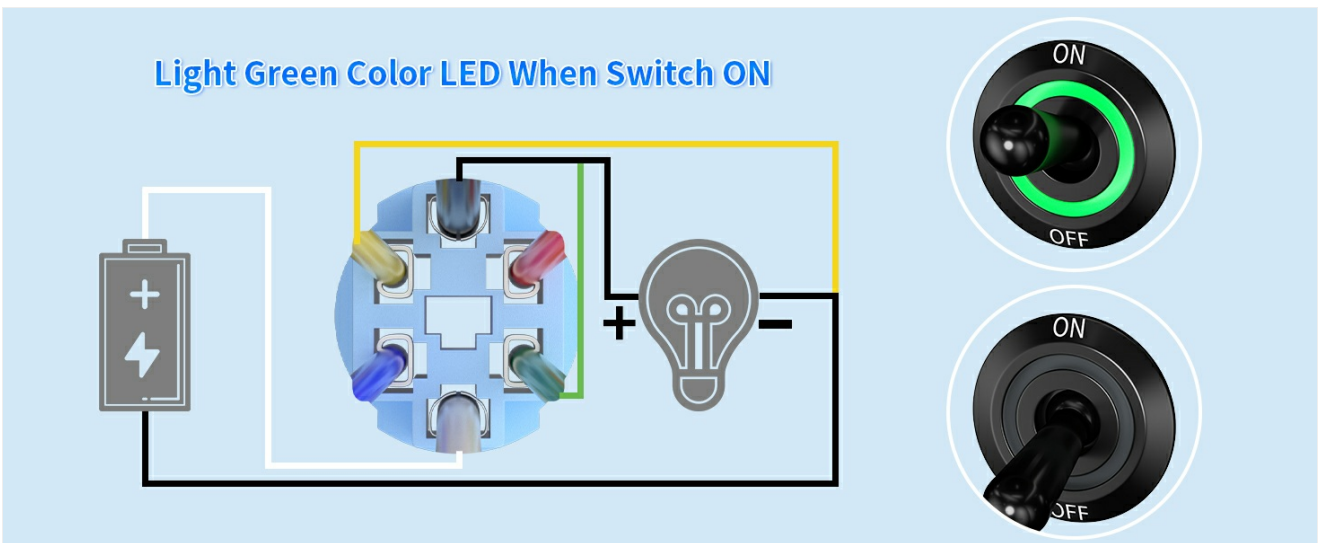


Figure 4.2: Wiring for green LED to light when the switch is in the ON position.

In this configuration, the green LED will illuminate when the toggle is moved to the ON position. Ensure proper connection of positive and negative terminals to the switch pins as indicated in the diagram.

Mode 2: Light Blue LED When Switch is ON

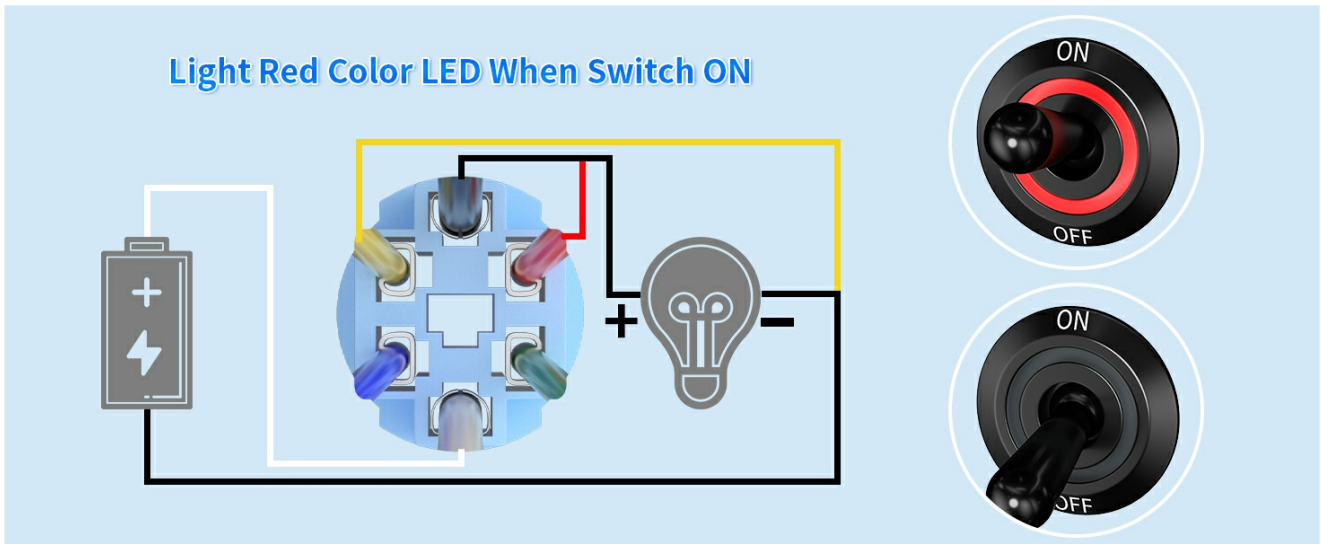


Figure 4.3: Wiring for blue LED to light when the switch is in the ON position.

