JOULE ENERGY SOLUTIONS
Energy. Efficient.

MPPT SOLAR CHARGE CONTROLLER

CHA003 | CHA004 | CHA007 | CHA008 | CHA013

SOLAR MATE

SP150-60	SP150-60 150V/60A
SP150-80	SP150-80 150V/80A
SP150-120	SP150-120 150V/120A
SP250-70	SP250-70 250V/70A
SP250-100	SP250-100 250V/100A

OVERVIEW

Solar Mate is a solar charge controller with built-in Maximum Power Point Tracking (MPPT) technology, which enables it to increase its PV output by as much as 30% compared with non-MPPT designs.

Solar Mate can optimise the PV's output and eliminate the fluctuation due to shading or temperatures variables. It is a multi-voltage MPPT with built-in sophisticated battery charging algorithm for both lead acid battery or lithium-ion battery, suitable for various system designs. Meantime, it supports data management of 365-day history records, which can tell users the system's actual performance.

FEATURES & BENEFITS

- High dynamic MPPT efficiency more than 99.9%
- High efficiency up to 98%, and European weighted efficiency up to 97.3%
- Up to 7056W of charging power at 40°C
- Excellent performance at sunrise and low solar insulation levels
- Wide MPPT operating voltage range
- Parallel function, up to 6 units can be operated in parallel
- Built-in TBB premium II battery charging algorithm for lead acid battery
- Support 365days Data logging
- Communication: Auxiliary contact, RS485 support\T-bus

TBB POWER

SOLAR MATE		SP150-60	SP150-80	SP150-120	SP250-70	SP250-100
Product Code		CHA003	CHA004	CHA007	CHA008	CHA013
ELECTRICAL						
Nominal battery voltage (VDC)		24 or 48				
Maximum charging current (A)		60	80	120	70	100
Maximum charging power (W)	12VDC	N/A				
	24VDC	1764	2352	3528	2058	2940
	48VDC	3528	4704	7056	4116	5880
Maximum PV input power (W)	12VDC	N/A				
	24VDC	2250	3000	4500	2700	N/A
	48VDC	4500	6000	9000	5400	7500
PV open circuit voltage (Voe) (VDC)		150			250	
MPPT voltage range (VDC)		65~145			65~245	
Max. PV short circuit current (A)		40	80			
Max efficiency		98%@48VDC system				
Max MPPT efficiency		>99.9%				
Self-consumption (mA)		37mA@ 48VDC system				
Charge voltage 'absorption' (VDC)		Default setting: 28.8/57.6				
Charge voltage 'float' (VDC)		Default setting: 27/54				
Charging algorithm		TBB II multiple stages				
Temperature compensation		Default setting: -3mV/°C/cell				
Equalisation charging		Programmable				
OTHER						
Display		LED +LCD				
Communication port		RS485				
Dry contact		30VDC/2A				
Remote on/ off		Yes (2 pole connector)				
Data logging		365 days of history record, daily, monthly and total production; Real time figure including solar array voltage, battery voltage, charging current, charging power; Record the daily PV start charging time, absorb to floating transfer time, PV power loss time and etc; Real time fault time and information.				
Storage temperature		-40°C~70°C				
Operating temperature		-25°C~60°C (power derated above 40°C)				
Humidity Altitude		5%~95°/o, non-condensing				
Altitude		3000m (full rated output up to 2000m)				
Max wire sizes (mm')		35				
Protection category		IP21				
Dimension (L*W*H) – mm		325.2*293*116.2				352.2*293*116.2
Weight (kg)		6.8	7.0	7.2	7.0	7.8
Cooling		Natural cooling				Forced fan
Standard		EN61000-6-1,EN61000-6-3, EN62109-1				
Warranty						
4 years + 1 Year*						

*Add 1 year to your warranty when you link your product to the NOVA App