diymore A1_KBAI0058-006_US

Diymore USB C Power Meter Tester User Manual

Model: A1_KBAI0058-006_US

Introduction

This manual provides detailed instructions for the operation, maintenance, and troubleshooting of the Diymore USB C Power Meter Tester. This device is designed for comprehensive testing of USB-C power delivery, supporting various fast charging protocols and offering real-time measurement of voltage, current, and power.
The Diymore USB C Power Meter Tester is a compact and lightweight tool, ideal for verifying the performance of chargers, cables, and devices. It features a bright LCD screen for clear display of measurements and advanced functionalities like ripple testing and automatic protocol detection.

Key Features

- **Comprehensive Testing:** Supports PD3.1 protocol testing with voltage range 3-40V and current up to 12A, measuring voltage, current, and power up to 240W.
- **Wide Compatibility:** Supports multiple fast charging protocols including PD3.1, QC2.0/3.0/4.0, MTK, and other common charging agreements.
- **Clear LCD Display:** Features a bright LCD screen showing real-time measurements of voltage, current, power, and charging protocols with easy-to-read colored text.
- **Portable Design:** Compact and lightweight, perfect for testing phones, laptops, chargers, and other USB-C devices on the go.
- **Advanced Features:** Includes ripple testing capability and automatic protocol detection for comprehensive power delivery analysis.
- **Durable Construction:** Unibody aluminum alloy housing for reliability and safety.

What's in the Box

Upon opening the package, please ensure all items are present and in good condition:

- Diymore USB-C Power Meter Tester
- User Manual (this document)

Product Overview

Familiarize yourself with the components and display of your USB C Power Meter Tester.

Figure 1: Front and side view of the Diymore USB C Power Meter Tester, highlighting its compact design and vibrant LCD screen displaying various electrical parameters.

Figure 2: The USB C Power Meter Tester in use, connected between a power adapter and a smartphone, demonstrating its ability to monitor fast charging protocols and display real-time voltage, current, and power.

Figure 3: The tester's display showing results from a PD3.1 fast charging protocol test, indicating support for 12A high current, 4-30V, and 240W power delivery, along with ripple and protocol testing capabilities.

