



# SOLAR MATE

## MPPT SOLAR CHARGE CONTROLLER

SP600-120

600V 120A

### OVERVIEW

The SP600-120 is TBB's latest solar charge controller with up to 600VDC PV open circuit voltage and 120A charge current, used for charging 48VDC battery banks. It is an ideal solution for larger on-grid and off-grid solar systems which require higher battery charging power.

Featuring high open-circuit voltage and a wide 80-525V MPPT tracking, it can save your configuration and installation cost of the combiner box, thus greatly minimizes the system cost. With two independent tracking trackers, you can optimize your solar panel installation for maximum use of solar energy.

### KEY FEATURES

- High open-circuit voltage, 80~525V wide-range MPPT tracking
- Two independent MPPT trackers to optimize the PV panel installation and maximize the use of solar energy
- Features high-voltage isolation, to realizes electrical isolation at reinforced insulation level between the PV side and the battery, improving electrical safety
- Built-in PV array insulation resistance detection (earth fault detection)
- Support parallel connection up to 15 units
- Intelligent communication monitoring interface: 1XRS485, 1XCAN
- High power density and compact design, saving installation space
- Intelligent fan control to minimize noise
- When working with TBB inverters, SP600-120 can be remotely monitored and controlled via TBB NOVA APP & Web

## CHARGE CONTROLLER

SOLAR MATE	SP600-120
<b>CHARGER</b>	
Battery voltage	48V
Maximum charge current (A)	120
Maximum charge Power	7000W @ 57.6V total 5000W @ 57.6V per tracker
Charge voltage 'absorption' (V)	Default: 57.6
Charge voltage 'float' (V)	Default: 54.0
Charger voltage range (V)	40-60
Battery types	AGM / GEL / OPzV / Lead-Carbon / Lithium
Battery temperature sensor	Included
Maximum efficiency	97.0%
Self consumption	80mA @ 48V
<b>SOLAR</b>	
Maximum PV open circuit voltage (V)	600
Start-up voltage (V)	120
PV operating voltage range (V)	120-525
MPPT voltage range (V)	80-525
Number of MPPT trackers	2
Maximum PV input current per tracker (A)	18 + 18
Maximum PV short circuit current per tracker (A)	20 + 20
Maximum PV power per tracker (W)	8000 + 8000
MPPT efficiency	>99.9%
PV array insulation resistance detection (Earth fault detection)	Integrated
<b>GENERAL DATA</b>	
Surge Protection	Yes
Protection	a) battery voltage too high. b) battery voltage too low. c) temperature too high. d) PV reverse polarity
Dry In port	1x
Programmable relay	1x ( 28Vdc/4A or 250Vac/2A )
General purpose com. Port	RS485
Operating temperature range	-20°C to 65°C
Relative humidity in operation	95% without condensation
Altitude (m)	3000
<b>MECHANICAL DATA</b>	
Dimension (mm) (max)	510*280*108
Net Weight (kg)	7.8
Cooling	Forced fan
Protection index	IP21
<b>STANDARDS</b>	
Safety	EN-IEC 62109-1,EN-IEC 62109-2
EMC	EN61000-6-1, EN61000-6-2, EN61000-6-3