



## MPPT Solar Charge Controller

# Solar Mate

**SP600-120: 600V 120A**

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.

- 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



Model No.

SP600-120

## Charger

|                                 |   |
|---------------------------------|---|
| 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                                    |

## Solar

|  |             |
|--|-------------|
| 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  |

## General data

|                                |  |
|--------------------------------|--|
| 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   |

## Mechanical Data

|                      |             |
|----------------------|-------------|
| Dimension (mm) (max) | 510*280*108 |
| Net Weight (kg)      | 7.8         |
| Cooling              | Forced fan  |
| Protection index     | IP21        |

## Standards

|        |                                       |
|--------|---------------------------------------|
| Safety | EN-IEC 62109-1,EN-IEC 62109-2         |
| EMC    | EN61000-6-1, EN61000-6-2, EN61000-6-3 |