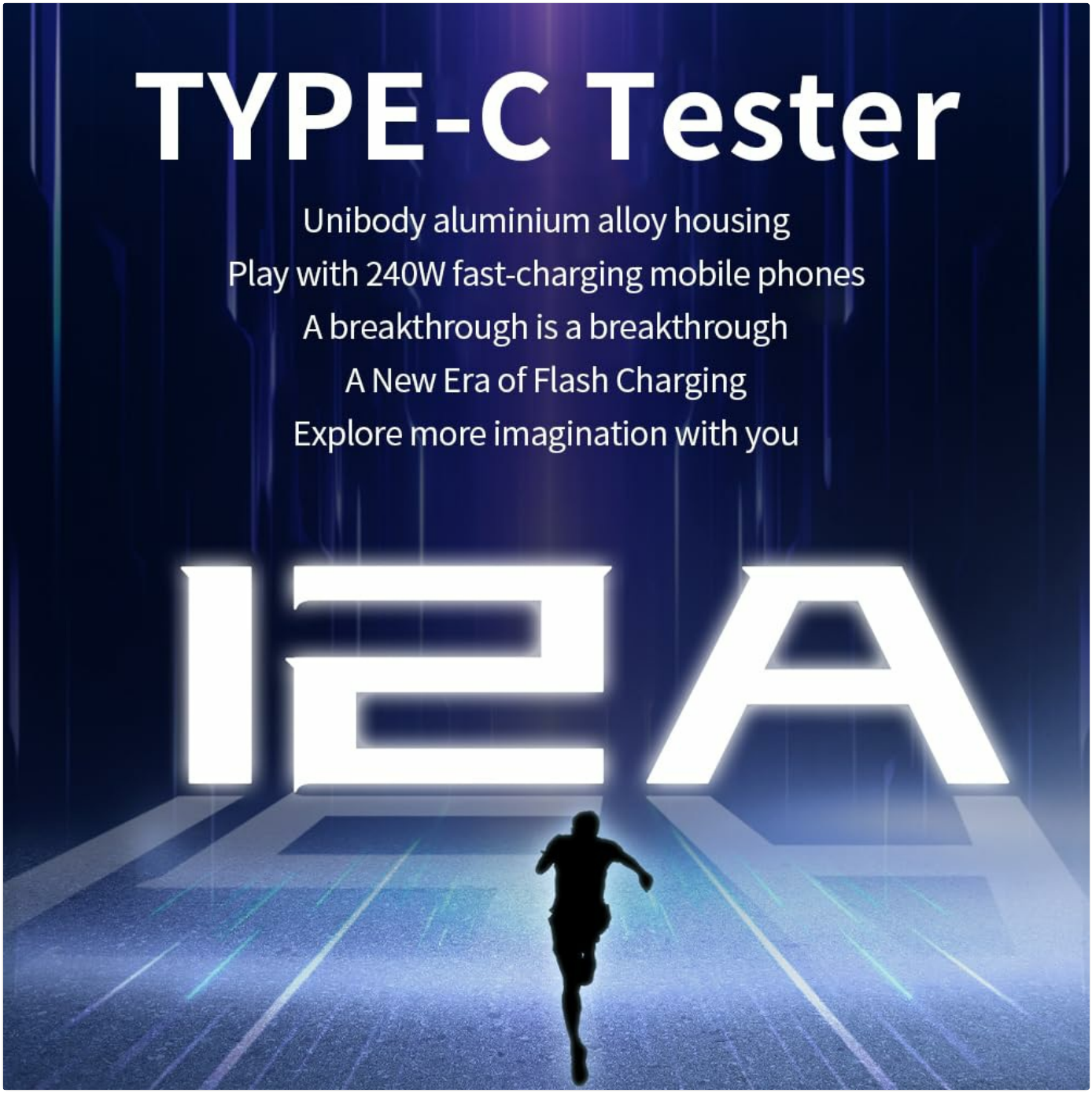


Figure 4: Close-up view emphasizing the durable aluminum metal housing of the Type-C tester, designed for reliable and safe voltage and current detection, supporting up to 12A high current.

Figure 5: The tester performing PDE-Marker Data Cable Inspection, demonstrating its ability to detect data line, voltage, current, and other parameters, including newly upgraded 240W fast charging data cable detection.

Figure 6: Illustration of the three distinct display pages available on the tester, showcasing enhanced functionality and how to navigate between them by clicking a button to change the page.

Figure 7: The tester displaying options for PD3.1 fast charging protocol tests, including 12A high current, 4-30V 240W, Ripple Test, Protocol Testing, and Protocol Trigger, shown connected to a smartphone.

Setup

The Diymore USB C Power Meter Tester is designed for plug-and-play operation. No complex setup or software installation is required.

1. **Connect to Power Source:** Insert the male USB-C connector of the tester into your USB-C power adapter, power bank, or computer's USB-C port.
2. **Connect Device:** Insert the USB-C cable from your device (e.g., smartphone, laptop, tablet) into the female USB-C port on the tester.
3. **Begin Monitoring:** The tester's LCD screen will automatically power on and begin displaying real-time voltage, current, and power measurements.

