SolarEpic Tracer10420AN

EPEVER 100 Amp MPPT Solar Charge Controller User Manual

Model: Tracer10420AN

Brand: SolarEpic

1. Introduction

The SolarEpic EPEVER Tracer10420AN MPPT Solar Charge Controller is designed for efficient and reliable power management in off-grid solar systems. It features advanced Maximum Power Point Tracking (MPPT) technology to maximize energy harvest from solar panels and ensure optimal battery charging. This manual provides essential information for the safe and effective installation, operation, and maintenance of your solar charge controller.

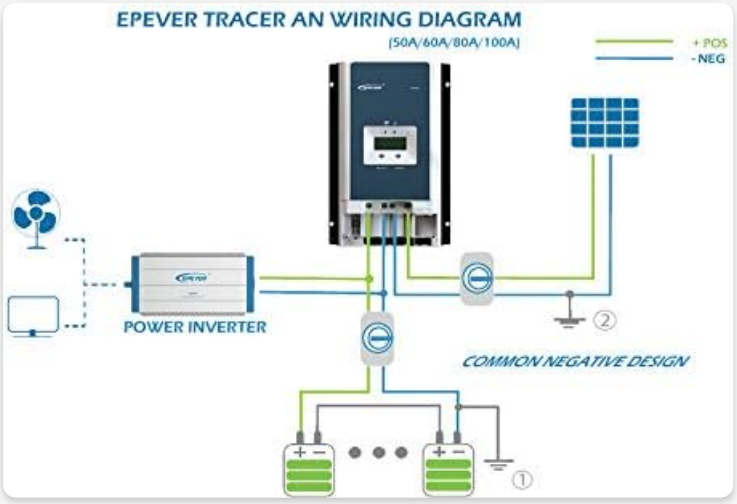


This image displays the EPEVER 100 Amp MPPT Solar Charge Controller, the MT50 remote meter, and the accompanying connection cables, providing a complete overview of the product components.

2. Setup

Before installation, ensure all power sources are disconnected. Connect the battery to the controller first, followed by the solar panels, and then the load. This specific model features a common negative design. Refer to the wiring diagram for detailed connection instructions. The MT50 remote meter can be easily installed and connected to the controller for convenient monitoring and parameter adjustments.

