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## EPEVER MPPT 30A+MT50+RTS

# EPEVER MPPT Solar Charge Controller Tracer A 3210AN User Manual

MODEL: MPPT 30A+MT50+RTS

Brand: EPEVER

## 1. Introduction

The EPEVER Tracer A 3210AN MPPT Solar Charge Controller is an advanced Maximum Power Point Tracking (MPPT) controller designed for off-grid solar systems. It efficiently manages power flow from your solar panels to your battery bank, ensuring optimal charging and extending battery life. This model includes the MT-50 Remote Meter for convenient monitoring and parameter setting, along with a Remote Temperature Sensor (RTS) for accurate temperature compensation.



Figure 1: EPEVER 30A MPPT Solar Charge Controller with included accessories.

## 2. Key Features

- **Tracer3210AN:** 12V/24V battery system auto-identifying. Max Input 100V. Max. PV input power: 12V/390W, 24V/780W.
- **Optimized Charging:** Features a 4-stage battery charging process (Bulk, Boost, Float, and Equalization) and temperature compensation for extended battery life and improved system performance.
- **Versatile Battery Support:** Compatible with 4 types of battery charging and discharging: Lead-acid (Sealed, Gel, Flooded), Lithium/LiFePO4, and User-defined. User mode allows custom charging parameters.
- **Load Control Modes:** Includes four load control modes: manual mode, light ON/OFF, light On+ Timer, and test mode.
- **Monitoring & Control:** Supports PC (Windows only) monitoring and the Remote Meter MT50 for real-time data viewing and parameter setting.
- **Negative Grounded:** Designed with negative grounding for enhanced system compatibility.

### 3. Package Contents

Upon opening the package, verify that all components are present and in good condition:

- EPEVER Tracer A 3210AN MPPT Solar Charge Controller
- MT-50 Remote Meter with communication cable (CC-RS485-RS485-200U-MT)
- Remote Temperature Sensor Cable (RTS300R47K3.81A)
- User Manual for the controller
- User Manual for the MT-50 Remote Meter
- Mounting screws and wall plugs
- Certificate of quality

The MT-50 Remote Meter provides monitoring and setting parameters, battery type selection, and is compatible with various EPEVER controllers. The Remote Temperature Sensor (3M cable) allows the charge controller to shut off and stop charging the battery based on temperature, optimizing battery health.



### MT50 Features

Monitoring and setting parameters

Battery type selection

Compatible with: EPEVERT Controller  
Tracer-AN, Triron-N ,Tracer-BN ,  
LS-B(P), LS-BP, VS-BN, eTracer,  
iTracer



### RTS300R47K3.81A

Remote Temperature Cable:3M

The temperature sensor can  
shut off the charge controller  
and stop charging the battery

Figure 2: MT-50 Remote Meter and Remote Temperature Sensor Cable.

## 4. Setup and Installation

Proper installation is crucial for the safe and efficient operation of your solar charge controller. Always read the entire installation instructions before beginning. The wiring steps must be followed in the correct order to prevent damage to the controller or other components.

### 4.1 Wiring Order

#### Connecting Step:

1. Connect the Battery.
2. Connect the Load.
3. Connect the Solar Panel (PV array).

#### Disconnecting Step:

1. Disconnect the Solar Panel (PV array).
2. Disconnect the Load.
3. Disconnect the Battery.

Ensure that the "+" and "-" poles of all wires are connected correctly to their respective terminals. The solar panel and battery terminals support 10mm<sup>2</sup> / 8AWG wires, and the load terminals support 10mm<sup>2</sup> / 8AWG wires.