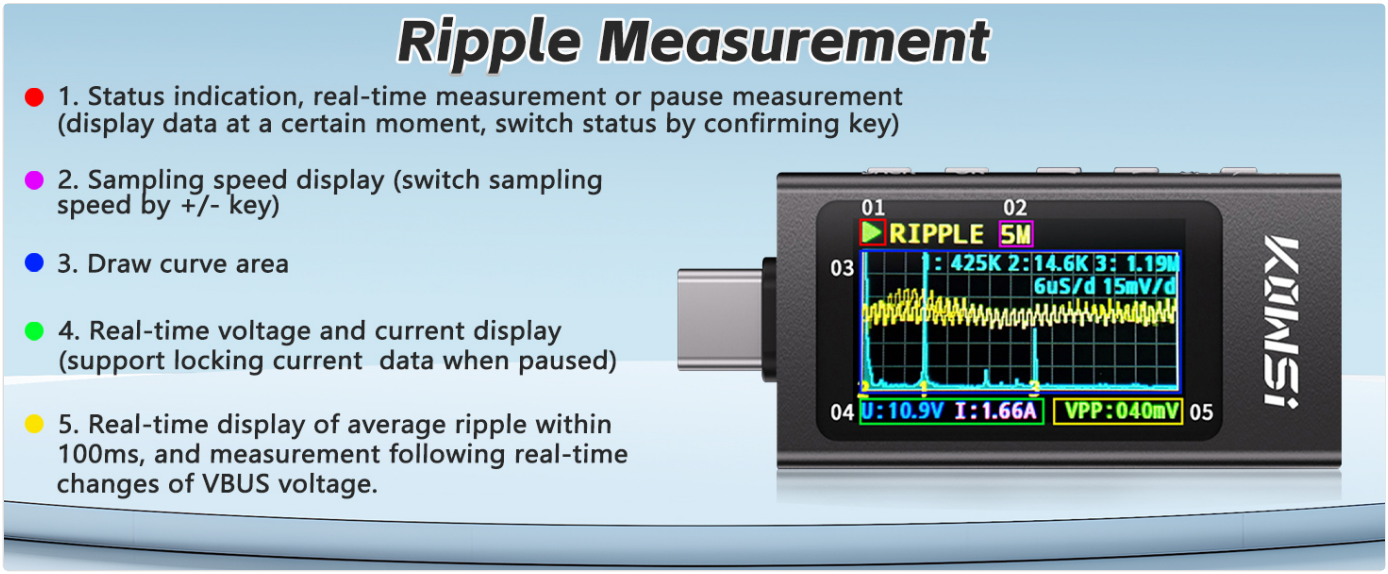


Figure 8: Setup illustration demonstrating how to connect the USB-C Power Meter Tester to measure charging speed and quality of a USB cable, showing connections to a laptop and a power bank with a smartphone.

Operating Instructions

Display Navigation

The tester features a single button (often labeled "OK" or "BACK/OK") for navigating through different display screens and confirming selections. Pressing the button briefly will cycle through the main display pages.

- **Voltage & Power Interface:** Displays real-time voltage (V), current (A), and power (W), along with other basic charging parameters.
- **Ripple Measurement:** Shows a graphical representation of voltage ripple, crucial for assessing power supply stability.
- **Curve Measurement:** Provides a real-time curve drawing of voltage, current, and power over time.
- **Protocol Test Interface:** Initiates and displays results of fast charging protocol detection.
- **Settings Interface:** Allows adjustment of language, screen brightness, screen saver time, and gravity rotation.

Figure 9: Overview of the various display interfaces, including the main menu, ripple measurement, protocol testing, settings, and detailed voltage and power readings, illustrating the tester's comprehensive data presentation.

Specific Functions

Protocol Testing (Automatic Test)

This function automatically detects and displays the supported fast charging protocols of the connected power source.

1. Navigate to the "Protocol Testing" interface.
2. The tester will automatically begin detecting protocols.
3. The screen will display supported protocols like PD, QC, and their respective voltage/current ranges.