2.1 Wiring Diagram

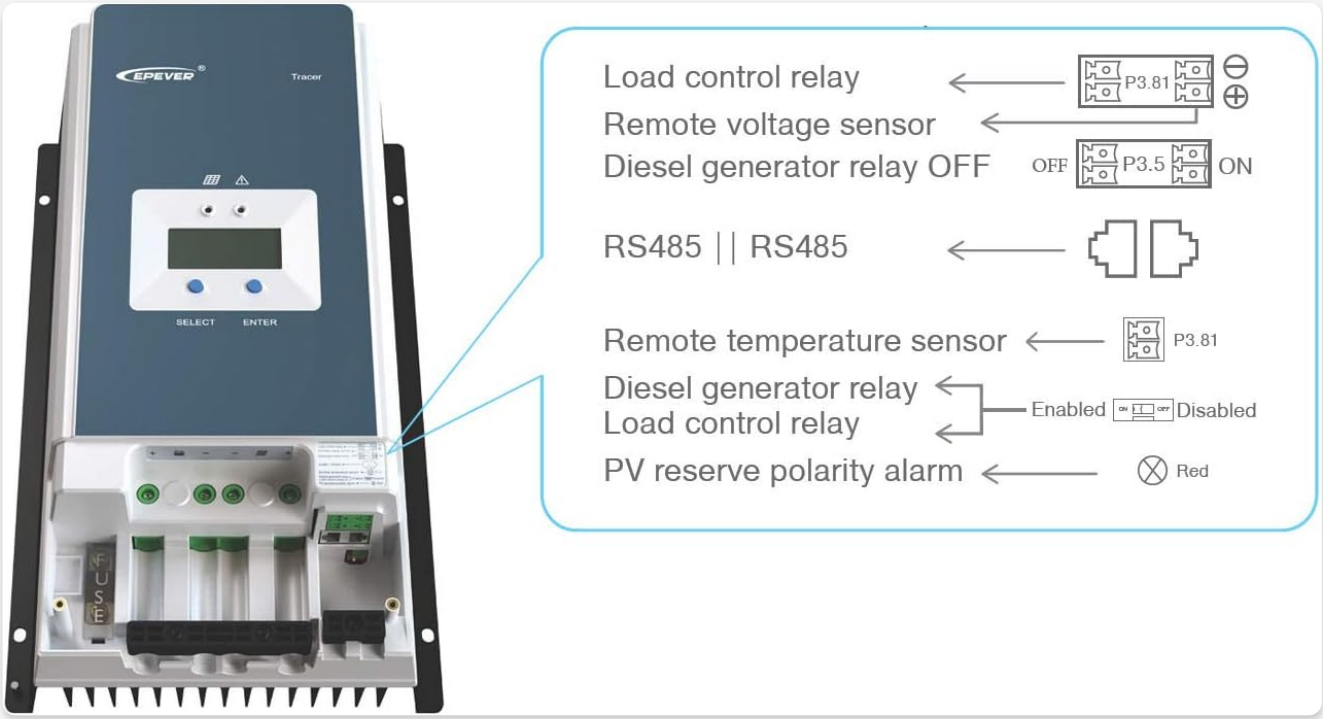


This diagram illustrates the typical wiring setup for the EPEVER Tracer AN series, showing connections from solar panels to the controller, then to the battery bank and a power inverter for common negative design systems.

