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› EPEVER 30A Solar Charge Controller MPPT Solar Panel Charge Controller 12V / 24V Auto Working Max PV 100V Solar Charge Battery Regulator with LCD Display for Gel Flooded Sealed Lithium Batteries User Manual

EPEVER 30A Tracer AN Series

EPEVER MPPT Solar Charge Controller User Manual

Model: 30A Tracer AN Series

PRODUCT OVERVIEW

The EPEVER MPPT Solar Charge Controller is designed to efficiently manage power from your solar panels to charge various battery types. It utilizes advanced Maximum Power Point Tracking (MPPT) technology to maximize energy harvest from the solar array. This controller is suitable for a wide range of applications, including telecommunication base stations, household solar systems, street lighting, and wilderness monitoring systems.

Key features include a built-in LCD screen for displaying charging parameters, multiple connectivity options for personalized settings and monitoring (remote meter, mobile app, PC software), and comprehensive safety protections against low voltage, over voltage, overcharge, and reverse connections.





Figure 1: Front view of the EPEVER 30A MPPT Solar Charge Controller.

SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your solar charge controller. Please follow these steps carefully.

Unboxing

Upon opening the package, verify that all components are present and undamaged. The box should contain the MPPT solar charge controller, a user manual, and a certificate.

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Video 1: Unboxing and overview of the EPEVER MPPT Solar Charge Controller, showing its components and basic features like the LCD display and connection terminals.

Wiring Connections

Always connect the battery first, then the solar panel, and finally the load. Ensure all connections are secure and correct polarity is observed.

1. **Connect the Battery:** Connect the positive and negative terminals of your battery to the corresponding battery terminals on the controller. This step must always be performed first.

2. **Connect the Solar Panel:** Connect the positive and negative leads from your solar panel array to the solar panel input terminals on the controller.
3. **Connect the Load:** Connect your DC load (e.g., lights, fans) to the load output terminals on the controller.

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Video 2: Detailed demonstration of wiring connections for the battery, solar panel, and DC load to the MPPT solar charge controller. (Starts around 0:50 in the video)