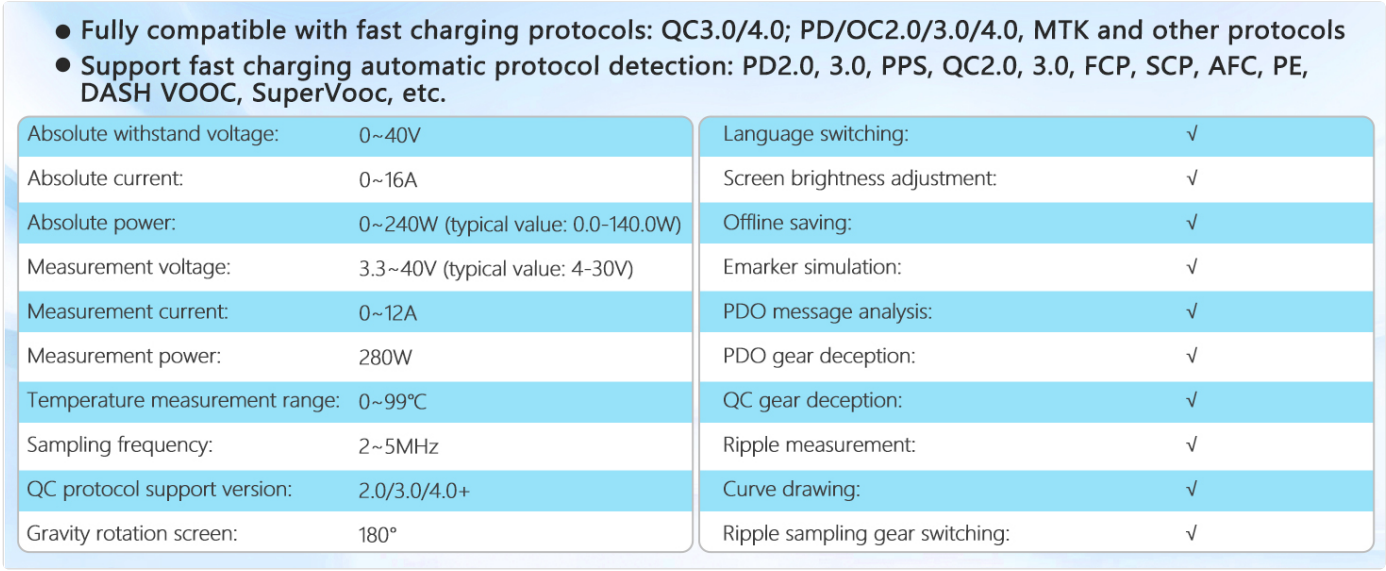


Figure 10: Detailed breakdown of the automatic protocol detection screen, explaining each numbered indicator for status, PD status, PDO maximum gear, PPS support, fixed gear support, QC2.0/3.0 status, and PD protocol version.

Ripple Measurement

Measure the ripple voltage of the power supply to check its stability.

1. Navigate to the "Ripple Measurement" interface.
2. The screen will display a real-time curve of the ripple.
3. Use the navigation button to pause or resume measurement, or adjust sampling speed.

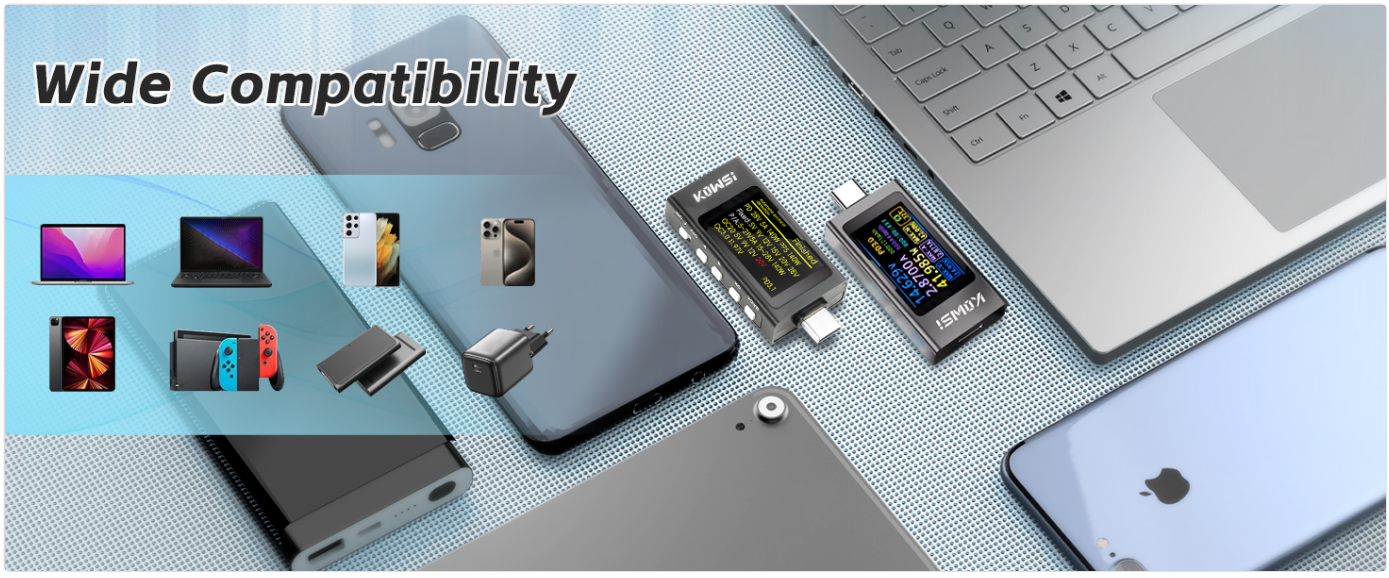


Figure 11: Explanation of the ripple measurement interface, detailing status indication, sampling speed display, curve drawing area, real-time voltage and current display, and average ripple display within 100ms.

