

DOKIO controller

DOKIO 12V/24V Solar Charge Controller User Manual

Model: controller

1. INTRODUCTION

This manual provides detailed instructions for the installation, operation, and maintenance of your DOKIO 12V/24V Solar Charge Controller. This device is designed to manage the power flow from your solar panel to your battery, ensuring efficient charging and protecting your battery from overcharging and over-discharging.

The controller automatically detects 12V or 24V DC system voltages (for non-lithium batteries only) and features an LCD screen and multiple LED indicators to display solar charging and battery operation information, customizable parameters, and error codes.

2. SAFETY INFORMATION

- Ensure all connections are tight and correct to prevent loose connections that may cause excessive heat.
- Connect the battery to the controller first, then the solar panel, and finally the load. Disconnect in the reverse order.
- Do not attempt to repair or modify the controller. Refer to qualified personnel for service.
- Install the controller in a well-ventilated area, away from flammable materials and moisture.
- The controller is designed for specific battery types. Ensure your battery type is compatible before connection.
- Intelligent protection against reverse polarity, overcharging, short-circuit, and reverse current is built-in, but proper installation is crucial.

3. PRODUCT OVERVIEW

The DOKIO Solar Charge Controller is a compact and efficient device designed for various solar power applications. It features an intuitive LCD display and user-friendly buttons for easy operation.



Figure 3.1: DOKIO Solar Charge Controller with included cables and adapters. This image shows the main unit of the solar charge controller along with various connection cables and adapter tips, highlighting the complete package contents.

3.1 Key Features

- Automatic 12V/24V DC system voltage detection (for non-lithium batteries).
- Smart 4-Stage PWM charging (Bulk, Boost, Float, and Equalization) for extended battery life.
- Intelligent protection against reverse polarity, overcharging, short-circuit, and reverse current.
- Compact size for easy installation in various locations.
- Compatibility with Deep Cycle Sealed (AGM), Gel, Flooded, and Lithium battery types.
- LCD screen and LED indicators for displaying charging and battery operation information.
- USB ports for charging external devices without connecting to a main battery.



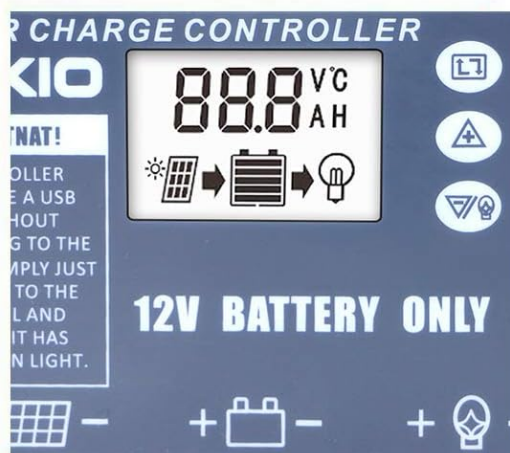
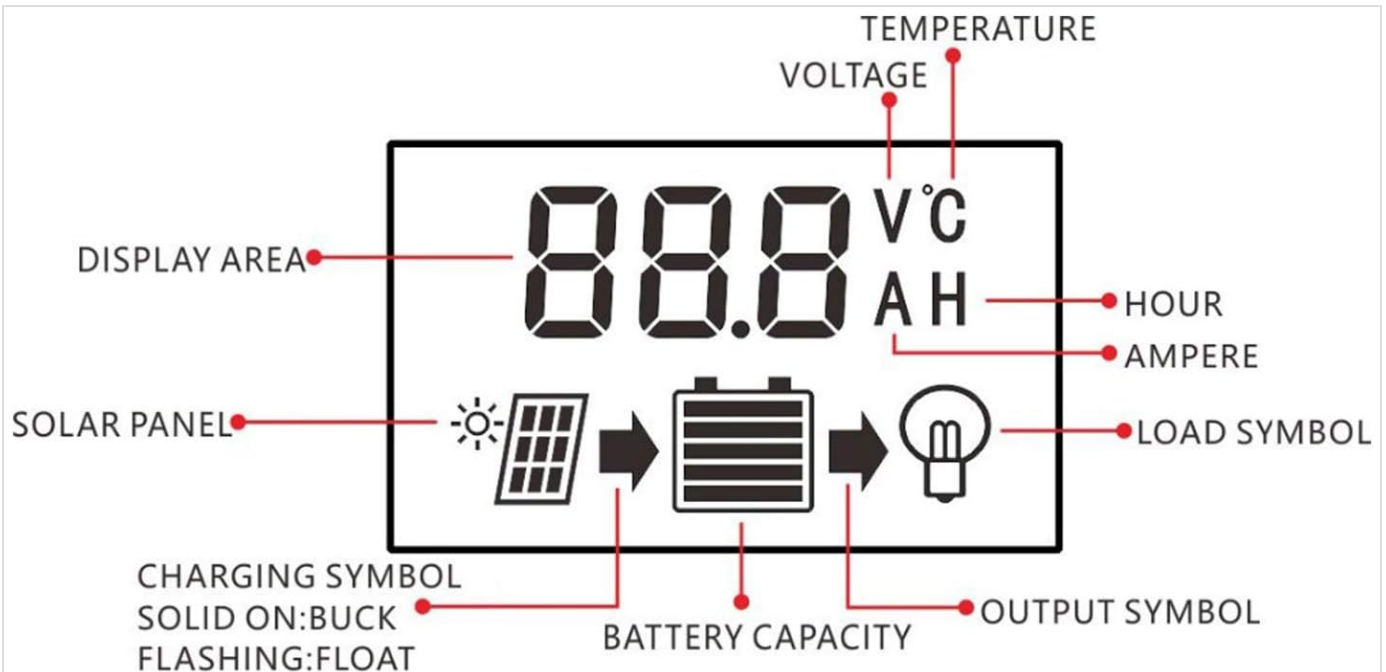
- ① The controller can charge a **USB** device without connecting to the battery.
- ② Connect Mobile Phone, Charging Treasure, ipad, etc.