2.2 Connection Terminals

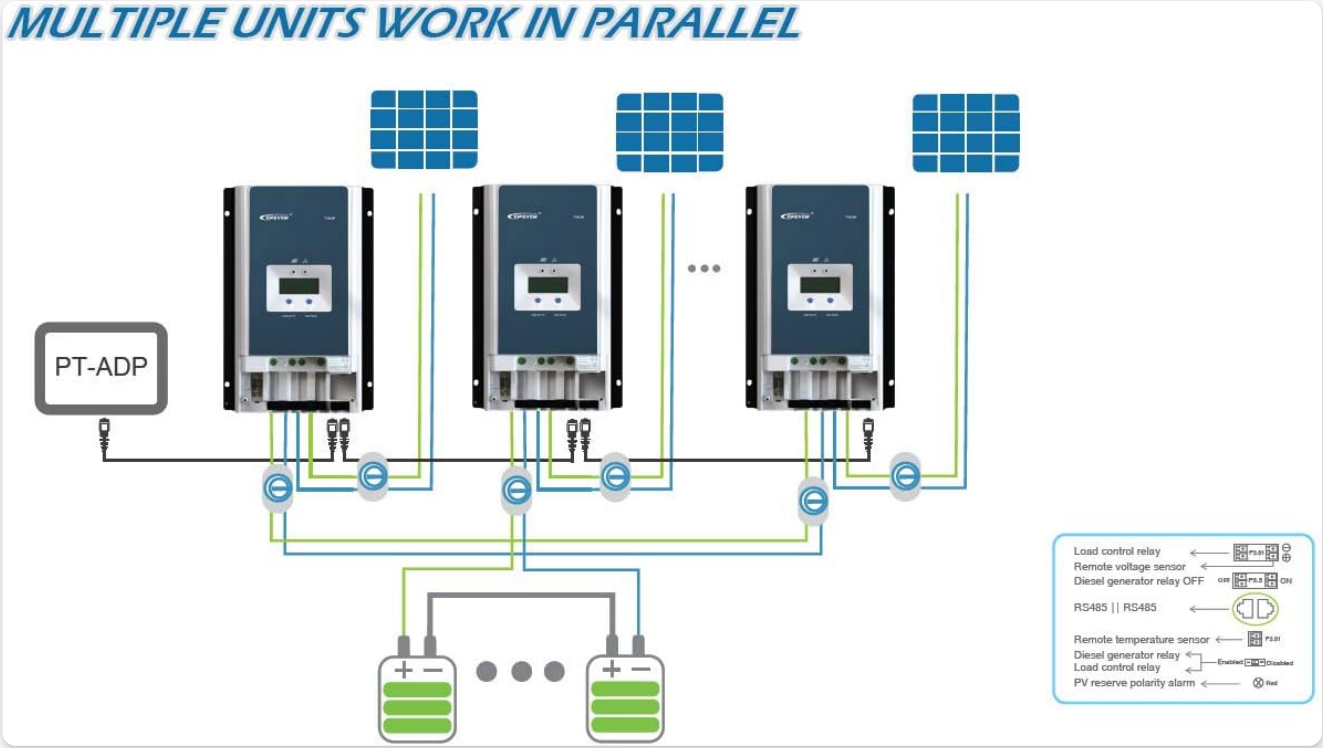


A top-down perspective of the solar charge controller with its terminal cover removed, revealing the connection points for solar panels, battery, and load. This view is crucial for understanding the wiring process.



This image provides a close-up of the controller's connection terminals, labeling inputs for load control relay, remote voltage sensor, diesel generator relay, remote temperature sensor, and indicating the PV reverse polarity alarm.

2.3 Multiple Unit Parallel Connection



A schematic demonstrating how multiple EPEVER Tracer AN series controllers can be connected in parallel to increase system capacity, along with the PT-ADP communication adapter.

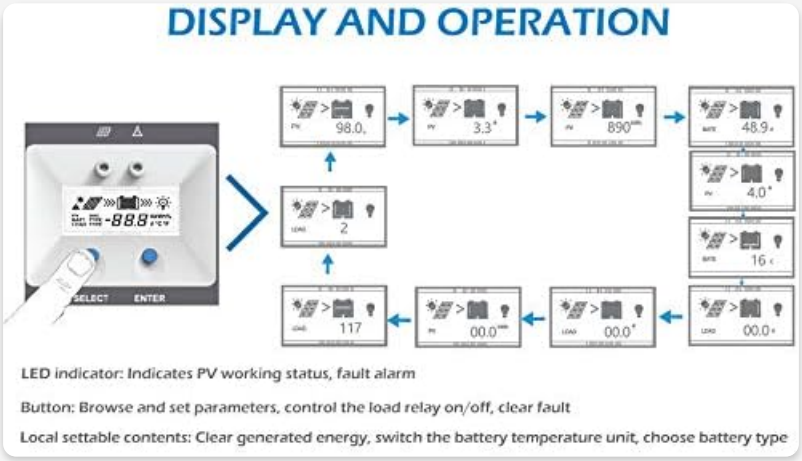
2.4 Installation Video

This video provides an overview of the EPEVER Tracer AN series high current solar charge controllers, demonstrating their negative grounding design and compatibility with 12V, 24V, 36V, and 48V battery systems. It highlights key features and applications for various current ratings.

3. Operating Instructions

The EPEVER Tracer10420AN features an intuitive LCD display for monitoring system performance and adjusting settings. Use the 'SELECT' and 'ENTER' buttons to navigate through various screens, including real-time data for solar panel input, battery status, and load output. The controller supports multiple battery types (Sealed, Gel, Flooded, and User-defined) to optimize charging. Load control functions allow for manual or automated management of connected devices.

3.1 Display and Operation



This image details the LCD display interface of the EPEVER controller, showing various screens for monitoring PV status, battery voltage, current, and load. It also highlights the 'SELECT' and 'ENTER' buttons for navigation.

3.2 MT50 Remote Meter Operation

This video demonstrates the unboxing, installation, and LCD display settings of the MT50 remote meter, specifically designed for use with EPEVER Tracer MPPT AN series solar charge controllers. It shows how to connect the meter and navigate its interface for monitoring and parameter adjustments.