Curve Measurement

Monitor voltage, current, and power changes over time graphically.

1. Navigate to the "Curve Measurement" interface.
2. Observe the real-time graphs for voltage, current, and power.
3. The display adapts to total voltage, and sampling time can be adjusted.

Figure 12: Breakdown of the curve measurement interface, illustrating the 4-area curve unit grid voltage display, sampling time display, current direction indication, real-time curve drawing, and real-time voltage, current, and power display.

PD Single Item Deception (Trigger)

This advanced feature allows you to trigger specific PD voltage profiles for testing purposes.**Use with caution as incorrect settings can damage devices.**

1. Navigate to the "Protocol Test - PD Single Item Deception" interface.
2. Use the navigation button to select the desired voltage/power profile.
3. Press the confirmation key to activate the deception. The display will update with the triggered values.

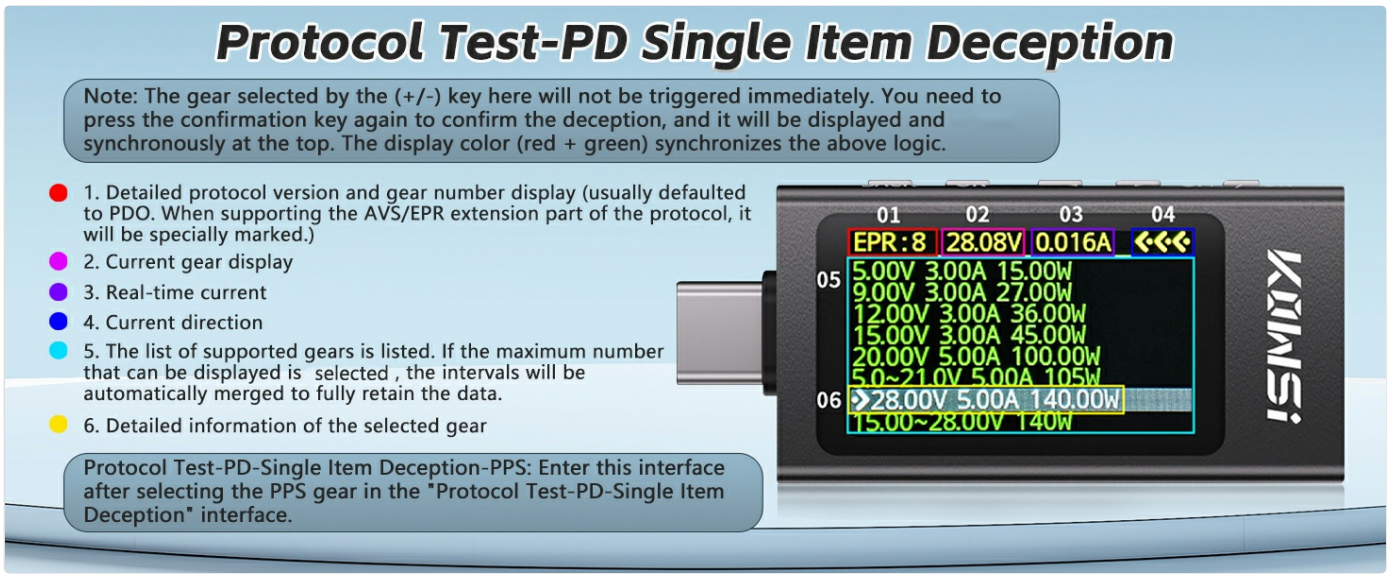


Figure 13: Explanation of the PD Single Item Deception interface, detailing the display of protocol version, current gear, real-time current, current direction, list of supported gears, and detailed information of the selected gear. Note: Confirmation key press is required to trigger deception.

