# TEP Series

## Solar Charge Controller




## Overview

The TEP series is a new generation of high-current MPPT solar charge controller. It features superior MPPT tracking accuracy and high conversion efficiency to ensure maximum utilization of solar energy. The controller offers robust system flexibility with support for parallel connection, no battery mode, and three-stage charging management. Its low-power consumption design prolongs standby performance. Comprehensive electronic protection and flexible communication options (WiFi, Bluetooth, 4G, etc.) further enhance system reliability and monitoring capabilities. It is widely used in RVs, boats, industrial monitoring, and small to medium-scale solar power systems.

## Features

- Compatible with 12V/24V/48V systems; Charging current: 60A-100A
- Supports two PV inputs [1] : Max. MPPT tracking efficiency: 99.5%; Max. Conversion efficiency: 98.5%
- Compatible with AGM, Gel, Flooded, LiFePO4 batteries, etc.
- No battery mode: Enables direct load supply with sufficient PV energy
- Built-in CAN parallel communication port; Max. 6-unit parallel operation (with/without battery)
- Built-in independent BMS communication port; Reliable battery charge/discharge management [2]
- Isolated RS485: Optional Bluetooth, WiFi, TCP or 4G modules
- Real-time data recording, event logging, and power statistics function
- Compartment design for superior dust resistance
- Compact and lightweight for versatile installation

(1)TEP10415 and TEP10425 support two PV inputs
(2)Direct communication with EPEVER batteries; BMS-LINK module required for other brands

## Technical Specifications

| Model | TEP6415 | TEP7415 | TEP8415 | TEP10415 | TEP6425 | TEP7425 | TEP8425 | TEP10425 |
|---|---|---|---|---|---|---|---|---|
| PV Input（DC） | | | | | | | | |
| Max. Open-circuit Voltage | 150V(@ lowest temperature),135V(@ 25℃) | | | | 250V(@ lowest temperature),225V(@ 25℃) | | | |
| MPPT Voltage Rang | (Battery voltage plus 2V, and > 20V) to 108V (@ 25 °C) | | | | (Battery voltage plus 2V, and > 20V) to 180V (@ 25 °C) | | | |
| Battery | | | | | | | | |
| Battery Type | AGM(Default) / GEL / FLD/ User | | | | | | | |
| Lithium Battery Type | LFP / NCM / User | | | | | | | |
| Rated Voltage | 12/24/48VDC or Auto | | | | | | | |
| Rated Charging Current | 60A | 75A | 80A | 100A | 60A | 75A | 80A | 100A |
| Rated Charging Power | 780W/ 1560W/ 3120W | 975W/ 1950W/ 3900W | 1040W/ 2080W/ 4160W | 1300W/ 2600W/ 5200W | 780W/ 1560W/ 3120W | 975W/ 1950W/ 3900W | 1040W/ 2080W/ 4160W | 1300W/ 2600W/ 5200W |
| Temperature Compensate Coefficient | - 3mV/°C/2V（Default） | | | | | | | |
| Controller | | | | | | | | |
| Output Voltage Range | 8V ~ 62V | | | | | | | |
| Static Loss (Enabled Communication) | 98mA/12V，60mA/24V，46mA/48V | | | | | | | |
| Static Loss (Disabled Communication) | 48mA/12V，25mA/24V，14mA/48V | | | | | | | |
| Grounding | Common negative grounding | | | | | | | |
| Communication Method | 5VDC/200mA（RJ45） | | | | | | | |
| Efficiency | | | | | | | | |
| Tracking Efficiency | ≥99.5% | | | | | | | |
| Max. Conversion Efficiency | 98.3% | 98.2% | 98.3% | 98.4% | 98.5% | 98.4% | 98.3% | 98.4% |
| Environmental Parameters | | | | | | | | |
| Operating Temperature | -25°C ~ +60°C | | | | | | | |
| Storage Temperature | -30°C ~ +70°C | | | | | | | |
| Relative Humidity | 5% ~ 95%(N.C.) | | | | | | | |
| Altitude | < 5000m ( > 2,000m Derating) | | | | | | | |
| Ingress Protection | IP20 | | | | | | | |
| Mechanical Parameters | | | | | | | | |
| Dimensions (L x W x H)(mm) | 200 x 357 x 90 | | | 231 x 298 x 119 | 200 x 357 x 90 | | | 231 x 298 x 119 |
| Mounting Dimensions (L x W)(mm) | Φ8 | | | | | | | |
| Weight (kg) | 4.47 | 4.58 | 4.51 | 5.2 | 4.47 | 4.58 | 4.51 | 5.3 |
| Recommended Cable Size | 6AWG/16mm$^2$ | | | | 2AWG/35mm$^2$ | | | |
| Others | | | | | | | | |
| Certifications | EN/IEC61000-6-2; EN/IEC61000-6-4; EN/IEC62109-1; IEC62321 | | | | | | | |