EPEVER MT50

EPEVER MT50 Remote Meter Instruction Manual

Brand: EPEVER | Model: MT50

1. Product Overview and Features

The EPEVER MT50 is an optional remote meter designed for monitoring and programming EPEVER brand MPPT solar charge controllers. It provides a large-screen informative LCD display for all operating data and system working status, offering simple and convenient operation.

- Automatic identification of the controller and display of relevant parameter data.
- Real-time alarm for failure information.
- Longer communication distance based on RS485.
- Diversified load control modes: Manual Control, Light ON/OFF, Light ON+ Timer, Time Control.
- Battery type selection: Gel, Sealed, Flooded, LiFePO4 (4S/8S/15S/16S), Li(NiCoMn)O2 (3S/6S/7S/13S/14S), and User (programmable).
- Programmable parameters and energy statistics display function.



Figure 1.1: EPEVER MT50 Remote Meter and its retail packaging.



Figure 1.2: Key features of the updated MT50 and compatible EPEVER controller series including Tracer-AN, Tracer-BN, Triron-N, XTRA-N, LS-B, LS-BP, VS-BN, eTracer, and iTracer.



MT50 is an optional remote meter to monitor and program EPsolar controller,

Compatible with:

EPEVER Controller,Tracer-AN, Triron-N, Tracer-BN,LS-B(P), LS-BP, VS-BN, eTRACER,iTracer, Tracer-BP, XTRA

Features:

- Automatic identify the controller, and display relevant parameter data
- Large-screen informative LCD displays all the operating data and system working status
- Simple and convenient operation
- Real-time alarm of failure information
- Longer communication distance based on RS485
- Diversified load control modes : Manual Control, Light ON/OFF, Light ON+ Timer, Time Control
- Battery type selection: Gel, sealed, flooded and User(programable)
- Programmable parameters
- Energy statistics display function

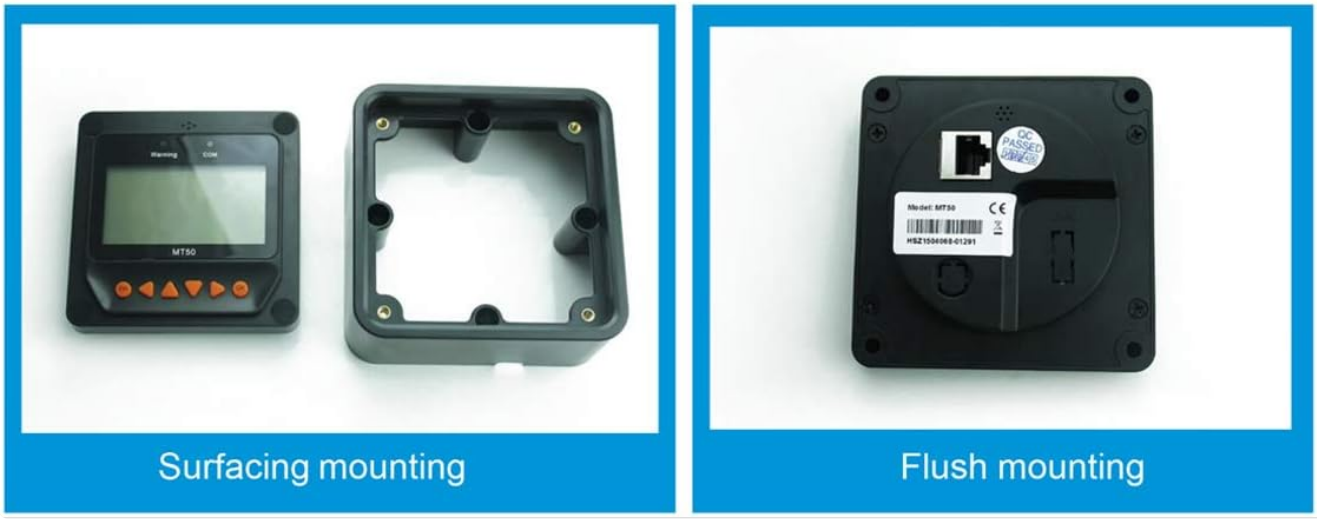


Figure 1.3: Detailed view of the MT50's front panel, illustrating the display screen, warning indicator, communication indicator, and control buttons (Esc, Left, Up, Down, Right, OK).

2. Package Contents

The MT50 Remote Meter package includes the following items:

- 1x MT50 Remote Meter
- 1x Wall Mounting Board
- 1x 2M Cable (RJ45 connector)
- 4x Mounting Screws

3. Setup and Installation

The MT50 remote meter connects to compatible EPEVER solar charge controllers via an RJ45 cable. Ensure the controller is powered off before making connections.