Figure 3.2: Close-up of the DOKIO Solar Charge Controller showing USB ports and charging capabilities. This image highlights the two USB output ports on the side of the controller, demonstrating its ability to charge mobile phones or other USB-powered devices directly from the solar panel.

3.2 Display and Buttons

The controller features an LCD display that provides real-time information about the system's status and three buttons for navigation and setting adjustments.



MENU: Switch between different display, or enter/exit setting by long press



UP: Press to increase value



DOWN: Press to decrease value

Figure 3.3: Diagram illustrating the LCD display areas and button functions of the DOKIO Solar Charge Controller. This diagram clearly labels different sections of the LCD screen, such as Voltage, Temperature, Hour, Ampere, Display Area, Solar Panel, Charging Symbol, Battery Capacity, Output Symbol, and Load Symbol. It also explains the functions of the MENU, UP, and DOWN buttons.

- **MENU Button:** Switch between different display modes, or enter/exit settings by long pressing.
- **UP Button:** Press to increase a value in settings.
- **DOWN Button:** Press to decrease a value in settings.

4. SETUP AND INSTALLATION

Follow these steps carefully to install your DOKIO Solar Charge Controller. Incorrect wiring can damage the controller or other components.

1. **Prepare the Wiring:** Ensure all terminal hatches are open. The default starting position of the controller terminal hatches are closed (in the UP position). Make sure to FIRST lower each terminal hatch by screwing the terminals counterclockwise (CCW) to expose the wire terminal hatch to the open position.
2. **Connect the Battery:** Connect the battery to the controller's battery terminals. Ensure correct polarity (+ to + and - to -). The controller will automatically detect the battery voltage (12V or 24V).
3. **Connect the Solar Panel:** Connect the solar panel to the controller's solar panel terminals. Ensure correct polarity.

4. **Connect the Load (Optional):** If you have a DC load, connect it to the controller's load terminals. Ensure correct polarity.
5. **Secure Connections:** After inserting the wires, secure each cable by rotating the screws clockwise (CW) to the closed position.

Important: Always connect the battery first, then the solar panel, and then the load. Disconnect in the reverse order: load, then solar panel, then battery.

5. OPERATING INSTRUCTIONS

5.1 Initial Power-Up

Once the battery is connected, the controller will power on and display the current battery voltage. If the solar panel is connected and receiving sunlight, the charging indicator will illuminate.

5.2 Display Modes

Press the MENU button to cycle through different display screens, showing information such as battery voltage, charging current, discharge current, battery temperature, and accumulated charge/discharge ampere-hours.

5.3 Parameter Settings

To enter parameter setting mode, long press the MENU button until the display starts flashing. Use the UP and DOWN buttons to adjust values and the MENU button to confirm and move to the next parameter. Long press MENU again to exit settings.

