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› [Nilight 3 Gang Rocker Switch Box with PD Type C & QC 3.0 USB Charger and Voltmeter \(Model 90443R\) User Manual](#)

Nilight 90443R

Nilight 3 Gang Rocker Switch Box with PD Type C & QC 3.0 USB Charger and Voltmeter (Model 90443R) User Manual

1. INTRODUCTION

This manual provides comprehensive instructions for the Nilight 3 Gang Rocker Switch Box, Model 90443R. This multi-functional panel is designed for various 12V-24V DC vehicles and vessels, including cars, UTVs/ATVs, trucks, trailers, RVs, caravans, buses, marine boats, and yachts. It integrates three 20-amp rocker switches, a PD Type C and QC 3.0 dual USB charger, and an LED voltmeter for convenient power management and device charging.



Figure 1: Nilight 3 Gang Rocker Switch Box in use and a detailed product view. This panel provides centralized control for accessories and charging capabilities.

WIDE APPLICATION

Suitable for most 12-24V vehicles like car, suv, motorcycle, rv, yacht, bus,ect.



Car



SUV



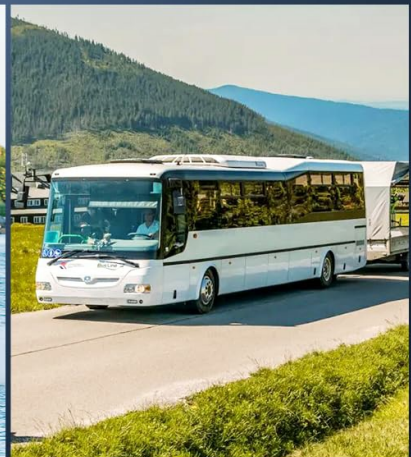
Motorcycle



RV



Boat



Bus

Figure 2: The Nilight 3 Gang Rocker Switch Box is suitable for a wide range of 12V-24V DC vehicles and marine applications.

2. KEY FEATURES

- **Multi-Function Design:** Features three 20-amp rocker switches (12VDC), a QC3.0 dual USB charger, and an LED voltmeter.
- **Weatherproof Construction:** The switch box is waterproof, weatherproof, and splash-proof, made from quality aluminum to protect components from short circuits and damage.
- **PD Type C & QC 3.0 USB Charger:** Enables simultaneous fast charging of two devices, up to 40% faster than conventional chargers.
- **Integrated Voltmeter:** Clearly displays current working voltage, allowing easy monitoring of vehicle battery conditions.
- **Surface Mount Enclosure:** Designed for flexible installation on dashboards, under dashboards, or middle consoles, with a 360-degree adjustable bracket.
- **Wide Application:** Controls up to 3 different devices such as LED light bars, rear lights, rock lights, and other accessories.
- **DIY Stickers:** Includes transparent and night glow stickers for customizing switch labels according to user preference.

WATERPROOF SWITCH BOX



Figure 3: The switch box features a waterproof design, suitable for challenging environments.



Figure 4: The integrated PD Type C and QC 3.0 USB charger provides fast charging, alongside a clear digital voltmeter display.

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Video 1: Overview of the Nilight 4 Gang Rocker Switch Box, demonstrating its features including USB charging and voltmeter. (Source: Nilight)

3. SETUP AND INSTALLATION

The Nilight 3 Gang Rocker Switch Box comes pre-wired for simplified installation. The aluminum box and adjustable bracket allow for versatile mounting options.

3.1 Mounting

The switch box features a surface mount enclosure and a bracket that can be adjusted 360 degrees. This flexibility allows installation on various surfaces such as the dashboard, under the dashboard, or in the middle console of your vehicle or vessel.



Figure 5: The switch box is detachable from its housing, allowing for flexible installation and maintenance.

3.2 Wiring

The unit is pre-wired for ease of installation. Connect the main power and ground wires, then connect the individual output wires from each switch to your desired accessories or relays.

- **Battery Positive (+):** Connect the red wire to the positive terminal of your 12V-24V DC power source or an ACC (Accessory) power source.
- **Battery Negative (-):** Connect the black wire to the negative terminal of your power source.
- **Accessory Wires:** Connect the individual white wires from each switch to the positive input of your accessories (e.g., LED light bars, pumps).



Figure 6: Simplified wiring diagram for connecting the switch box to power and accessories.

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Video 2: Detailed instructions on how to wire lights with a Nilight Rocker Switch Panel. (Source: Nilight)

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Video 3: Guide on how to rewire the switch panel to use one of the switches as a master switch. (Source: Nilight)

3.3 Customization with DIY Stickers

The package includes transparent and night glow stickers with various patterns. These can be applied to the rocker switches to label their functions, enhancing usability, especially in low-light conditions.

DETACHABLE SWITCH BOX

It's made of powder coated metal box with bracket that can rotate 360 degrees.



Figure 7: Transparent and night glow stickers are provided for personalizing switch labels.