4. Maintenance

To ensure long-term performance and safety, regular maintenance of your solar charge controller is recommended. Periodically inspect all wiring connections for tightness and corrosion. Keep the controller's surface clean and free from dust and debris to maintain proper heat dissipation. Monitor battery health and electrolyte levels (for flooded batteries) as per battery manufacturer guidelines.

5. Troubleshooting

If you encounter issues with your solar charge controller, perform the following basic troubleshooting steps:

- **No Charging/Low Output:** Check all wiring connections for secure contact. Verify solar panel output voltage and current. Ensure battery voltage is within the controller's operating range.
- **Error Codes:** Refer to the controller's display for specific error codes and consult the manual's troubleshooting section for corresponding solutions.
- **Overheating:** Ensure adequate ventilation around the controller. Clear any obstructions from cooling fins.

If problems persist, contact customer support.

6. Specifications

Detailed technical specifications for the EPEVER Tracer10420AN MPPT Solar Charge Controller are provided

below:

TECHNICAL PARAMETER

Item Tracer****AN	5210	5210	5415	6415	8415	10415	5420	6420	8420	10420
Nominal System Voltage	12/24VDC or Auto		12/24/36/48VDC or Auto							
Battery Input Voltage Range	8V～32V		8V～68V							
Battery Type	Sealed(default)/Gel/Flooded/User									
Battery fuse	80A/58V				150A/58V		80A/58V		150A/58V	
Rated charge current	50A	60A	50A	60A	80A	100A	50A	60A	80A	100A
Rated charge Power	625W/12V 1250W/24V	750W/12V 1500W/24V	625W/12V 1250W/24V 1875W/36V 2500W/48V	750W/12V 1500W/24V 2250W/36V 3000W/48V	1000W/12V 2000W/24V 3000W/36V 4000W/48V	1250W/12V 2500W/24V 3750W/36V 5000W/48V	625W/12V 1250W/24V 1875W/36V 2500W/48V	750W/12V 1500W/24V 2250W/36V 3000W/48V	1000W/12V 2000W/24V 3000W/36V 4000W/48V	250W/12V 2500W/24V 3750W/36V 5000W/48V
Max. PV open circuit voltage	100V (At minimum operating environment temperature) 92V (25℃)		150V (At minimum operating environment temperature) 138V (25℃)				200V(At minimum operating environment temperature) 180V (25℃)			
MPP Voltage Range	(Vbat2+V)～72V		(Vbat2+V)～108V①				(Vbat2+V)～144V			
Tracking efficiency	≥%99.5									
Conversion efficiency	≤%98.7									
Temperature compensate coefficient	-3mV/℃/2V(Default)									
Self-consumption	98mA/12V;60mA/24V;50mA/36V;46mA/48V									
Grounding	Common negative									
Relay	Rated Value:5A/30VDC; Max. Value:0.5A/60VDC									
RS485 interface	RS485(RJ45)									
Ambient temp. range	-30℃～+60℃(Derating above 45℃)									
LCD temp. range	-20℃～+70℃									
Relative humidity	≤95%(N.C.)									
Enclosure	IP30									

①At 25℃ environment temperature, the max. PV Voc must never exceed 72V(Tracer**10AN), 138V(Tracer**15AN) or 180V(Tracer**20AN)

A comprehensive table outlining the technical parameters for various Tracer AN series models, including nominal system voltage, battery input voltage range, rated charge current, and maximum PV open circuit voltage.

Specification	Value
Manufacturer	Epsolar
Package Dimensions	19.76 x 12.56 x 8.94 inches
Item Weight	19.69 pounds
ASIN	B07KB6FMCX
Item model number	Tracer10420AN
Color	black
Brand	SolarEpic
Voltage	2E+2 Volts (DC)
Display Type	LED

7. Warranty & Support

The SolarEpic EPEVER Tracer10420AN MPPT Solar Charge Controller comes with a manufacturer's warranty. For

warranty claims, technical support, or any product-related inquiries, please contact SolarEpic customer service. Keep your purchase receipt as proof of purchase.

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