Adjustable parameters may include battery type, charge voltage, low-voltage disconnect, and low-voltage reconnect. Refer to the technical specifications for default values and ranges.

5.4 USB Charging

The controller features two 5V/2A USB output ports. These ports can be used to charge USB devices like mobile phones or tablets. An interesting feature is that you can use the USB ports when connected to the solar panel but without a main battery in the circuit, provided there is sufficient sunlight.

6. MAINTENANCE

- Regularly check all wiring connections for tightness and corrosion.
- Keep the controller clean and free from dust and debris. Use a dry cloth for cleaning.
- Ensure adequate ventilation around the controller to prevent overheating.
- Periodically check the battery voltage and condition to ensure optimal system performance.

7. TROUBLESHOOTING

Common Issues and Solutions:

- **No Display:** Check battery connection and ensure correct polarity. Verify battery voltage is above the minimum operating voltage.
- **No Charging:** Check solar panel connection and ensure correct polarity. Verify sufficient sunlight. Check for shading on the solar panel.
- **Load Not Working:** Check load connection and ensure correct polarity. Verify load current does not exceed the controller's rated current. Check if the battery voltage is too low (low-voltage disconnect activated).

- **Error Codes:** Refer to the display diagram (Figure 3.3) for understanding error codes. Common errors relate to overcharge, over-discharge, short circuit, or reverse polarity. Recheck connections and system parameters.

If problems persist, consult the technical specifications or contact DOKIO customer support.

8. SPECIFICATIONS

The following table provides the technical parameters for the DOKIO Solar Charge Controller:

TECHNICAL PARAMETER			
VOLTAGE	12V		
RATED AMP	10A	20A	30A
MAX INPUT	<50V		
BATTERY TYPE	B01=LEAD-ACID 12V B02=LITHIUM ION 3s 3x3.7V=11. 1V B03=LiFePO4 4s 4x3.2V=12.8V		
CHARGING VOLTAGE	13.7V(B01)	12.6V(B02)	14.6V(B03)
LOW-VOLTAGE DISCONNECT	10.7V(B01)	9V(B02)	10V(B03)
LOW-VOLTAGE RECONNECT	12.6V(B01)	10.5V(B02)	12V(B03)
USB OUTPUT	5V/2A		
STANDBY LOST	<10mA		
WORKING TEMP	-35~+60°C		
SIZE/WEIGHT	0.38 ''*0.23 ''*0.06 ''/145g		

*all red color voltage X2 X4,while using 24V/48V system

Figure 8.1: Technical Parameters of the DOKIO Solar Charge Controller. This image presents a detailed table outlining various electrical and physical specifications, including Voltage, Rated Amp, Max Input, Battery Type compatibility (Lead-Acid, Lithium Ion, LiFePO4), Charging Voltage, Low-Voltage Disconnect, Low-Voltage Reconnect, USB Output, Standby Lost, Working Temperature, and Size/Weight.

DOKIO Solar Charge Controller Technical Parameters

Parameter	Value
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Parameter	Value
Voltage	12V
Rated Amp	20A (also available in 10A, 30A models)
Max Input	<50V
Battery Type (B01)	Lead-Acid 12V
Battery Type (B02)	Lithium Ion 3s (3x3.7V = 11.1V)
Battery Type (B03)	LiFePO4 4s (4x3.2V = 12.8V)
Charging Voltage (B01)	13.7V
Charging Voltage (B02)	12.6V
Charging Voltage (B03)	14.6V
Low-Voltage Disconnect (B01)	10.7V
Low-Voltage Disconnect (B02)	9V
Low-Voltage Disconnect (B03)	10V
Low-Voltage Reconnect (B01)	12.6V
Low-Voltage Reconnect (B02)	10.5V
Low-Voltage Reconnect (B03)	12V
USB Output	5V/2A
Standby Lost	<10mA
Working Temp	-35~+60°C
Product Dimensions	12 x 7 x 2 cm
Weight	620 g
Colour	Black
Display Type	LCD

*Note: All red color voltage X2 X4, while using 24V/48V system. The provided specifications are for the 12V system. For 24V systems, multiply voltage values as indicated.

9. WARRANTY AND SUPPORT

DOKIO products are designed for reliability and performance. For specific warranty terms and conditions, please refer to the warranty card included with your product or contact DOKIO customer support directly.

For technical assistance or inquiries, please visit the official DOKIO website or contact their customer service department. Keep your purchase receipt as proof of purchase for warranty claims.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question