

Overview

Tracer AN series controller, based on multiphase synchronous rectification technology (MSRT) and advanced MPPT control algorithm, with dual-core processor architecture and common negative design, has the features of high response speed, high reliability, and high industrial standard. MSRT can guarantee very high conversion efficiency in any charge power, which sharply improves the energy efficiency of solar system; Advanced MPPT control algorithm minimize the maximum power point loss rate and loss time, to ensure the tracking efficiency, corresponding speed as well as high conversion efficiency under high or low power, so that in any situation, Tracer AN products can rapidly track the maximum power point(MPP) of PV array to obtain the maximum energy of the panel. The limitation function of the charging power and current, and automatic power reduction function fully ensure the stability when works with oversize PV modules and operate under high temperature environment.

With the adaptive three-stage charging mode based on digital control circuit, Tracer AN series controllers can effectively prolong the life-cycle of battery and significantly improve the system performance. The load, utility or generator auto-control relays make it easy to compose the hybrid power system. All-around electronic protections, including overcharging, over discharging, and PV reverse polarity protection, effectively ensure the safer and more reliable operation of the solar system for a longer service time. The isolated RS485 interface with standard MODBUS communication protocol and 5V power supply makes it easy for customer to expand the application, it support up to 8 charging in parallel to expand system and meet with different monitoring requirements, so that can be widely used for various applications, e.g. solar RV, household system and field monitoring etc.

Features

- CE certification(LVD EN/IEC62109,EMC EN61000-6-1/3)
- High quality & low failure rate components of ST and Infineon to ensure the product's life
- Advanced MPPT technology & ultra-fast tracking speed, with tracking efficiency no less than 99.5%
- Maximum DC/DC transfer efficiency is as high as 98.6%★, full load efficiency is up to 98%★
- Advanced MPPT control algorithm will minimize the MPP loss rate and loss time
- The accuracy of the recognition and tracking at the highest point of multiple-peaks MPP
- The wider range of MPP operating voltage
- Auto control system to limit the charging power & current go over the rated value
- Support 4 charging options: Sealed, Gel, Flooded and User
- Battery temperature compensation function
- Real-time energy recording and statistical function
- Automatic over-temperature power reduction function
- Hundred percent full load operation in working environment temperature range within charging & discharging
- Support up to 8 units in parallel to expand system
- Load relay control external load switch signal to realize diversified load work modes
- The first and the second disconnection of load control, contain two relay's contact
- Auto-control of utility and generator relay design
- Utility or generator auto-control relays make it easy to compose the hybrid power system
- The remote temperature and the voltage sensor design will collect accurate data of battery temperature and voltage
- Isolated RS485 with 5VDC/200mA to protect output for no power devices with MODBUS protocol
- To monitor or set the parameters by using the phone Apps or PC software



★Tracer10415AN@48V system



Solar Car



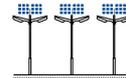
Solar Home



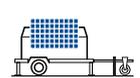
Solar Backpack



Solar Boat



Solar Street Light



Solar Power Generator

Technical specifications

| Model | Tracer5210AN | Tracer6210AN | Tracer5415AN | Tracer6415AN | Tracer8415AN |
|------------------------------------|---|-----------------------|---|---|--|
| Nominal System Voltage | 12/24VDC or Auto | | 12/24/36/48VDC or Auto | | |
| Battery Input Voltage Range | 8V~32V | | 8V~68V | | |
| Battery Type | Sealed(Default)/Gel/Flooded/User | | | | |
| Battery fuse | 80A/58V | | | | 150A/58V |
| Rated charge current | 50A | 60A | 50A | 60A | 80A |
| Rated charge Power | 625W/12V 1250W/24V | 750W/12V 1500W/24V | 625W/12V 1250W/24V 1875W/36V 2500W/48V | 750W/12V 1500W/24V 2250W/36V 3000W/48V | 1000W/12V 2000W/24V 3000W/36V 4000W/48V |
| Max. PV open circuit voltage | 100V ^① 92V ^② | | 150V ^① 138V ^② | | |
| MPP Voltage Range | (Battery Voltage+2V) ~ 72V ^③ | | (Battery Voltage +2V) ~ 108V ^③ | | |
| Tracking efficiency | ≥99.5% | | | | |
| Max. conversion efficiency | 98.0% | 98.0% | 98.3% | 98.6% | 98.5% |
| Full load efficiency | 97.0% | 97.0% | 97.8% | 98.0% | 98.0% |
| Temperature compensate coefficient | -3mV/°C/2V(Default) | | | | |
| Self-consumption | 98mA/12V;60mA/24V;50mA/36V;46mA/48V | | | | |
| Grounding | Common negative grounding | | | | |
| Relay | Rated Value:5A/30VDC; Max. Value:0.5A/60VDC | | | | |
| RS485 interface | RS485(RJ45) | | | | |
| LCD backlight time | Default:60S,Range:0~999S(0S:the backlight is ON all the time) | | | | |