3.1 Connection Diagram

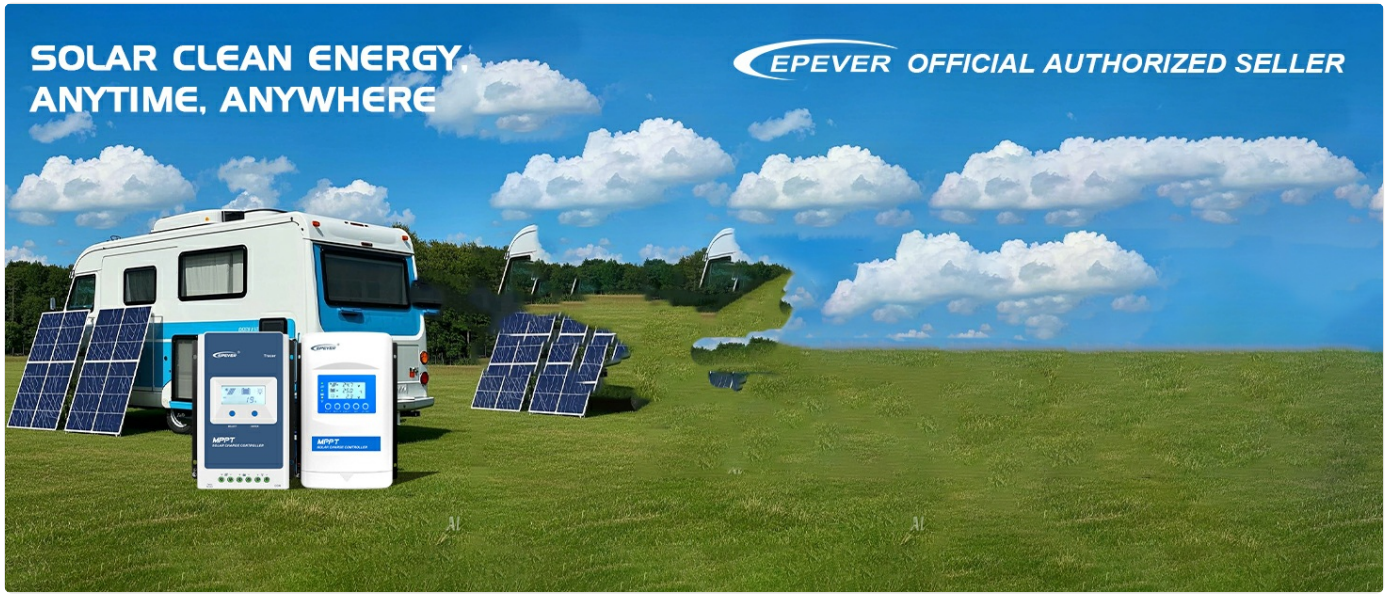


Figure 3.1: General connection diagram for an EPEVER solar charge controller system, showing connections for solar panel, battery, DC load, inverter, and AC load. The MT50 connects to the controller's COM port.

3.2 Connecting the MT50 Remote Meter

Connect the provided 2M RJ45 cable from the MT50 remote meter to the 'COM' port on your EPEVER solar charge controller. Ensure a secure connection.

Video 3.1: This video demonstrates the connection process of the MT50 Remote Meter to an EPEVER solar charge controller, showing how to plug the RJ45 cable into the COM port and the initial display of status and data.

3.3 Mounting the MT50

The MT50 can be mounted using the provided wall mounting board and screws. It supports both surfacing and flush mounting options.



Figure 3.2: Dimensions of the MT50 remote meter, with faceplate dimensions of 98x98 mm (3.86x3.86 inches) and frame dimensions of 114x114 mm (4.49x4.49 inches).

4. Operating Instructions

The MT50 allows users to monitor system data and configure various parameters of the connected EPEVER solar charge controller.

4.1 Navigating the Menu Interface

Use the 'OK' button to enter menu options and the 'Esc' button to return to the previous screen. The arrow buttons (Left, Up, Down, Right) are used for navigation and value adjustment.

Video 4.1: This video demonstrates navigating the MT50's menu interface, showing how to enter and exit menus using the 'OK' and 'Esc' buttons, and how to scroll through options.

4.2 Setting Battery Parameters

To set battery parameters, navigate to 'Control Para' in the menu. You can select the battery type (Sealed, Gel, Flooded, LiFePO4, Li(NiCoMn)O2, or User) and adjust specific voltage parameters if 'User' type is selected.

1. Choose "Control Para" from the main menu.
2. Press "OK".
3. Use arrow buttons to select "Batt. Type" and press "OK" to enter.
4. Select your desired battery type and press "OK" to save.
5. If "User" battery type is selected, you can further adjust voltage parameters. Refer to the technical specifications for recommended values.

Video 4.2: This video illustrates how to set battery parameters on the MT50, including selecting battery type and adjusting specific voltage settings for user-defined battery configurations.