This setup allows the blue LED to light up when the switch is in the ON position. Follow the diagram carefully for correct pin assignments for the blue LED circuit.

Mode 3: Light Red LED When Switch is ON

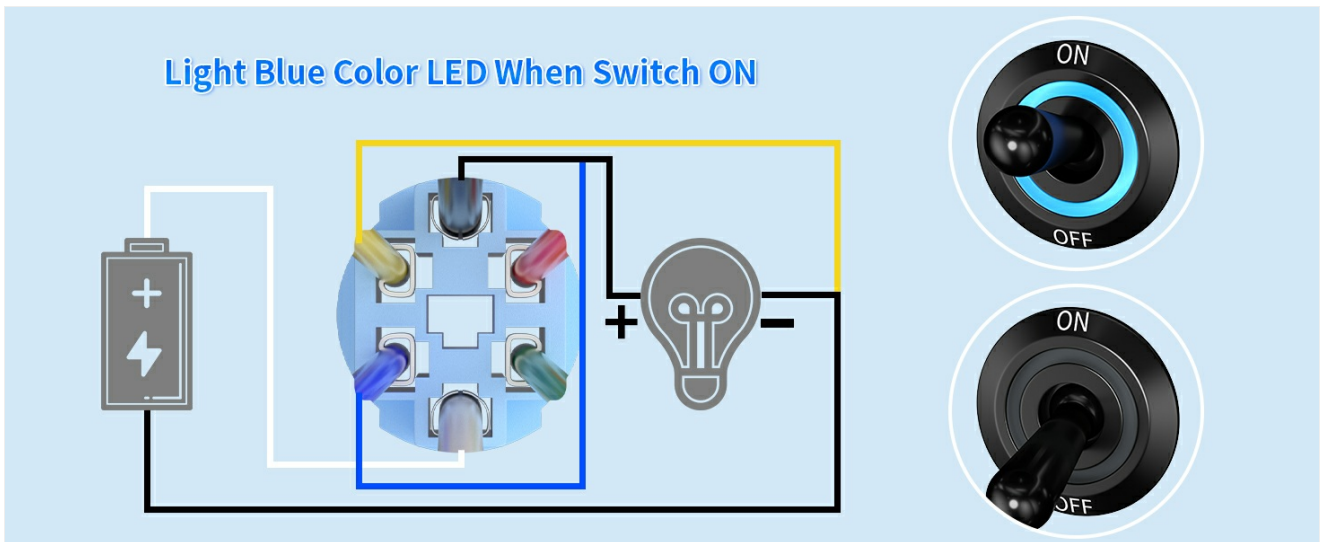


Figure 4.4: Wiring for red LED to light when the switch is in the ON position.

To achieve red LED illumination when the switch is ON, connect the wires as shown in this diagram. Always double-check connections before applying power.

Important Wiring Notes:

- The switch's internal LEDs require a 12V DC power supply.
- The ON/ON function means the switch maintains its position until manually changed.
- For advanced configurations, such as different colors for ON/OFF states, consult a professional auto electrician or refer to detailed electrical diagrams specific to your application.
- Ensure all connections are secure and insulated to prevent short circuits.

5. OPERATING INSTRUCTIONS

The DAIERTEK TS16-11EL-A-3PCS is a simple ON/ON toggle switch. Once correctly installed and wired:

1. To activate the connected device and illuminate the LED (based on your wiring), push the toggle lever to the 'ON' position.

2. To deactivate the connected device and change the LED state, push the toggle lever to the other 'ON' position.

The switch will remain in the selected position until manually toggled again.

6. MAINTENANCE

The DAIERTEK TS16-11EL-A-3PCS toggle switch is designed for durability and requires minimal maintenance due to its waterproof construction.

- **Cleaning:** Periodically wipe the switch surface with a damp cloth to remove dirt or grime. Avoid using harsh chemicals or abrasive cleaners.
- **Inspection:** Regularly check the wiring connections for any signs of corrosion, looseness, or damage. Ensure the mounting nut remains tight.
- **Water Exposure:** While waterproof, prolonged submersion or high-pressure water jets directly on the switch are not recommended.

7. TROUBLESHOOTING

If you encounter issues with your toggle switch, consider the following troubleshooting steps:

- **Switch Not Activating Device:**
 - Check all wiring connections for looseness or incorrect polarity.
 - Verify the power source is active and providing 12V DC.
 - Ensure the connected device is functioning correctly.
 - Check for blown fuses in the circuit.
- **LED Not Illuminating:**
 - Confirm the LED wiring matches the desired illumination mode as per Section 4.2.
 - Ensure the LED power input (typically the yellow wire in some configurations) is receiving 12V DC.
 - Check for any breaks in the LED circuit wires.
- **Intermittent Operation:**
 - Inspect for loose connections at the switch terminals or within the wiring harness.
 - Check for corrosion on terminals, especially in marine environments.

If problems persist after following these steps, professional assistance may be required.

8. WARRANTY AND SUPPORT

For warranty information or technical support regarding your DAIERTEK TS16-11EL-A-3PCS toggle switch, please refer to the product packaging or contact DAIERTEK customer service through their official website or the retailer where the product was purchased. Please have your model number (TS16-11EL-A-3PCS) and purchase details available when contacting support.

