

Thunder MPPT Solar Charge Controller



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EverExceed's Thunder MPPT solar charge controller is an advanced maximum power point tracking (MPPT) battery charger for off-grid photovoltaic (PV) systems .

The controller provides the industry's highest peak efficiency and significantly less power loss compared to other MPPT controllers along with unique safety features make it universal top-grade charge controller.

The Thunder MPPT features a smart tracking algorithm that maximizes the energy produce from the PV by rapidly finding the solar array peak power point with extremely fast sweeping of the entire I-V curve.

Product feature:

- Thunder series MPPT controller that is truly suitable for lithium batteries adopts a unique circuit design and has a lithium battery activation function to ensure perfect matching with lithium batteries.
- Advanced High-efficient MPPT algorithm, MPPT efficiency $\geq 99.5\%$, Max. charge efficiency up to 97%, 30% more than PWM controller ;
- Fanless design for long-term reliability and long service life.
- Excellent performance at sunrise and low solar isolation levels.
- Automatic battery voltage recognition (compatible with 12V/24V/36V/48V).
- Due to build in oversize heat sink to dissipation, Thunder controller can continuous operation at full power to 45°C without reducing power .
- RS485 communication port for software.

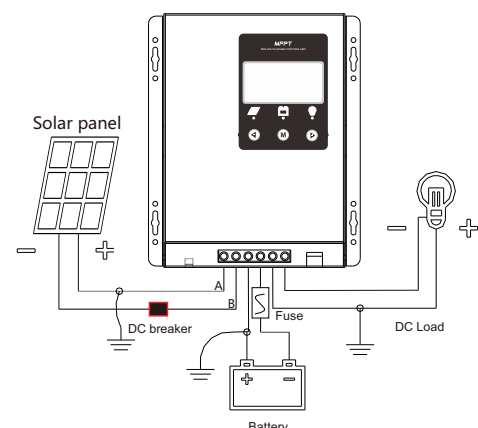


Electronic protection function:

- Battery low voltage protection.
- Battery over voltage protection.
- Load over current protection.
- Over temperature protection.
- Short circuit protection.
- Anti-surge protection.
- Reverse protection

Application

- Oil and Gas
- Residential
- Rural Electrification
- RV, Caravans and Boating
- Security and Surveillance
- Telecommunications



Technical specification

Model	TD40	TD50	TD60
Controller Type	MPPT (Maximum Power Point Tracking)		
Peak MPPT Efficiency	≥99.5%		
Max. Charge Efficiency	≥97.0%		
No Load Consumption	≤35mA		
Battery Voltage	12V/ 24V/36V/48V Auto		
Heat Dissipating Method	Fan cooling and aluminum heat sink		
Input characteristics			
Maximum PV Input Voltage (Voc)	DC 150V		
PV Start Charging Voltage Point	Battery voltage+5V		
PV Low Voltage Protection Point	Battery voltage+2V		
Maximum PV Input Power(12V)	520W	650W	780W
Maximum PV Input Power(24V)	1040W	1300W	1560W
Maximum PV Input Power(36V)	1560W	1950W	2340W
Maximum PV Input Power(48V)	2080W	2600W	3120W
Charge characteristics			
Battery Types	Lithium battery, Gel battery, AGM battery, Flooded battery, User- defined		
Rated Charge Current	40A	50A	60A
Charge Method	4 stages: Bulk charge, Boost charge, Float charge, Equalization charge		
Load characteristics			
Rated DC Output Voltage	Same as battery voltage		
Rated DC Output Current	20A	30A	30A
Low Voltage Disconnect Protection	The default protection point is 10.8V (Adjustable)		
Display and communication			
Display	LCD display		
Communication	RS485/RJ45		
Other Parameters			
Protections	Battery low voltage, Battery over voltage, Load over current, Short circuit, Reverse current at night, Reverse protection, Over temperature, Lightning and Transient Surges.		
Operating Ambient Temperature	-20°C to 55°C -4°F to 140°F		
Storage Temperature	-30°C to 80°C -22°F to 176°F		
Humidity	≤95%, No condensation		
Ingress Protection	IP30		
Net Weight	2.8kg	5.5kg	
Product Size	220*200*83mm	265*220*88mm	



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