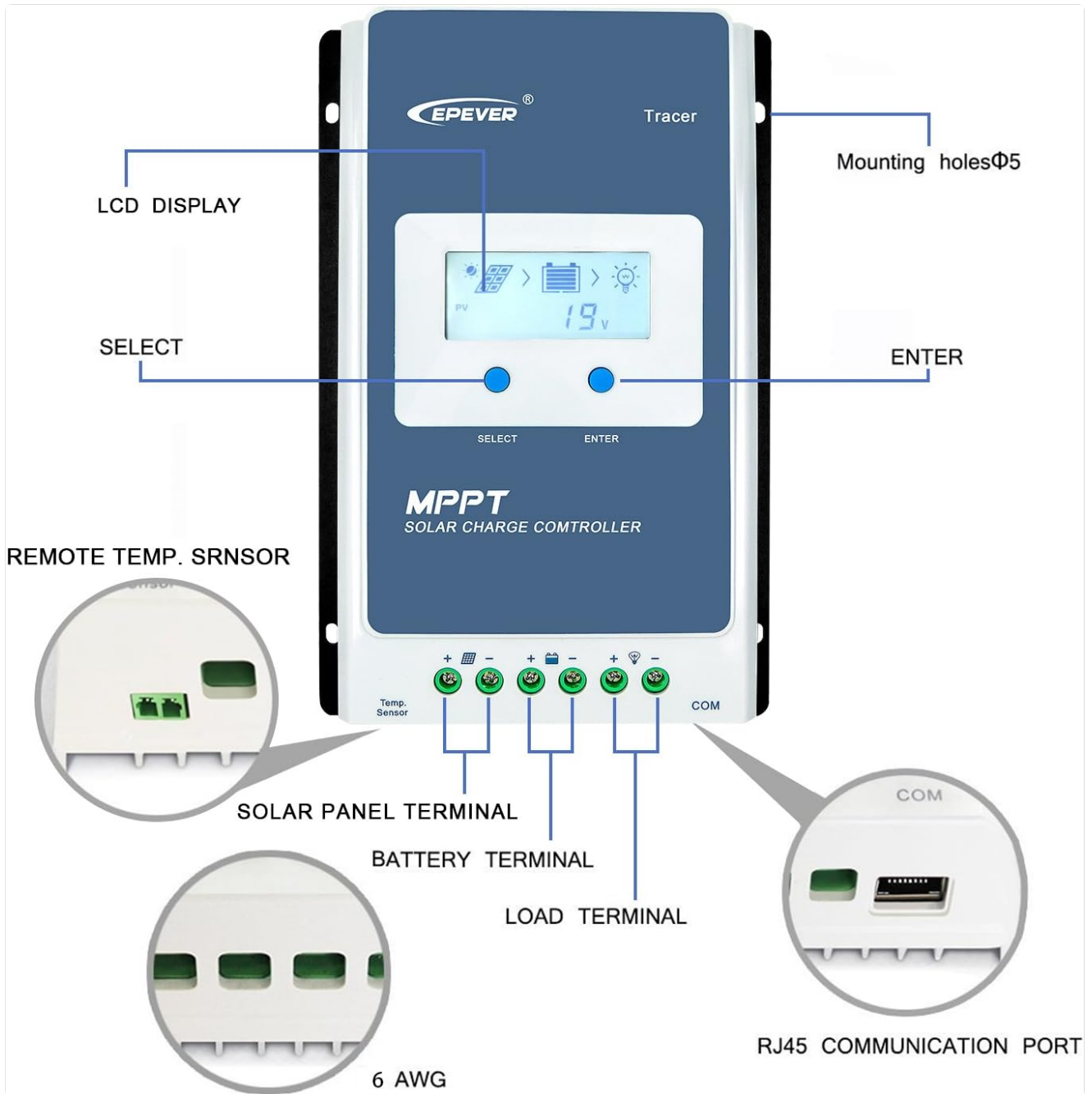


Figure 3: Detailed view of controller terminals for Solar Panel, Battery, Load, Temperature Sensor, and Communication Port.

