

SMALLRIG VB50

SMALLRIG VB50 V Mount Battery User Manual

Model: VB50
Brand: SMALLRIG

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1. PRODUCT OVERVIEW

The SMALLRIG VB50 V Mount Battery is a compact and powerful portable power solution designed for various electronic devices, including cameras, phones, camcorders, and monitors. It features bi-directional 45W fast charging, multiple output interfaces, and an intelligent battery management system (BMS) for safe and reliable operation. Its small size and lightweight design make it ideal for on-the-go use and travel.



Figure 1: SMALLRIG VB50 V Mount Battery

2. WHAT'S IN THE BOX

- VB50 mini V Mount Battery × 1
- User Manual × 1

Package List

VB50 mini V Mount Battery × 1
User Manual × 1



Product Parameters

Brand SmallRig	Product Dimension 107.0 × 72.0 × 34.0mm 4.2 × 2.9 × 1.32in	Product Weight 340.0g ± 10g 12.0oz ± 0.4oz
Material Fireproof PC Material	Capacity 14.54V 3.4Ah 50Wh	Rated Total Power 50W

Figure 2: Package List and Product Parameters

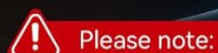
3. KEY FEATURES

3.1. Bi-direction PD 45W Fast-Charging

The VB50 supports PD 3.0 technology, offering up to 45W of power delivery through its USB-C port. This allows for rapid charging of compatible devices, such as charging a Samsung S24 Ultra to 50% in approximately 20 minutes. When paired with a 45W (or higher) fast-charging GaN charger, the battery can be fully charged in just 1.5 hours.

Lightning-Fast PD3.0 Charging

USB-C ports support PD3.0 fast charging standard providing exceptional performance with a maximum in / output of 45W



When using USB-A and USB-C ports simultaneously, only 5V output can be provided. It is recommended to use them separately

Figure 3: Bi-direction PD 45W Fast-Charging Capability

3.2. Multiple Interfaces

Equipped with a variety of output ports, the VB50 offers broad compatibility. It includes USB-C, USB-A, DC 8V, DC 12V, BP, and D-TAP ports, making it suitable for powering a wide range of devices such as Sony, Canon, and Nikon cameras, Ninja and SmallHD monitors, iPhones, and Samsung devices. Additionally, it features 1/4"-20 and 3/8"-16 threaded holes on its V-mount backplate for secure mounting with accessories like ball heads or clamps.

Multiple Interfaces, Multiple Choices



Figure 4: Multiple Interfaces for Versatile Connectivity

3.3. Compact & Powerful Design

Measuring only 4.21 x 2.87 x 1.33 inches and weighing 11.64oz, the VB50 is designed for portability, easily fitting into a pocket. Despite its compact size, it boasts a 3400mAh capacity, capable of charging a MacBook Pro 14" (0.6 times), an iPhone 15/16 Pro Max (2 times), or powering a Canon R5 C for approximately 3.5 hours. Its capacity also makes it suitable for air travel.

Small Size, Large Capacity

Compact and mini size V mount battery, feel free to carry out,
say goodbye to bulky



50Wh
(3400mAh / 14.5V)



Length
4.21 in

Width
2.87 in

Height
1.33 in

Weight
11.64 oz

Figure 5: Compact Size and Portability

Much Power in a Small Form

50wh 3400mAh



For iPhone 13 Pro Max

About 2.7 times



For iPad Pro 11" (2021 version)

About 1.5 times



For Canon EOS R5 C (When shooting 8K 30p video)

About 3.5 hours



For MacBook Pro 14" (2021 version)

About 0.6 times

Figure 6: Power Capacity and Usage Examples

3.4. Real-Time Power Monitoring

The battery features a bright OLED screen that provides real-time information on port status, voltage, power output, and remaining battery life. This eliminates guesswork and allows for precise power management. Controls include a single click to wake the screen, a double click to toggle between voltage and power displays, and a long press (3 seconds) to disable USB-C, USB-A, and DC ports to halt discharging.

OLED Digital Display

Features a bright, crystal clear OLED screen display, and you can keep track of the battery's working status at all times



Figure 7: OLED Digital Display for Real-Time Monitoring

3.5. Safe & Reliable Operation

The SMALLRIG VB50 is equipped with an intelligent Battery Management System (BMS) that provides comprehensive protection against short circuits, over-temperature, over-voltage, over-current, over-charge, and over-discharge. It is certified by FCC, MSDS, UN38.3, IEC 62133, and UL2054/UL62368, ensuring the safety of both the battery and connected equipment.