4. OPERATING INSTRUCTIONS

4.1 Rocker Switches

Each of the three SPST ON/OFF rocker switches controls a connected device. Simply press the switch to the ON position to activate the device and to the OFF position to deactivate it. The switches are illuminated to indicate their status.

4.2 USB Charging Ports

The integrated PD Type C and QC 3.0 USB charger allows you to charge compatible devices. Connect your device's USB cable to the appropriate port. The charger supports dual outputs (5V/2.1A, 5V/1A) for simultaneous charging.

4.3 Voltmeter

The LED voltmeter displays the current voltage of your vehicle's electrical system. This allows you to monitor the battery condition. Refer to the table below for typical voltage ranges:

Voltage Reading	Condition
Below 12V	Battery may need replacement or charging.
12.0V - 12.8V	Normal voltage before engine start.
13.4V - 14.8V	Normal voltage after engine starting.

5. MAINTENANCE

The Nilight 3 Gang Rocker Switch Box is designed with a weatherproof and splash-proof aluminum housing. While it offers protection against the elements, it is not suggested to submerge the unit in water.

- Regularly inspect all wiring connections to ensure they are secure and free from corrosion.
- Keep the surface of the switch box clean from dirt and debris. Use a soft, damp cloth for cleaning.
- Ensure the rubber caps for the USB ports are properly sealed when not in use to prevent moisture ingress.

6. TROUBLESHOOTING

- **No Power to Switches/Charger:**
 - Check the main power connection to the battery. Ensure the red wire is securely connected to positive and the black wire to negative.
 - Verify that the vehicle's battery has sufficient charge by checking the voltmeter reading.
- **Device Not Activating:**
 - Confirm the individual accessory's wiring is correctly connected to the switch's output wire.
 - Ensure the accessory itself is functioning correctly.
- **USB Charger Not Working:**
 - Check if the device being charged is compatible with PD Type C or QC 3.0 standards.
 - Ensure the USB cable is not damaged and is properly inserted.
- **Voltmeter Reading Incorrect:**
 - Verify all power connections to the switch box are stable.
 - If the issue persists, consult a professional electrician.

7. SPECIFICATIONS

Feature	Detail
Product Dimensions	4 x 2 x 2 inches
Item Model Number	90443R
Weight	1.69 Pounds
Operation Mode	ON-OFF
Current Rating	20 Amps
Operating Voltage	12 Volts (12V-24V DC compatible)
Contact Type	Normally Closed
Connector Type	Plug In

Feature	Detail
Terminal	Screw
Circuit Type	3-way
Contact Material	Brass



Figure 8: Product dimensions for installation planning.

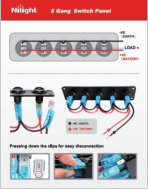
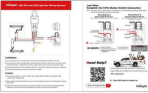

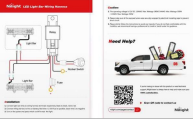

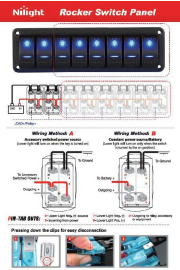
8. WARRANTY INFORMATION

Nilight products are manufactured to high-quality standards. For specific warranty details, please refer to the warranty card included with your product or visit the official Nilight website. Keep your purchase receipt as proof of purchase for any warranty claims.

9. CUSTOMER SUPPORT

For technical assistance, troubleshooting, or product inquiries, please contact Nilight customer support. Contact information can typically be found on the product packaging or the official Nilight website.

Related Documents - 90443R

	<p>Nilight 5 Gang Switch Panel Installation and Wiring Guide</p> <p>A guide to installing and wiring the Nilight 5 Gang Switch Panel, including wiring diagrams and disconnection instructions.</p>
	<p>Nilight LED Off-road Light Bar Wiring Harness Installation Guide</p> <p>Comprehensive guide to installing the Nilight LED Off-road Light Bar Wiring Harness, featuring 5-pin rocker switch connection methods, installation steps, and important cautions for 12V automotive applications.</p>
	<p>Nilight 5-Pin Rocker Switch Wiring Guide and Relay Diagram</p> <p>Learn how to properly wire Nilight 5-pin rocker switches using two common methods (A and B) and understand the wiring diagram for connecting a relay for higher power applications. This guide ensures safe and efficient use of Nilight switches.</p>
	<p>Nilight LED Light Bar Wiring Harness Installation Guide</p> <p>This guide provides instructions for installing the Nilight LED Light Bar Wiring Harness, including connection diagrams and safety precautions.</p>
	<p>Nilight 60 Inch Truck Bed Light Strip Installation Guide</p> <p>Step-by-step installation guide for the Nilight 60-inch truck bed light strip, detailing wire placement, mounting, electrical hook-up, and the use of additional hardware for pickup trucks, SUVs, and RVs.</p>
	<p>Nilight Rocker Switch Panel Wiring Guide and Overview</p> <p>Detailed guide to wiring and using the Nilight Rocker Switch Panel, featuring two wiring methods (accessory switched and constant power) and pin-tab out explanations for automotive and marine applications.</p>