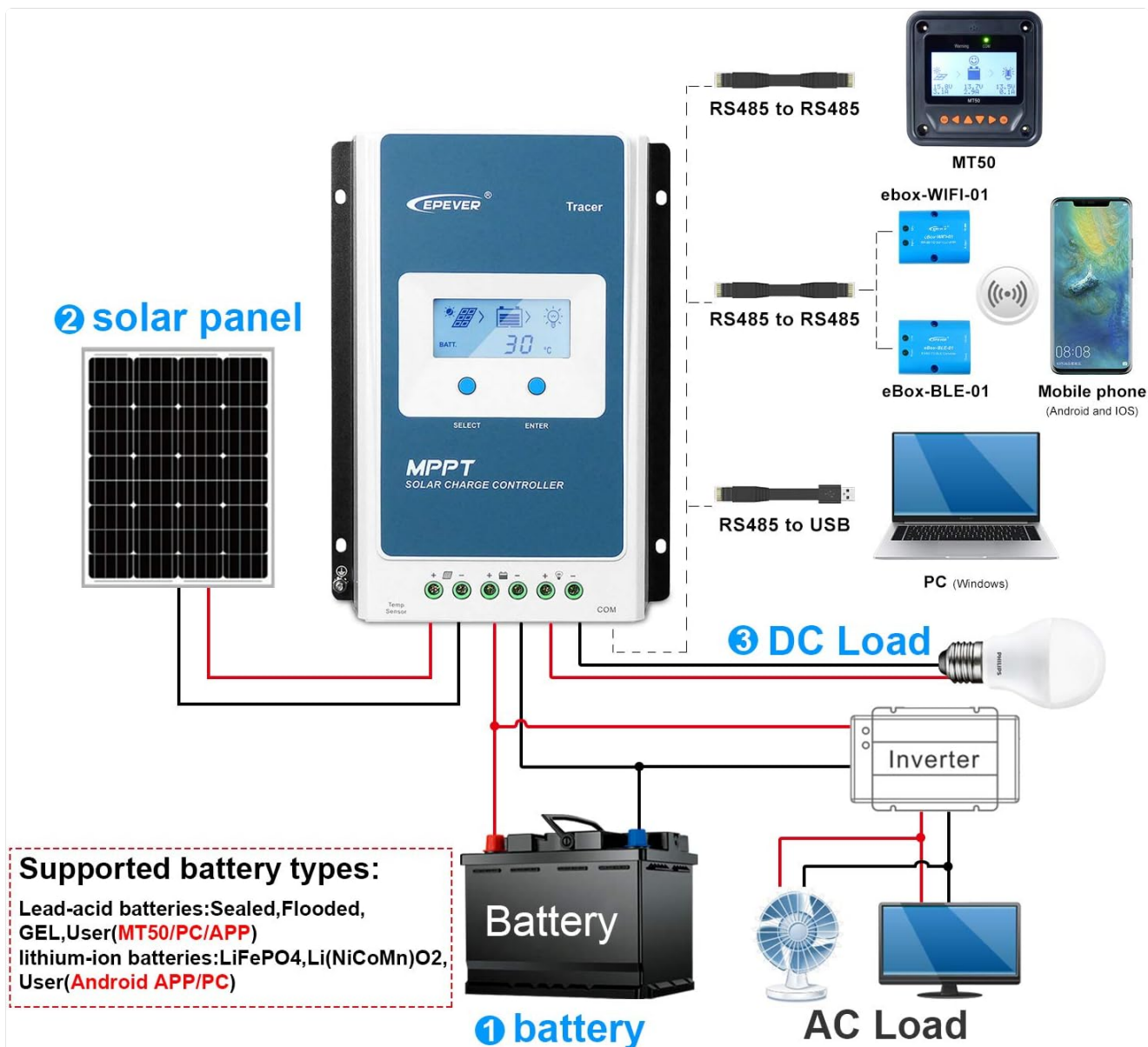


Figure 4: Comprehensive wiring diagram for the solar charge controller in a typical system setup.

## 4.2 Installation Video Guide

For a visual step-by-step guide on connecting your EPEVER Tracer-AN controller with the MT50 remote meter and RTS, please watch the official installation video below. This video demonstrates the unboxing, component identification, and correct wiring sequence.

Your browser does not support the video tag.

Video 1: Tracer-AN +MT50+RTS connecting video. This video provides a detailed walkthrough of the installation process, including unboxing, identifying components, and connecting the solar panel, battery, and load to the controller, as well as setting up the MT50 remote meter.

## 5. Operating the Controller

The Tracer A 3210AN controller features an LCD display and two buttons (SELECT and ENTER) for basic operation and parameter viewing. The MT-50 Remote Meter offers more comprehensive monitoring and advanced parameter settings.