6 Built-in Protections for Safe and Secure Operation

LG power battery cells provide more stable charging and discharging cycles

BMS Intelligent control system ensures voltage and current stability

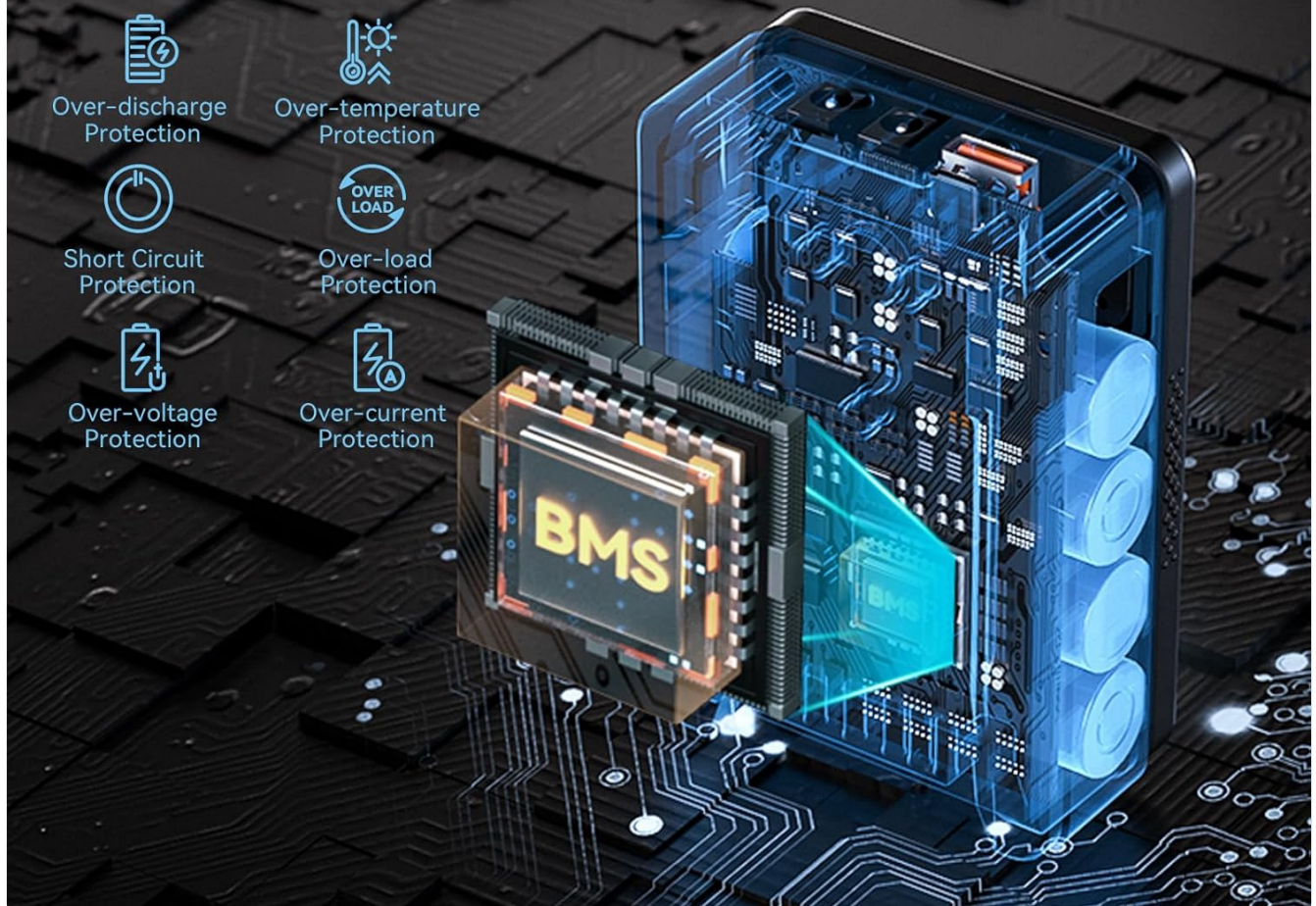


Figure 8: Built-in Protections for Safe and Secure Operation

4. SETUP

4.1. Initial Charging

Before first use, fully charge the SMALLRIG VB50 battery. Connect a USB-C cable from a 45W (or above) PD fast-charging GaN charger to the USB-C port on the battery. The OLED screen will indicate the charging status and battery percentage. A full charge typically takes about 1.5 hours.

4.2. Mounting (Optional)

If using with a camera rig, attach the V-mount battery to a compatible V-mount plate on your setup. The battery also features 1/4"-20 and 3/8"-16 threaded holes on its V-mount backplate, allowing for direct attachment to various camera accessories or clamps.

5. OPERATING INSTRUCTIONS

5.1. Powering On/Off and Screen Control

- **Single Click:** Press the power button once to wake up the OLED screen and view the current battery status.
- **Double Click:** Double-click the power button to toggle between voltage and power displays for each active port.
- **Long Press (3 Seconds):** Press and hold the power button for 3 seconds to disable the USB-C, USB-A, and DC ports, halting power discharge. Single click or re-plug to restore the ports.



Figure 9: User-Friendly Screen Control

5.2. Connecting Devices

Connect your devices to the appropriate output ports (USB-C, USB-A, DC 8V, DC 12V, D-TAP) on the battery. The battery will automatically begin supplying power to the connected devices. Ensure that the voltage and current requirements of your devices match the output capabilities of the respective ports on the VB50.

