

Overview

Tracer AN series. Based on common negative design and advanced MPPT control algorithm, with LCD displaying running status, this product is artistic, economical and practical. Improving the MPPT control algorithm further, Tracer AN series can minimize the maximum power point loss rate and loss time, quickly track the maximum power point of the PV array and obtain the maximum energy from solar modules under any conditions; and can increase the ratio of energy utilization in the solar system by 10%-30% compared with a PWM charging method. The limitation function of the charging power and current and reducing charging power function automatic improve the stability which works even connecting oversize PV modules and in high temperature, and increase the professional protection chip for the communication port, further improving the reliability and meeting the different application requirements.

With the adaptive three-stage charging mode based on a digital control circuit, Tracer AN series controllers can effectively prolong the life-cycle of batteries, significantly improve the system performance and support all-around electronic protection functions, including overcharging and over discharging protection to minimize damages to components of the system caused by incorrect installation or system failure at the utmost, and effectively ensure safer and more reliable operation of the solar power supply system for a longer service time. This modular solar controller can be widely used for different applications, e.g., Communication base stations, household systems, and field monitoring, etc.

Features

- Advanced MPPT technology, with efficiency no less than 99.5%
- Ultra-fast tracking speed and guaranteed tracking efficiency
- Advanced MPPT control algorithm to minimize the maximum power point loss rate and loss time
- Wide MPP operating voltage range
- High quality components, perfecting system performance, with maximum conversion efficiency of 98%
- Accurate recognition and tracking of multiple-peaks maximum power point
- International famous brands of ST and IR's components of high quality and low failure rate are used, which can ensure the product's service life
- Charging power and current limitation function
- Compatible with lead-acid and lithium-ion batteries
- Battery temperature compensation function
- Real-time energy statistics function
- Overheating power reduction function
- Multiple load work modes
- The communication port adopts professional protection chip, which can provide 5VDC power supply, and has over-current and short-circuit protection
- With RS-485 communication bus interface and Modbus communication protocol, it is available to meet various communication requirements in different situations
- Monitor and set the parameters via mobile phone APP or PC software
- Full-load operation without any drop in capacity within the range of working environment temperature
- Extensive electronic protection



Technical specifications

| Model | Tracer 1206AN | Tracer 2206AN | Tracer 1210AN | Tracer 2210AN | Tracer 3210AN | Tracer 4210AN |
|---|------------------------------------|----------------------|----------------------|-------------------------------------|----------------------|-----------------------|
| System nominal voltage | 12/24VDC ^① Auto | | | | | |
| Rated charge current | 10A | 20A | 10A | 20A | 30A | 40A |
| Rated discharge current | 10A | 20A | 10A | 20A | 30A | 40A |
| Battery voltage range | 8~32V | | | | | |
| Max. PV open circuit voltage | 60V ^② /46V ^③ | | | 100V ^② /92V ^③ | | |
| MPP voltage range | (Battery voltage +2V) ~ 36V | | | (Battery voltage +2V) ~ 72V | | |
| Max. PV input power | 130W/12V 260W/24V | 260W/12V 520W/24V | 130W/12V 260W/24V | 260W/12V 520W/24V | 390W/12V 780W/24V | 520W/12V 1040W/24V |
| Self-consumption | ≤12mA | | | | | |
| Discharge circuit voltage drop | ≤0.23V | | | | | |
| Temperature compensate coefficient ^④ | -3mV/°C/2V (Default) | | | | | |
| Grounding | Common negative | | | | | |
| RS485 interface | 5VDC/100mA | | | | | |
| LCD backlight time | 60S (Default) | | | | | |

① When a lead-acid battery is used, the controller hasn't the low temperature protection

② At minimum operating environment temperature

③ At 25°C environment temperature

④ When a lithium-ion battery is used, the system voltage can't be identified automatically

Electrical Parameters

| | |
|-----------------------------------|---------------------------------------|
| Working environment temperature ◆ | -25°C ~ +50°C (100% input and output) |
| Storage temperature range | -20°C ~ +70°C |
| Relative humidity | ≤95%, N.C. |
| Enclosure | IP30 |

◆ The controller can full load working in the working environment temperature, When the internal temperature is 81°C, the reducing power charging mode is turned on. Refer to P24

| Model | Tracer1206AN Tracer1210AN | Tracer2206AN Tracer2210AN | Tracer3210AN | Tracer4210AN |
|------------------------------|------------------------------|------------------------------|--------------------------|--------------------------|
| Mechanical Parameters | | | | |
| Dimension | 172x139 x 44mm | 220x154x 52mm | 228x164x55mm | 252x180x63mm |
| Mounting dimension | 130x130mm | 170x145mm | 170x164mm | 210x171mm |
| Mounting hole size | Φ5mm | | | |
| Terminal | 12AWG(4mm ²) | 6AWG(16mm ²) | 6AWG(16mm ²) | 6AWG(16mm ²) |
| Recommended cable | 12AWG(4mm ²) | 10AWG(6mm ²) | 8AWG(10mm ²) | 6AWG(16mm ²) |
| Weight | 0.57kg | 0.94kg | 1.26kg | 1.65kg |