## 5.1 LCD Display Operation

Use the SELECT button to cycle through different display screens (PV parameters, Battery parameters, Load parameters). Use the ENTER button to confirm selections or enter setting modes.

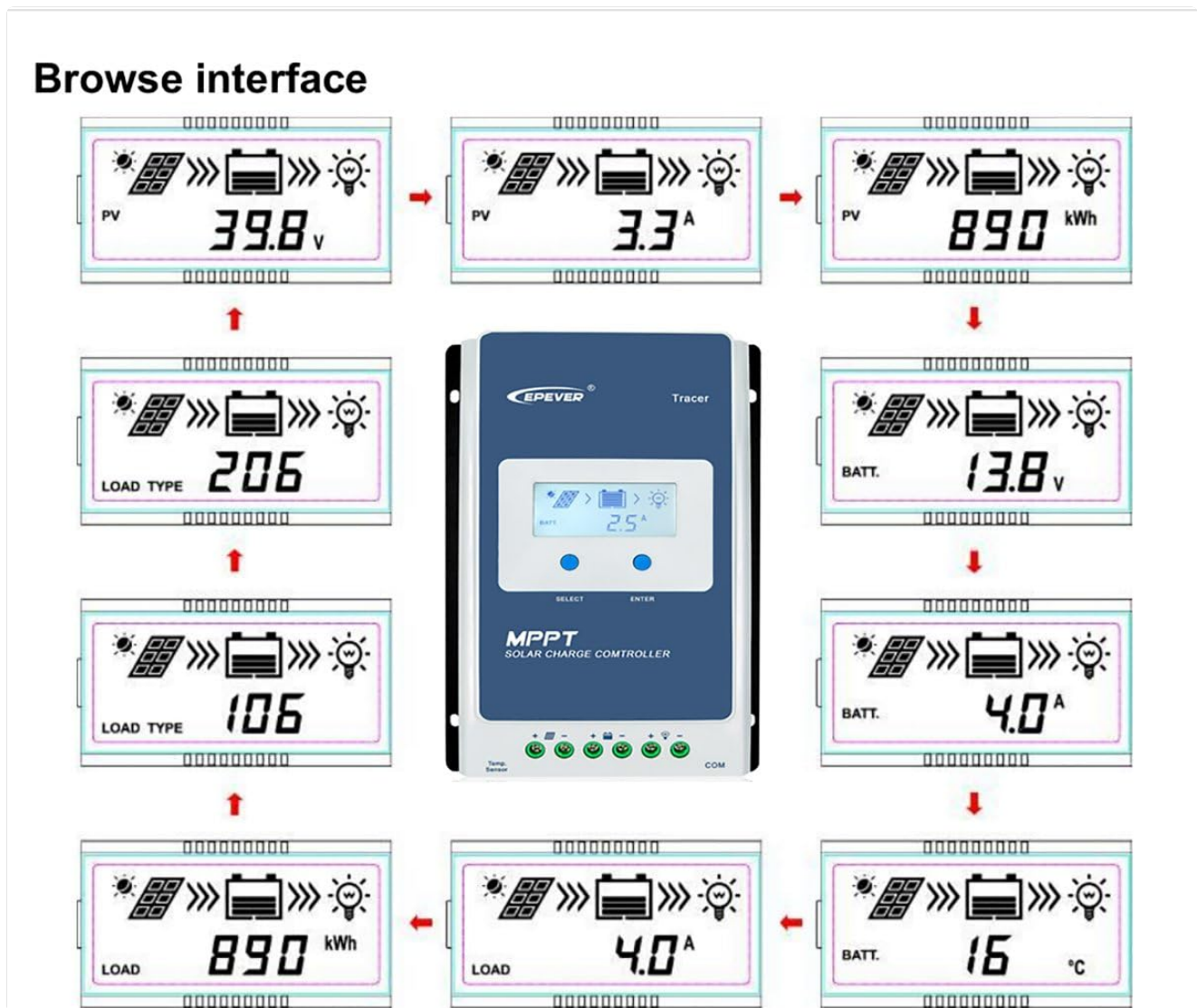


Figure 5: Controller LCD display showing various system parameters.

