DuoRacer Series

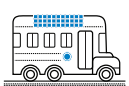
Dual battery MPPT solar controller

Overview

DuoRacer series is perfect for off-grid solar system such as motorhome, RVs, campers, boats, and so on. It charges the main battery (BATT1)for living, and supports trickle charging(max. 1A) to the start battery(BATT2) of vehicles at the same time.

Features

- Maximum Power Point Tracking technology with ultra-fast tracking speed and the tracking efficiency is no less than 99.5%
- Advanced MPPT control algorithm to minimize the MPPlost rate and lost time
- The wider range of the MPP operation voltage to improve the PV module utilization
- Charging power & charging current limit function(BATT1)
- High quality and low failure rate components
- Digital circuit control of adaptive three-stage charging mode
- BATT1 type can be set via LED/LCD
- Product runs into the low self-consumption mode if PV voltage is lower than 5V and there is no manual operation for some time.
- 100% charging and discharging in operating environmental temperature range
- LED and LCD display units optional
- AES control signal for car refrigerator to avoid energy waste
- Standard Modbus protocol and RS485 (5V/200mA) communication port for the customer to expand the application area



Solar Car

Solar Backpack

Solar Boat

Technical Specifications

Model	DR1106N-DDB/DDS	DR2106N-DDB/DDS	DR3106N-DDB/DDS	DR1206N-DDB/DDS	DR2206N-DDB/DDS	DR3206N-DDB/DDS	DR2210N-DDB/DDS	DR3210N-DDB/DDS
BATT1 rated voltage	12VDC	12VDC	12VDC	12/24VDC	12/24VDC	12/24VDC	12/24VDC	12/24VDC
BATT2 rated voltage	12VDC	12VDC	12VDC	12/24VDC/Auto	12/24VDC/Auto	12/24VDC/Auto	12/24VDC/Auto	12/24VDC/Auto
BATT1 rated charge current	10A	20A	30A	10A	20A	30A	20A	30A
BATT2 rated charge current	1A	1A	1A	1A	1A	1A	1A	1A
Battery input voltage range	8.5 ~ 16V	8.5 ~ 16V	8.5 ~ 16V	8.5 ~ 32V	8.5 ~ 32V	8.5 ~ 32V	8.5 ~ 32V	8.5 ~ 32V
Max. PV open circuit voltage	60V（At minimum operating environment temperature） 46V（At 25℃ environment temperature ）						100V（At minimum operating environment temperature） 92V （At 25℃ environment temperature ）	
MPP voltage range	(Battery Voltage+2V) ~ 36V						(Battery Voltage+2V) ~ 72V	
Rated charge power	130W/12V	260W/12V	390W/12V	130W/12V 260W/24V	260W/12V 520W/24V	390W/12V 780W/24V	260W/12V 520W/24V	390W/12V 780W/24V
Max. conversion efficiency	96.30%	96.90%	97.40%	97.40%	97.50%	98%	97.50%	98%
Full load efficiency	95.50%	94.60%	94.20%	97%	96%	96%	96%	96%
Self-consumption	12mA/12V; 6mA/12V (Low-power mode)	12mA/12V; 6mA/12V (Low-power mode)	12mA/12V; 6mA/12V (Low-power mode)	12mA/12V; 8mA/24V 4mA/12V; 3mA/24V (Low-power mode)	12mA/12V; 8mA/24V 4mA/12V; 3mA/24V (Low-power mode)	12mA/12V; 8mA/24V 4mA/12V; 3mA/24V (Low-power mode)	26mA/12V; 15mA/24V 19mA/12V; 10mA/24V (Low-power mode)	26mA/12V; 15mA/24V 19mA/12V; 10mA/24V (Low-power mode)
Temperature compensation	—3mV/℃/2V(default)							
Grounding	Common negative							
BATT2 full voltage	13.8V/12V	13.8V/12V	13.8V/12V	13.8V/12V; 27.6V/24V (default)	13.8V/12V; 27.6V/24V (default)	13.8V/12V; 27.6V/24V (default)	13.8V/12V; 27.6V/24V (default)	13.8V/12V; 27.6V/24V (default)
BATT2 charge return voltage	13V/12V	13V/12V	13V/12V	13V/12V; 26V/24V (default)	13V/12V; 26V/24V (default)	13V/12V; 26V/24V (default)	13V/12V; 26V/24V (default)	13V/12V; 26V/24V (default)
Operating temperature range	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +45℃ (DDS) -30℃ ~ +45℃ (DDB)	-20℃ ~ +50℃ (DDS) -30℃ ~ +50℃ (DDB)	-20℃ ~ +45℃ (DDS) -30℃ ~ +45℃ (DDB)
Enclosure	IP33							
Dimension(LxWxH)(mm)	227.2×143×58	243.7×158×63	247.2×165×68.5	227.2×143×58	243.7×158×63	247.2×165×68.5	243.7×158×63	247.2×165×68.5
Net weight	0.8kg	1.1kg	1.4kg	0.8kg	1.1kg	1.4kg	1.1kg	1.4kg

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