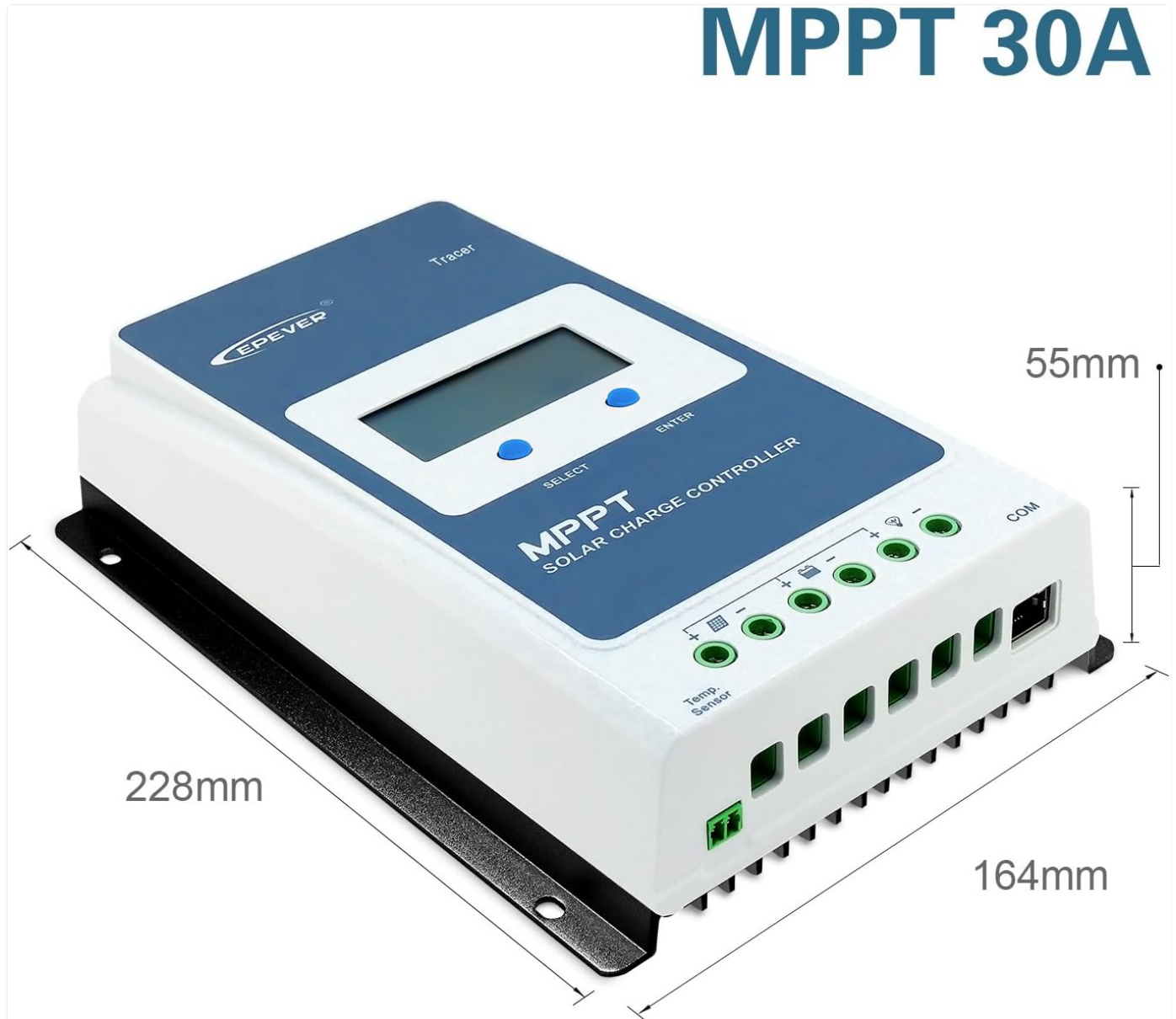


Figure 2: Dimensions of the EPEVER 30A MPPT Solar Charge Controller.

OPERATING INSTRUCTIONS

The controller features an LCD display and two buttons (SELECT and ENTER) for navigation and settings adjustment.

Manual Load Control

To manually control the load output (turn it ON or OFF), navigate to the load interface on the LCD. Press the **ENTER** button to toggle the load. Pressing it once will turn the load ON, and pressing it again will turn it OFF.

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Video 3: Demonstration of manual load control using the ENTER button on the controller's LCD display. (Starts around 1:45 in the video)

Setting Battery Type

It is essential to set the correct battery type for optimal charging and battery longevity. The controller supports Sealed, Gel, Flooded, and Lithium battery types, as well as a user-defined option.

- Step 1:** From the battery voltage interface, press and hold the **ENTER** button for 5 seconds. The battery type interface will appear and flash.
- Step 2:** Press the **SELECT** button to cycle through the available battery types (SEL, GEL, FLD, F04, F08, N03, N06, N07, USE).
- Step 3:** Once your desired battery type is displayed, press the **ENTER** button to confirm the selection.

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Video 4: Instructions on how to set the battery type on the EPEVER MPPT Solar Charge Controller. (Starts around 1:53 in the video)

Battery Type Options:

Display	Description
SEL	Sealed (default)
GEL	GEL
FLD	Flooded
F04	LiFePO4 (3.2V) 4PCS in series
F08	LiFePO4 (3.2V) 8PCS in series
N03	Li(NiCoMn)O2 (3.7V) 3PCS in series
N06	Li(NiCoMn)O2 (3.7V) 6PCS in series
N07	Li(NiCoMn)O2 (3.7V) 7PCS in series
USE	User-defined

Setting Load Working Mode

The controller offers various load working modes to suit different application needs, including manual control, light ON/OFF, and timed operations.

- Step 1:** From the load mode interface, press and hold the **ENTER** button for 5 seconds. The load mode setting will appear and flash.
- Step 2:** Press the **SELECT** button to cycle through the available load working modes.
- Step 3:** Once your desired load mode is displayed, press the **ENTER** button to confirm the selection.

