

## Tracer series

# MPPT Solar charge controller

### Introduction:

EPSOLAR Tracer series controller adopts MPPT technology (Maximum Power Point Tracking). The advanced tracking algorithm make the solar module operate at ideal voltage which the solar modules can produce the maximum available power. Compared to conventional PWM controller, MPPT technology increase charge efficiency up to 30% and decrease the power of solar array needed.

Tracer has the ability to step-down the higher voltage solar array to recharge a lower voltage battery bank. Max. 150VDC input. So it allows on grid solar modules or thin film modules to charge the off-grid battery. And the cable size can be reduced because of the small current from the solar array.

### Key features:

- ✧ MPPT technology
- ✧ Peak conversion efficiency of 97 %
- ✧ High Tracking efficiency of 99%
- ✧ Several seconds tracking speed
- ✧ Very fast Sweeping of the entire I-V curve
- ✧ 4- Stage charge with PWM output
- ✧ Excellent thermal design and nature air cooling
- ✧ Full power output in ambient temperatures up to 45°C
- ✧ Temperature compensation function
- ✧ Sealed, Gel, Flooded battery type optional
- ✧ Diversified load control: Manual, Dusk to Dawn, Dual timer, TEST
- ✧ RJ45 interface with optional remote meter
- ✧ Standard 2 years warranty
- ✧ CE certificate

## Electronic protections

- ◇ PV Array Short Circuit
- ◇ PV Reverse Polarity
- ◇ PV Overvoltage/Overcurrent
- ◇ Battery Reverse Polarity
- ◇ Load Overload
- ◇ High Voltage Transients
- ◇ Load short circuit



## Technical specification:

### • Mechanical Parameters

Model	Tracer-1206RN Tracer-1210RN Tracer-1215RN	Tracer-2210RN Tracer-2215RN	Tracer-4210RN Tracer-4215RN
Dimension	156 x 97 x 68 mm	169 x 118 x 83 mm	242 x 169x 91 mm
Mounting holes	147 x 60 mm	160 x 80 mm	180 x 160 mm
Mounting hole size	Φ5	Φ5	Φ5
Terminal	4mm <sup>2</sup>	10mm <sup>2</sup>	25mm <sup>2</sup>
Weight	0.55kg	0.95kg	2.05kg

### Electrical Parameters

Model	Tracer-1206RN Tracer-1210RN Tracer-1215RN	Tracer-2210RN Tracer-2215RN	Tracer-4210RN Tracer-4215RN
System voltage	12VDC/ 24VDC auto work		
Max. battery current	10A	20A	40A
<b>Rated Load Current</b>	10A	20A	20A
Battery voltage range	32V		
Max. solar input voltage	60VDC (Tracer-1206RN)	—	—
	100VDC (Tracer-1210RN)	100VDC (Tracer-2210RN)	100VDC (Tracer-4210RN)
	150VDC (Tracer-1215RN)	150VDC (Tracer-2215RN)	150VDC (Tracer-4215RN)
Max. PV input powe	12V system 130W 24V system 260W	12V system 260W 24V system 520W	12V system 520W 24V system 1040W

Self-consumption*	<10mA(24V)
Charge Circuit Voltage Drop	≤0.26V
Discharge Circuit Voltage Drop	≤0.15V
Communication	TTL232 / 8pin RJ45

\* Charging & discharging circuit close, LED indicator & tube OFF, remote meter disconnected.

#### Battery charging

Battery charging setting	Parameter setting
Charging mode	Four stages
Temp. compensation	-5mV/°C/2V (25°C)

#### Battery voltage setting (25°C)

Charging Parameter			
Battery charging setting	Gel	Sealed	Flooded
High Volt Disconnect	16V; x2/24V	16V; x2/24V	16V; x2/24V
Charging limits voltage	15.5V; x2/24V	15.5V; x2/24V	15.5V; x2/24V
Equalization voltage	—	14.6V; x2/24V	14.8V; x2/24V
Boost voltage	14.2V; x2/24V	14.4V; x2/24V	14.6V; x2/24V
Float voltage	13.8V; x2/24V	13.8V; x2/24V	13.8V; x2/24V
Boost return voltage	13.2V; x2/24V	13.2V; x2/24V	13.2V; x2/24V
Low voltage reconnect	12.6V; x2/24V	12.6V; x2/24V	12.6V; x2/24V
Under voltage recover	12.2V; x2/24V	12.2V; x2/24V	12.2V; x2/24V
Under voltage warning	12V; x2/24V	12V; x2/24V	12V; x2/24V
Low voltage disconnect	11.1V; x2/24V	11.1V; x2/24V	11.1V; x2/24V
Boost duration	2hours	2hours	2hours
Equalize duration	—	2hours	2hours

## Environmental Specification

Environment	Parameter
Working temp.	-35°C ~+55°C
Storage temp.	-35°C ~+80°C
Humidity	10%-90%(NC)
protection	IP30 (indoor)

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