| Model | Tracer10415AN | Tracer5420AN | Tracer6420AN | Tracer8420AN | Tracer10420AN |
|------------------------------------|---|---|---|--|--|
| Nominal System Voltage | 12/24/36/48VDC or Auto | | | | |
| Battery Input Voltage Range | 8V~68V | | | | |
| Battery Type | Sealed(Default)/Gel/Flooded/User | | | | |
| Battery fuse | 150A/58V | 80A/58V | | 150A/58V | |
| Rated charge current | 100A | 50A | 60A | 80A | 100A |
| Rated charge Power | 1250W/12V 2500W/24V 3750W/36V 5000W/48V | 625W/12V 1250W/24V 1875W/36V 2500W/48V | 750W/12V 1500W/24V 2250W/36V 3000W/48V | 1000W/12V 2000W/24V 3000W/36V 4000W/48V | 1250W/12V 2500W/24V 3750W/36V 5000W/48V |
| Max. PV open circuit voltage | 150V ^① 138V ^② | 200V ^① 180V ^② | | | |
| MPP Voltage Range | (Battery Voltage +2V) ~ 108V ^③ | (Battery Voltage+2V) ~ 144V ^③ | | | |
| Tracking efficiency | ≥99.5% | | | | |
| Max. conversion efficiency | 98.6% | 98.3% | 98.1% | 98.5% | 98.5% |
| Full load efficiency | 98.0% | 97.1% | 97.5% | 97.5% | 97.6% |
| Temperature compensate coefficient | -3mV/°C/2V(Default) | | | | |
| Self-consumption | 98mA/12V;60mA/24V;50mA/36V;46mA/48V | | | | |
| Grounding | Common negative grounding | | | | |
| Relay | Rated Value:5A/30VDC; Max. Value:0.5A/60VDC | | | | |
| RS485 interface | RS485(RJ45) | | | | |
| LCD backlight time | Default:60S,Range:0~999S(0S:the backlight is ON all the time) | | | | |

①At minimum operating environment temperature ②At 25°C environment temperature

③The maximum PV open circuit voltage must never exceed 138V or 180V at 25°C environment temperature

| Model | Tracer5210AN Tracer6210AN | Tracer5415AN Tracer5420AN | Tracer6415AN Tracer6420AN | Tracer8415AN Tracer8420AN | Tracer10415AN Tracer10420AN |
|-------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|
|-------|------------------------------|------------------------------|------------------------------|------------------------------|--------------------------------|

Electrical Parameters

| | | | | | |
|---------------------------|-----------------------------------|--|--|--|--|
| Ambient temperature range | -25°C ~ +60°C (Derate above 45°C) | | | | |
| LCD temperature range | -20°C ~ +70°C | | | | |
| Storage temperature range | -30°C ~ +85°C | | | | |
| Relative humidity range | 5% to 95% (N.C.) | | | | |
| Enclosure | IP20 | | | | |
| Pollution degree | PD2 | | | | |

| Model | Tracer5210/5415/5420AN | Tracer6210/6415/6420AN | Tracer8415/8420AN | Tracer10415/10420AN |
|-------|------------------------|------------------------|-------------------|---------------------|
|-------|------------------------|------------------------|-------------------|---------------------|

Mechanical

| | | | | |
|--------------------|------------------------|------------------------|------------------------|------------------------|
| Dimension | 261×216×119mm | 340×236×119mm | 394×240×134mm | 394×242×143mm |
| Mounting dimension | 180×204mm | 260×224mm | 300×228mm | 300×230mm |
| Mounting hole size | Φ7 | | | |
| Terminal | 6AWG/16mm ² | 2AWG/35mm ² | 2AWG/35mm ² | 2AWG/35mm ² |
| Recommended cable | 6AWG/16mm ² | 6AWG/16mm ² | 4AWG/25mm ² | 2AWG/35mm ² |
| Weight | 3.5kg | 4.5kg | 6.1kg | 7.4kg |