Maintenance

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use abrasive cleaners or solvents.
- **Storage:** Store the tester in a cool, dry place away from direct sunlight and extreme temperatures.
- **Handling:** Avoid dropping the device or subjecting it to strong impacts, as this may damage the internal components or the screen.
- **Connectivity:** Ensure USB-C connectors are clean and free of debris before connecting to prevent poor contact or damage.

Troubleshooting

Problem	Possible Cause	Solution
Screen does not turn on.	No power supply; faulty connection.	Ensure the tester is properly connected to a working USB-C power source. Try a different power source or cable.
Incorrect readings.	Loose connection; faulty cable/device; environmental interference.	Check all connections. Try testing with a different USB-C cable or device. Ensure the environment is stable.
Tester freezes or becomes unresponsive.	Temporary software glitch.	Disconnect the tester from all power sources and devices, then reconnect. This will perform a soft reset.
Fast charging protocol not detected.	Source/device does not support protocol; faulty cable.	Verify that both the power source and the device support the desired fast charging protocol. Try a different cable.

Specifications

Parameter	Value
Model Number	A1_KBAI0058-006_US
Absolute Withstand Voltage	0-40V
Absolute Current	0-16A
Absolute Power	0-240W (typical value: 0.0-140.0W)
Measurement Voltage	3.3-40V (typical value: 4-30V)
Measurement Current	0-12A
Measurement Power	280W
Temperature Measurement Range	0-99°C
Sampling Frequency	2-5MHz
QC Protocol Support Version	2.0/3.0/4.0+
Gravity Rotation Screen	180°

Parameter	Value
Product Dimensions	4 x 3.5 x 1.2 inches; 0.53 ounces
Color	Black And Gray
Power Source	USB-C
Style	Digital LCD Display

Supported Features

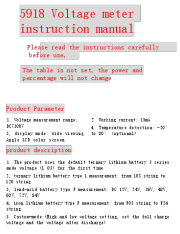
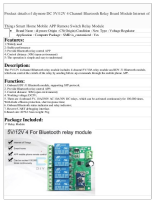
- Language switching
- Screen brightness adjustment
- Offline saving
- Emarker simulation
- PDO message analysis
- PDO gear deception
- QC gear deception
- Ripple measurement
- Curve drawing
- Ripple sampling gear switching

Warranty and Support

Diymore products are designed for reliability and performance. For warranty information and technical support, please refer to the official Diymore website or contact their customer service directly.
Manufacturer: diymore
First Available Date: June 26, 2025
Return Policy: 30 days (refund/replacement)
For further assistance, you may visit the official Diymore store on Amazon:Diymore Store

Related Documents - A1_KBAI0058-006_US

	Diymore 0.28-inch Dual Display DC Voltmeter Ammeter 100V 10A - User Guide Concise guide to wiring and using the Diymore 0.28-inch dual display DC voltmeter and ammeter, capable of measuring up to 100V and 10A. Includes wiring diagrams for different power supply configurations. Supports DC 4-30V power input and DC 0-100V measurement range.

	[5918 Digital Voltage Meter User Manual] User manual for the 5918 Digital Voltage Meter by diymore. Covers product parameters, description, key functions, and detailed setup instructions for various battery types (ternary lithium, iron-lithium, lead-acid) and custom voltage/backlight settings.
	[Operating Instructions for Diymore Adjustable Voltage Regulator] Detailed operating instructions and parameter settings for the Diymore Adjustable Voltage Regulator DC Buck Boost Converter, covering voltage and current adjustment, protection settings, and calibration.
	[diymore DC 5V/12V 4 Channel Bluetooth Relay Module - Smart Home Control] Detailed overview of the diymore DC 5V/12V 4-channel Bluetooth relay module for smart home automation. Features remote control via mobile APP, JDY-31 Bluetooth module, and 10A relays.
	[Précautions d'utilisation et guide du testeur de transistors diymore LCR-TC1/LCR-T7] Informations essentielles sur les précautions d'utilisation, les limitations et les caractéristiques du testeur de transistors diymore LCR-TC1 et LCR-T7 pour une utilisation sûre et efficace.
	[DIYMORE DSO 138 Oscilloscope Case DIY Kit Installation Guide] Step-by-step installation guide for the DIYMORE DSO 138 Oscilloscope Case DIY Kit. Learn how to assemble the acrylic case for your DSO 138 oscilloscope.