DOKIO 20A 12V

DOKIO Solar Charge Controller User Manual

Model: 20A 12V (B07ZK4XGQ1)

1. Introduction

Thank you for choosing the DOKIO Solar Charge Controller. This device is designed to automatically manage the battery operation within your solar panel and solar system setup. It ensures efficient charging and discharging, protecting your battery and extending its lifespan. This manual provides essential information for the safe and effective use of your controller.

The controller features a clear LCD display and user-friendly controls, making it suitable for various small solar energy systems, including home, industrial, and commercial applications.

Figure 1: DOKIO Solar Charge Controller and included accessories.

2. Product Features

- Automatically manages solar panel and battery operations.
- Built-in comprehensive protection: overload protection, short-circuit protection, open-circuit protection, reverse protection, and lightning protection.
- Extends battery life and ensures stable load operation.
- Easy setup and operation with a visual LCD graphic symbol display.
- Supports OPEN, AGM, and GEL lead-acid batteries, as well as Lithium-ion and Lithium Iron Phosphate batteries (selectable via menu).
- Equipped with dual USB ports (5V/2A max output, 1A when only one port is used).

Figure 2: The controller features dual USB ports for charging various devices.

3. Product Specifications

Parameter	Value
Color	Black
Material	Plastic
Rated Voltage	12V
Rated Charge Current	20A
Rated Load Current	20A
Operating Temperature	-35°C to +60°C
Size	13.3 x 7 x 3.3 cm

Parameter	Value
Weight	150 g
Overcharge Protection	14.4V / 28.8V
Overcharge Float Charge	13.7V / 27.4V
Charge Recovery Voltage	12.6V / 25.2V
Over-discharge Protection	10.7V / 21.4V
Over-discharge Recovery Voltage	12.6V / 25.2V
USB Output	5V / 2A (Max)

Figure 3: Detailed technical parameters of the controller.

4. Setup and Installation

Follow the connection order below carefully to ensure proper and safe operation of the solar charge controller**Always connect the battery first.**

1. **Connect the Battery:** Connect the battery to the controller. Ensure the battery has sufficient voltage for the controller to recognize it before proceeding with other connections.
2. **Connect the Solar Panel:** Connect the solar panel to the controller.
3. **Connect the Load:** Connect your DC load (e.g., lights, USB devices) to the controller.