## 5.2 MT-50 Remote Meter Operation

The MT-50 remote meter provides a more user-friendly interface for monitoring and configuring the controller. It displays real-time data for solar panel voltage/current, battery voltage/current/temperature, and load status. You can also access a menu interface to adjust various control parameters.

### Setting Lithium Battery Parameters via MT-50:

To set the battery type to Lithium (User-defined) and adjust related parameters:

1. Choose 'Control Para' from the main menu.
2. Press 'OK' to enter.
3. Navigate to 'Batt. Type' and press 'OK'.
4. Use the up/down arrows to select 'User' for Lithium battery.
5. Go on to adjust specific parameters like Over Volt. Disc., Charge Limit, Boost Charge, Float Charge, Low Volt. Disc., and Discharge Limit according to your Lithium battery's specifications.
6. Finally, press 'OK' and 'Save' to apply the changes.

## 6. Maintenance

Regular maintenance ensures the longevity and optimal performance of your solar charge controller. Perform the following checks periodically:

- **Visual Inspection:** Check for any loose connections, damaged wiring, or signs of corrosion.
- **Cleanliness:** Keep the controller and its terminals clean and free from dust and debris. Use a dry cloth for cleaning.
- **Ventilation:** Ensure that the controller's heat sink is not obstructed and has adequate airflow for proper cooling.
- **Parameter Check:** Periodically verify that the battery charging parameters are correctly set, especially after any system changes or power outages.

## 7. Troubleshooting

If you encounter issues with your EPEVER solar charge controller, consider the following common troubleshooting steps:

- **No Display/Power:** Check all battery connections and ensure the battery voltage is within the controller's operating range. Verify the fuse (if external) is intact.
- **No Charging:** Confirm solar panel connections are secure and receiving adequate sunlight. Check PV voltage on the display. Ensure battery voltage is not already at full charge.
- **Load Not Working:** Check load connections and ensure the load is not exceeding the controller's maximum current rating. Verify the load control mode is set correctly (e.g., manual ON).
- **Error Codes:** Refer to the controller's user manual for specific error codes displayed on the LCD or MT-50 and their corresponding solutions.
- **Temperature Issues:** Ensure the temperature sensor is properly connected and placed near the battery for accurate readings.

If the problem persists after performing these checks, please contact EPEVER customer support for further assistance.

## 8. Specifications

Attribute	Value
Display Type	LCD
Manufacturer	EPSolar
Charging Port Type	DC
Product Dimensions	8.98 x 6.46 x 2.17 inches (6.46"L x 2.17"W x 8.98"H)

Item Weight	3.53 pounds (3.5 Pounds)
Voltage	24 Volts
Color	MPPT 30A+MT50+RTS
Batteries required	No

# MPPT 30A



Figure 6: Product dimensions of the solar charge controller.



Product model				
	1210AN	2210AN	3210AN	4210AN
Dimensions	6.77*5.47*1.73in	8.66*6.06*2.05in	8.99*6.46*2.17in	9.92*7.09*2.48in
Max power current	10A	20A	30A	40A
Power terminals	12AWG(4mm <sup>2</sup> )	6AWG(16mm <sup>2</sup> )		
MPPT voltage range	(Battery voltage+2V) ~72V			
Battery input Voltage range	8V~32V			
Max. PV input power	130W/12V 260W/24V	260W/12V 520W/24V	390W/12V 780W/24V	520W/12V 1040W/24V
Max. PV open Circuit voltage	100V②92V③			
Grounding	Common negative			
Weight	0.57kg	0.94kg	1.26kg	1.65kg
				

Figure 7: Comparison table of EPEVER Tracer models.

## 9. Warranty and Support

EPEVER products are designed for reliability and performance. For specific warranty details, please refer to the warranty card included in your product packaging or visit the official EPEVER website. In case of any technical issues or questions, please contact EPEVER customer support. Ensure you have your product model and serial number ready for faster service.

Additional protection plans may be available for purchase from authorized retailers, offering extended coverage beyond the standard manufacturer's warranty.