Versatile Applications



Figure 10: Versatile Applications of the VB50 Battery

5.3. Official Product Video

Watch this official video from SmallRig Canada for a quick overview of the VB50 V Mount Battery.

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Video 1: SmallRig V Mount Battery VB50 Overview

6. MAINTENANCE

- **Storage:** Store the battery in a cool, dry place away from direct sunlight and extreme temperatures.
- **Cleaning:** Use a soft, dry cloth to clean the battery. Do not use harsh chemicals or abrasive materials.
- **Charging Cycles:** The VB50 is designed to withstand over 300 charge and discharge cycles before its capacity drops to 80%. Regular use within recommended parameters helps maintain battery health.
- **Port Protection:** Ensure the rubber cover for the ports is properly closed when not in use to prevent dust and

debris from entering.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Battery not charging	Charger not connected properly; Charger not 45W PD compatible; Faulty cable.	Ensure secure connection. Use a 45W (or above) PD fast-charging GaN charger. Try a different USB-C cable.
Device not powering on	Battery is depleted; Port is disabled; Incorrect voltage/current for device.	Recharge the battery. Single click or re-plug to restore ports. Check device's power requirements against battery output.
OLED screen not displaying	Battery is completely depleted; Screen is off.	Charge the battery. Single click the power button to activate the screen.

8. SPECIFICATIONS

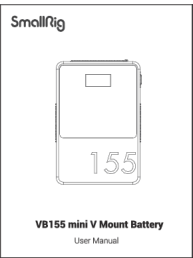


Feature	Detail
Product Dimensions	4.21 x 2.87 x 1.34 inches
Item Weight	11.6 ounces
Item Model Number	VB50
Batteries Required	1 A batteries (included)
Brand	SMALLRIG
Battery Cell Composition	Lithium Ion
Battery Capacity	3400 Milliamp Hours (50Wh)
Recommended Uses	Cameras, Monitors, Phones, Tablets, Laptops, Camcorders
Charging Time	1.5 Hours (with 45W+ GaN charger)
Input (USB-C)	45W (Max.)
Input (D-TAP / BP)	3.4A (Max.)
Output (USB-C)	5V/3A, 9V/3A, 12V/3A, 15V/3A, 20V/2.25A (Max)
Output (USB-A)	5V/3A, 9V/3A, 12V/2A (Max)
Output (BP/D-TAP)	5A (Max)

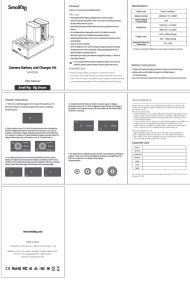


Feature	Detail
Output (8V-OUT)	8V/3A (Max)
Output (12V-OUT)	12V/3A (Max)

9. WARRANTY & SUPPORT

SMALLRIG offers a worry-free 24-month warranty for the VB50 V Mount Battery. In case of any issues, SMALLRIG's policy is to replace, not repair, defective units. For support, please refer to the contact information provided in the included User Manual or visit the official SMALLRIG website.

Related Documents - VB50

	<p>SmallRig VB155 Mini V Mount Battery User Manual - 155Wh High-Capacity Power Solution</p> <p>Comprehensive user manual for the SmallRig VB155 Mini V Mount Battery. Learn about its features, specifications, charging protocols, safety warnings, and operation for powering cameras, monitors, and other video equipment.</p>
	<p>SmallRig HPS99 Power Bank: Specifications and Operating Instructions</p> <p>Comprehensive guide to the SmallRig HPS99 Power Bank, detailing its specifications, features, operating instructions, and warranty information. Includes 99Wh capacity, multiple charging ports (USB-C PD, D-Tap), and safety guidelines.</p>
	<p>SmallRig MagicFIZ Wireless Follow Focus System User Manual</p> <p>Comprehensive user manual for the SmallRig MagicFIZ Wireless Follow Focus System, detailing its components, installation, operation, calibration, and specifications. Includes information for Basic Kit (3781), Handgrip Kit (3782), and Two Motor Kit (3918).</p>

	<p>SmallRig NP-FZ100 Camera Battery and Charger Kit User Manual</p> <p>User manual for the SmallRig NP-FZ100 Camera Battery and Charger Kit, detailing specifications, charging instructions, battery usage, and warranty information.</p>
	<p>SmallRig X99 Power Bank Operating Instructions and User Manual</p> <p>Comprehensive guide to the SmallRig X99 Power Bank, detailing its features, specifications, operation, and troubleshooting. Learn how to use the touchscreen, app control, and safety guidelines.</p>
	<p>SmallRig VB99 Pro mini V Mount Battery User Manual & Specifications</p> <p>Comprehensive user manual and technical specifications for the SmallRig VB99 Pro mini V Mount Battery, detailing its features, operation, safety, and specifications.</p>