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New contents

MT50 User Manual adds the below new contents:

1. Add battery types for the applicable models

2. Add battery type for the control parameters

3. Add Lithium battery voltage parameters

1. Add battery types for the applicable models

Product series	Battery type	Interface type	Communication
LS-B, GM-N, VS-BN, Tracer-BN	Battery	RJ45	RS485
ITracer-AD/ND		3.81-4P	
Tracer-AN, TRIRON, XTRA	Battery+ Lithium battery	RJ45	

2. Add battery type for the control parameters

Supported battery types are shown as below:

1	**Battery**	Sealed(default)
		Gel
		Flooded
2	**Lithium battery**	LiFePO4(4S/8S/15S★/16S★)
		Li(NiCoMn)O2 (3S/6S/7S/13S★/14S★)
3	**User ◆**	

★ If the controller connected to the MT50 supports 48V system voltage, the battery type will display LiFePO4 15S/16S and Li(NiCoMn)O2 13S/14S.

◆ When switching the battery type to "USE," the default voltage point is the corresponding voltage before the battery type is modified.

When the battery type is selected as the lithium battery(LiFePO4 and Li(NiCoMn)O2 series), the "temperature compensation coefficient" and the "rated voltage" cannot be set. The software automatically enables the protection function of "Low temperature prohibits charge and discharge.

Figure 4.1: Excerpt from the MT50 User Manual showing supported battery types and their interface/communication types. It also details the new battery types for control parameters, including various LiFePO4 and Li(NiCoMn)O2 configurations.

4.3 Setting Load Working Mode

The MT50 allows you to configure the load working mode. Navigate to 'Load Set' in the menu to choose from various modes such as Manual Control, Light ON/OFF, Light ON+ Timer, and Time Control.

Video 4.3: This video demonstrates how to set the load working mode on the MT50, allowing users to select between manual control, light-activated modes, and timed control for connected loads.

5. Technical Specifications

Feature	Specification
Faceplate Dimension	98 × 98 mm / 3.86 × 3.86 inch
Frame Dimension	114 × 114 mm / 4.49 × 4.49 inch
Connector Type	RJ45
Meter Cable Length	Standard 2m, Max 50m
Ambient Temperature	-20°C to +70°C / -4°F to 158°F
Rated Voltage	5V
Current Consumption (with backlight)	<30mA
Current Consumption (without backlight)	<3mA
Display Type	LCD
Item Weight	6.7 ounces
Product Dimensions	4.49 x 4.49 x 1.3 inches



Figure 5.1: Technical specifications as printed on the MT50 product packaging.

6. Accessories (Optional)

EPEVER offers several optional accessories to enhance the functionality and monitoring capabilities of your solar charge controller system:

- **Remote Temperature Sensor (RTS300R47K3.81A):** Used for accurate battery temperature compensation.
- **USB to RS485 Cable (CC-USB-RS485-150U):** Connects the controller to a PC for monitoring and parameter setting via PC software.
- **WiFi Serial Adapter (eBox-WIFI-01):** Enables monitoring and parameter setting via mobile APP through WiFi signals.
- **RS485 to Bluetooth Adapter (eBox-BLE-01):** Enables monitoring and parameter setting via mobile APP through Bluetooth signals.
- **Logger (eLOG01):** Records operating data of the controller for real-time monitoring via PC software.
- **PT Adapter (PT-ADP):** Manages and communicates with 2 to 8 pcs controllers in parallel.

7. Maintenance

To ensure optimal performance and longevity of your EPEVER MT50 Remote Meter and connected solar charge controller, regular maintenance is recommended:

- Keep the device clean and free from dust and debris. Use a soft, dry cloth for cleaning.

- Ensure all cable connections (especially the RJ45 cable) are secure and free from damage.
- Periodically check the ambient temperature to ensure it remains within the specified operating range (-20°C to +70°C).
- Monitor the display for any warning or error indicators and refer to the troubleshooting section if issues arise.

8. Troubleshooting

This section provides guidance for common issues encountered with the MT50 Remote Meter. For more complex problems, refer to the full controller manual or contact EPEVER support.

8.1 Common Issues and Solutions

- **Display is blank or not responding:**
  - Check the RJ45 cable connection between the MT50 and the controller. Ensure it is securely plugged in at both ends.
  - Verify that the solar charge controller is powered on and functioning correctly.
  - Ensure the cable length does not exceed the maximum recommended 50m.
- **Incorrect data displayed:**
  - Confirm that the MT50 is compatible with your specific EPEVER controller model.
  - Check the controller's own display (if available) to cross-reference data.
  - Ensure battery parameters are correctly set on the MT50, especially if using a 'User' defined battery type.
- **Warning or Alarm Indicator active:**
  - The MT50 provides real-time alarm information. Check the specific alarm displayed on the screen.
  - Refer to your solar charge controller's manual for detailed explanations of alarm codes and corresponding troubleshooting steps.

9. Warranty and Support

EPEVER products are backed by a commitment to quality. For warranty information, please refer to the documentation included with your solar charge controller or visit the official EPEVER website.

For free solar system design assistance and technical support, you can contact Goland Century, an official authorized EPEVER supplier with over 10 years of experience in solar charge controllers and solar systems.

Contact information for Goland Century:

- Email: neal@szgoland.com
- Importer Address: longcheng street Ruyi Road No.112, Chuangshengda industrial Rome 406, Longgang, Shenzhen, Guangdong 518116 CN

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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.

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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