

# MPPT Solar charge controller

## Tracer-BN series



Tracer-BN Series is a flagship member among all tracer MPPT controllers. We design with very long lifespan industrial materials and die-cast aluminum housing cooling system, to improve the controller's performance and life. To meet different projects and applications, we built-in RS485 bus interface, with Modbus communication protocol, easy for communication extension with other devices. The optional programmable ability make the controllers work with different batteries, control your DC load remotely on/off by manual, timer, light and etc. Especially, the current limiting function gives you more flexibility for solar PV array.



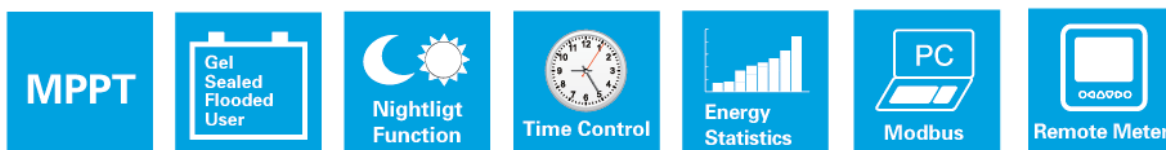
### Models:

Tracer1215BN, 10A, 12/24V auto work  
Tracer2215BN, 20A, 12/24V auto work  
Tracer3215BN, 30A, 12/24V auto work  
Tracer4215BN, 40A, 12/24V auto work

### Features:

- Advanced Maximum Power Point Tracking (MPPT) technology
- High tracking efficiency  $\geq 99.5\%$
- Peak conversion efficiency of 98%
- Ultra-fast tracking speed
- Accurately tracking and recognizing MPP among multiple wave crest
- Reliable automatic PV current limiting function
- Wide MPP operating voltage range
- Die-cast aluminum design, ensuring excellent heat dissipation

- Multiple load working modes: Manual Control, Light ON/OFF, Light On+Timer and Time Control
- Battery type selection: Sealed, Gel, Flooded and User(programmable)
- Battery temperature compensation
- Real-time energy statistics
- RS485 port with industrial standard MODBUS open architecture
- Real-time data monitoring and parameters setting with MT50, APP or PC software
- Support firmware upgrade







### Electronic protections:

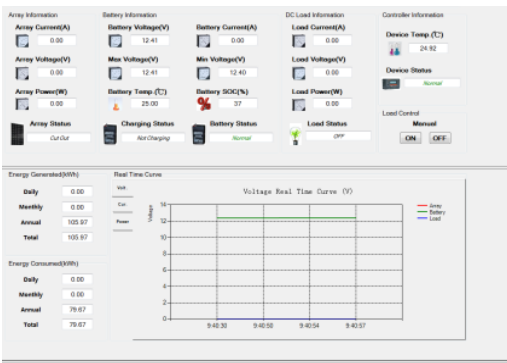
- PV over current protection
- PV reverse polarity protection
- Battery over discharge protection
- Battery overheating protection
- Load short circuit protection
- PV short circuit protection
- Battery over voltage protection
- Battery reverse polarity protection
- Load overload protection
- Controller overheating protection



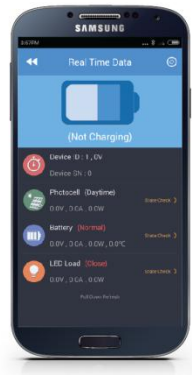
## Optional accessories:

			
<p>MT50 Remote meter with 2m communication cable</p>	<p>RTS300R47K3.81A Remote temperature sensor (3m)</p>	<p>CC-USB-RS485-150U PC communication cable (1.5m)</p>	<p>OTG-12CM OTG cable(12cm)</p>

## PC software:



## Mobile APP:



\* Free download from website for PC software and APP.



## Technical specifications:

RoHS CE   IEC62109

Model	Tracer1215BN	Tracer2215BN	Tracer3215BN	Tracer4215BN
Nominal system voltage	12/24VDC auto work			
Rated charge current	10A	20A	30A	40A
Rated discharge current	10A	20A	20A	20A
Max. PV open circuit voltage	150V at minimum operating environment temperature 138V at 25°C environment temperature			
MPP Voltage range	Battery voltage+2V~108V			
Rated PV input power	130W (12V)	260W (12V)	390W (12V)	520W (12V)
	260W (24V)	520W (24V)	780W (24V)	1040W (24V)
Equalize charging voltage*	Sealed: 14.6V, Flooded: 14.8V, User: 9~17V			
Boost charging voltage*	Gel: 14.2V, Sealed: 14.4V, Flooded: 14.6V, User: 9~17V			
Float charging voltage*	Gel /Sealed /Flooded: 13.8V, User: 9~17V			
Low voltage reconnect voltage*	Gel /Sealed /Flooded: 12.6V, User: 9~17V			
Low voltage disconnect voltage*	Gel /Sealed /Flooded: 11.1V, User: 9~17V			
Self-consumption	≤60mA(12V) ≤30mA(24V)			
Temp. compensation coefficient	-3mV/°C/2V			
Grounding	Common negative			
Communication port	RS485 / RJ45 interface			

- Technical data for 12V system at 25°C, twice in 24V system
- Programmable voltage value by PC, MT50 and APP

Mechanical	Tracer1215BN	Tracer2215BN	Tracer3215BN	Tracer4215BN
Overall dimension	196x118x36mm	217x143x56mm	281x160x60mm	303x183x64mm
Terminal	12AWG(4mm <sup>2</sup> )	8AWG(10mm <sup>2</sup> )	6AWG(16mm <sup>2</sup> )	6AWG(25mm <sup>2</sup> )
Net weight	0.9kg	1.5kg	2.3kg	2.9kg
Enclosure	IP30			

Environmental	
Working environment temperature	-35°C ~ +55°C
Relative humidity	≤95% (N.C.)

### Conversion efficiency curves:

*Illumination Intensity: 1000W/m<sup>2</sup>    Temperature: 25 °C*  
*Test model: Tracer3215BN*