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

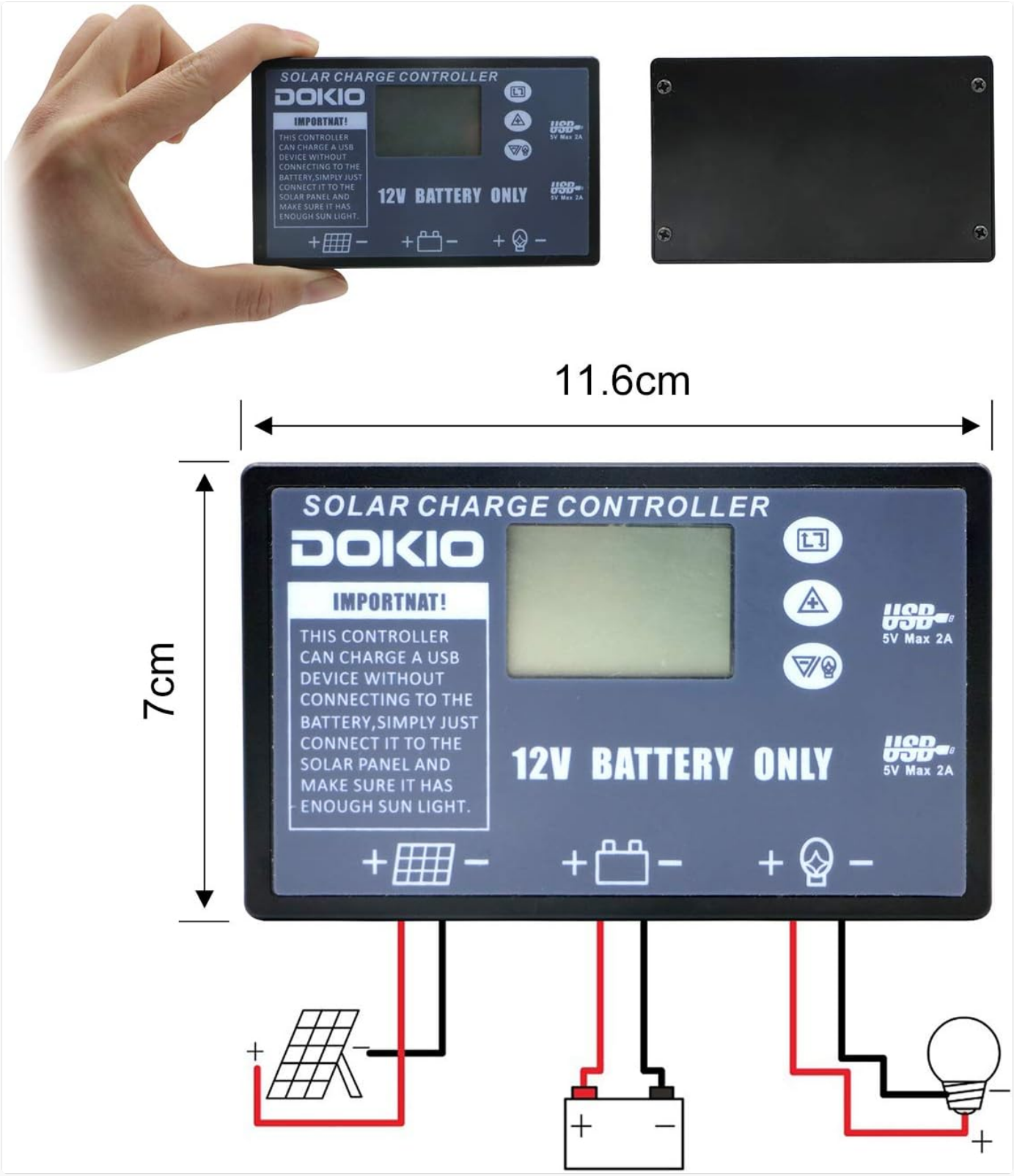

Figure 4: Connection diagram showing the proper sequence for battery, solar panel, and load.

5. Operation

The controller features an LCD display and three buttons for easy navigation and setting adjustments.

- **LCD Display:** Shows various parameters such as voltage, temperature, time, and current.
- **MENU Button:** Press to switch between different interfaces. Long press to enter/exit setting mode.
- **UP Button:** Press to increase values in setting mode.
- **DOWN Button:** Press to decrease values in setting mode.

To select the appropriate battery type (default is lead-acid battery), navigate through the menu using the buttons and confirm your selection.

TECHNICAL PARAMETER			
電圧	12V		
定格アンプ	10A	20A	30A
最大輸入	<50V		
バタリー タイプ	B01=LEAD-ACID 12V B02=LITHIUM ION 3s 3x3.7V=11. 1V B03=LIFePO4 4s 4x3.2V=12.8V		
充電電圧	13.7V(B01)	12.6V(B02)	14.6V(B03)
低圧　接続オフ	10.7V(B01)	9V(B02)	10V(B03)
低圧　再接続	12.6V(B01)	10.5V(B02)	12V(B03)
USB出力	5V/2A		
スタンバイ ロスト	<10mA		
動作温度	-35~+60℃		
サイズ/重さ	116*70*18mm/145g		

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

Figure 5: LCD display details and button functions for operation.

6. Maintenance and Safety Precautions

- Store the battery and controller out of reach of children.
- To maintain good heat dissipation, store the controller in a dry and well-ventilated place.
- Avoid operating the controller for extended periods under strong direct sunlight, as the maximum operating temperature is 80°C. High temperatures (above 40°C) may activate protection circuits, stopping current flow. Ensure the unit is not exposed to high temperatures.
- Do not use in highly humid environments, as condensation may cause malfunctions.

適用場所

農場ソーラーパワーシステム、太陽熱街灯、太陽熱照明灯、ソーラービルボード、戸外野営ソーラーシステム、シップソーラーシステムに適用します。

Figure 6: The controller is suitable for various applications, requiring proper placement for optimal performance.

7. Troubleshooting

If you encounter any issues with the product, please review the following common problems and solutions:

- **Controller not turning on/displaying:** Ensure the battery is connected first and has sufficient voltage. Check all connections for proper polarity and tightness.
- **Battery not charging:** Verify that the solar panel is connected correctly and receiving adequate sunlight. Check the solar panel's voltage. Ensure the correct battery type is selected in the controller's settings.
- **Load not receiving power:** Check the load connection and ensure the load is within the controller's rated current. Verify that the battery has sufficient charge.
- **Overheating:** Ensure the controller is placed in a well-ventilated area, away from direct strong sunlight.

8. Warranty and Support

DOKIO is committed to providing high-quality products and excellent customer service. If you experience any problems with this product or our service, please do not hesitate to contact us. We will respond to your inquiry as soon as possible to provide assistance and resolve any issues.

For support, please refer to the contact information provided with your purchase or visit the official DOKIO brand store on Amazon.

Link to DOKIO Brand Store: DOKIO Store

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

Details

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