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Video 5: Guide on how to set the load working mode on the EPEVER MPPT Solar Charge Controller. (Starts around 2:30 in the video)

Load Working Mode Options:

1**	Timer 1	2**	Timer 2
100	Light ON/OFF	2n	Disabled
101	Load will be on for 1 hour since sunset	201	Load will be on for 1 hour before sunrise
102	Load will be on for 2 hours since sunset	202	Load will be on for 2 hours before sunrise

1**	Timer 1	2**	Timer 2
103-113	Load will be on for 3 ~ 13 hours since sunset	203-213	Load will be on for 3 ~ 13 hours before sunrise
114	Load will be on for 14 hours since sunset	204	Load will be on for 14 hours before sunrise
115	Load will be on for 15 hours since sunset	205	Load will be on for 15 hours before sunrise
116	Test mode	2n	Disabled
117	Manual mode (Default load ON)	2n	Disabled

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your solar charge controller.

- **Clean Terminals:** Periodically check and clean all wiring terminals to ensure tight connections and prevent corrosion.
- **Inspect Wiring:** Examine all cables for any signs of wear, damage, or loose connections. Replace damaged cables immediately.
- **Ventilation:** Ensure the controller's heat sink and ventilation openings are free from dust and debris to allow for proper heat dissipation.
- **Battery Health:** Monitor your battery's health and voltage regularly. Ensure it is compatible with the controller's settings.

TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

- **No Display/Power:** Check battery connections and ensure the battery has sufficient charge. Verify the polarity of the battery connection.
- **No Charging from Solar Panel:** Ensure solar panel connections are correct and secure. Check if the solar panel is receiving adequate sunlight. Verify solar panel voltage is within the controller's operating range.
- **Load Not Working:** Check load connections and ensure the load is not overloaded. Verify the load working mode setting (e.g., manual ON, timer settings).
- **Incorrect Battery Voltage Reading:** Ensure the battery type setting is correct for your battery. Check the temperature sensor connection if applicable.

SPECIFICATIONS

Detailed technical specifications for the EPEVER 30A MPPT Solar Charge Controller.

Feature	Value
Brand	EPEVER
Color	30A
Voltage	24 Volts
Display Type	LCD
Max PV Voltage	100V
Max PV Power (12V)	390W

Feature	Value
Max PV Power (24V)	780W
Current Limiting Function	30A
Package Dimensions	10.04 x 7.32 x 2.8 inches
Item Weight	3.12 pounds
UPC	732376582438

