

CCS Maximum Power Point Tracking (MPPT) Series

CCS-M2024 ----CCS-3024----CCS-4024

Solar Charge and Discharge Controller Datasheet



Model	CCS-M2024	CCS-M3024	CCS-M4024
Battery voltage	12V/ 24V		
Max. solar panel voltage	100V (25°C), 90V (-25°C)		
Charging current	20A	30A	40A
Discharging current	20A		

Electric Parameters

Parameter	Value		
Model	CCS-M2024	CCS-M3024	CCS-M4024
System voltage	12V/24V Auto		
No-load loss	0.7 W to 1.2W		
Battery voltage	9 to 35		
Max. solar input voltage	100V (25°C), 90V (-25°C)		
Max. power point voltage range	Battery voltage +2V to 75V		
Rated charging current	20A	30A	40A
Rated load current	20A		
Max. capacitive load capacity	10000uF		
Max. photovoltaic system input power	260W/ 12V 520W/ 24V	400W/ 12V 800W/ 24V	550W/ 12V 1100W/ 24V
Conversion efficiency	≤ 98%		
MPPT tracking efficiency	> 99%		
Temperature compensation factor	-3.0mv/ °C/ 2V (default)		
Operating temperature	-35°C to +45°C		
Protection degree	IP32		
Weight	1.4kg	2kg	2kg
Communication method	RS232		
Altitude	≤ 3000m		
Product dimensions	210*151*59.5mm	238*173*72.5	238*173*72.5

Battery Type Default Parameters (parameters set in monitor software)

Parameters cross-reference table for different types of batteries				
Voltage to set Battery type	Sealed lead-acid battery	Gel lead-acid battery	Open lead-acid battery	User (self-customized)
Over-voltage cut-off voltage	16.0V	16.0V	16.0V	9 to 17V
Equalizing voltage	14.6V	—	14.8V	9 to 17V
Boost voltage	14.4V	14.2V	14.6V	9 to 17V
Floating charging voltage	13.8V	13.8V	13.8V	9 to 17V
Boost return voltage	13.2V	13.2V	13.2V	9 to 17V
Low-voltage cut-off return voltage	12.6V	12.6V	12.6V	9 to 17V
Under-voltage warning return voltage	12.2V	12.2V	12.2V	9 to 17V
Under-voltage warning voltage	12.0V	12.0V	12.0V	9 to 17V
Low-voltage cut-off voltage	11.1V	11.1V	11.1V	9 to 17V
Discharging limit voltage	10.6V	10.6V	10.6V	9 to 17V
Over-discharge time delay	5s	5s	5s	1 to 30s
Equalizing charging duration	120 minutes	—	120 minutes	0 to 600 minutes
Equalizing charging interval	30 days	0 days	30 days	0 to 250D (0 means the equalizing charging function is disabled)
Boost charging duration	120 minutes	120 minutes	120 minutes	10 to 600 minutes

When selecting User, the battery type is to be self-customized, and in this case, the default system voltage parameters are consistent with those of the sealed lead-acid battery. When modifying battery charging and discharging parameters, the following rule must be followed:

- Over-voltage cut-off voltage > Charging limit voltage \geq Equalizing voltage \geq Boost voltage \geq Floating charging voltage > Boost return voltage;
- Over-voltage cut-off voltage > Over-voltage cut-off return voltage;
- Low-voltage cut-off return voltage > Low-voltage cut-off voltage \geq Discharging limit voltage;
- Under-voltage warning return voltage > Under-voltage warning voltage \geq Discharging limit voltage;
- Boost return voltage > Low-voltage cut-off return voltage