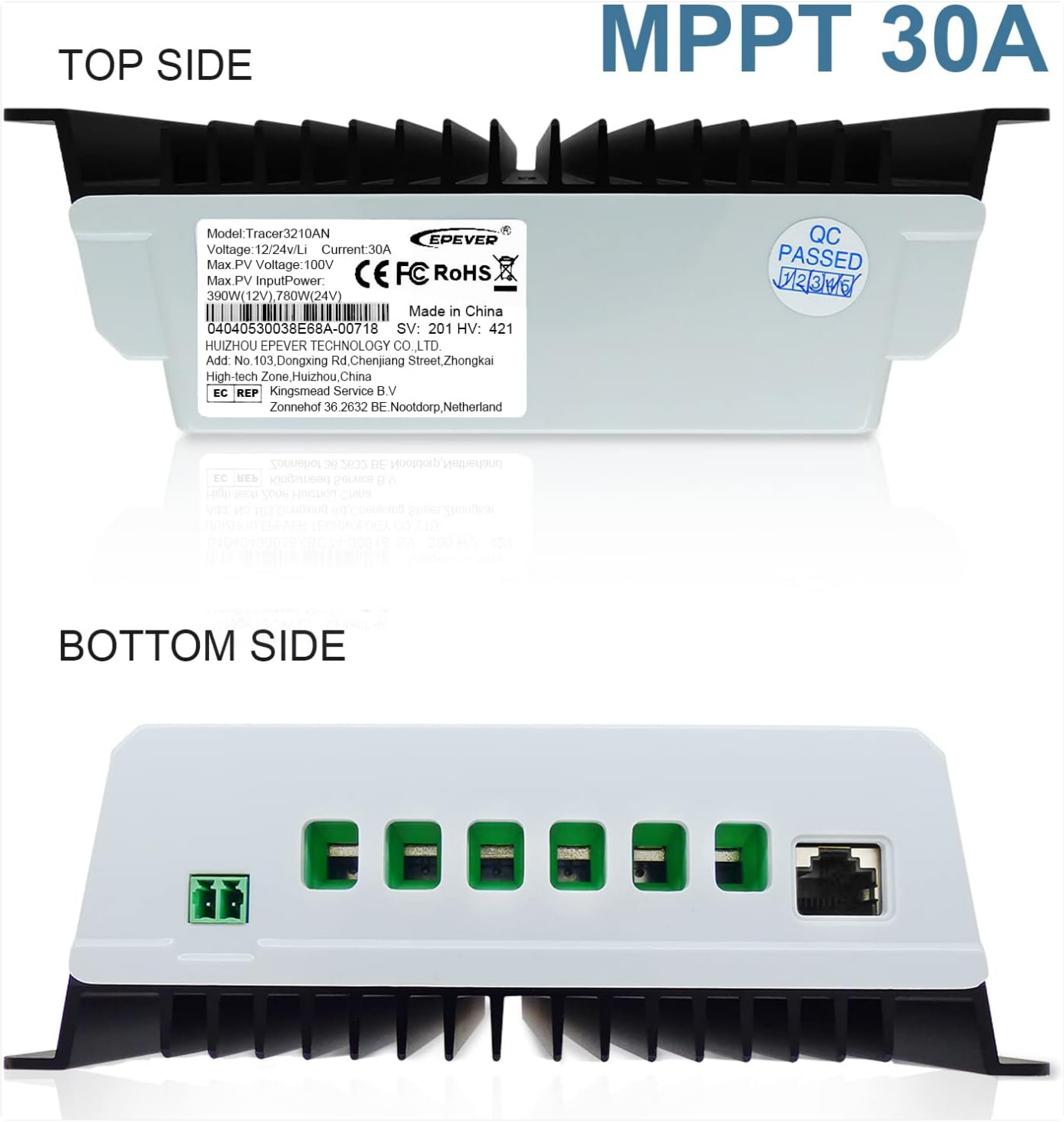


Figure 3: Top and bottom views of the controller, highlighting the heat sink and various ports.

For detailed warranty information, technical support, or to purchase accessories, please refer to the official user guide or visit the EPEVER brand store.

- **Official User Manual (PDF):** [Download PDF](#)
- **EPEVER Brand Store:** [Visit Store](#)

Connectivity Options and Accessories

The controller supports various accessories for enhanced monitoring and control. For detailed setup and operation of these accessories, please refer to their respective instructions.

Accessory	Description
Remote Temperature Sensor (RTS300R47K3.81A)	Acquisition of battery temperature for undertaking temperature compensation of control parameters. Standard length is 3m.
USB to RS485 cable (CC-USB-RS485-150U)	USB to RS-485 converter for monitoring on PC software. Length is 1.5m.
OTG cable (OTG-12CM)	Used to connect a mobile communication cable for real-time monitoring and parameter modification via mobile APP.
Remote Meter (MT50)	Displays various operating data and faults. Easy-to-operate with numeric display.
WIFI Serial Adapter (eBox-WiFi-01)	Monitors controller via mobile APP software through WiFi signals.
RS485 to Bluetooth Adapter (eBox-BLE-01)	Monitors controller via mobile APP software through Bluetooth signals.
Logger (eLOG01)	Records operating data of the controller or monitors real-time operating status via PC software.



Figure 4: Connectivity diagram for the EPEVER MPPT Solar Charge Controller with various accessories.

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

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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