

MPPT solar charge controllers



- MPPT (Max Power Point Tracking) charging algorithm
- Automatic system voltage recognition 12/24V
- Wide solar input voltage range from 5...25V (MPPT3) or 5...70V (MPPT10-20-30)
- Secondary battery charging options (only for MPPT3)
- Battery deep-discharge protection, over-charge protection, over-voltage protection
- Desulphating mode (battery conditioning)
- Temperature dependent charge parameter correction
- Over-temperature protection, over-current protection, fully electronic reverse-polarity protection
- DC load output with automatic/manual load-disconnection
- Option: Logging possibility on SD memory card
- Option: Remote control with display

What is MPPT?

The Maximum Power Point Tracking is a charging algorithm which enables a microprocessor-based solar regulator to take the maximum energy out of a solar panel and put it into the battery with very little loss. Most modern MPPT's are around 92-97% efficient in the conversion. You typically get a 20 to 45% power gain in winter and 10-15% in summer.

Desulphating mode

90% of the battery faults are owed to the lead-sulphate layer on the battery plates set over the years preventing proper electron transfer between the plates and the electrolyte. The MPPT solar regulator uses a well-known charging technique which is called "impulse-charging". The desulphating impulses (100 μ s – 60V spikes) come in every 3 second period only when the DC load is inactive. Thanks to this charging method the existing lead-sulphate layer will be removed from the battery plates of your valuable solar batteries, the charging impulses also prevent new sulphate formation in the future. In addition to a guaranty of maximum capacity, this also means extremely long durability and lifetime of your batteries, ensures the protection of the environment and your wallet.

Standby-operation

In order to be more efficient and energy-saving, the MPPT solar regulator goes into sleep mode if the solar module does not provide at least that much energy which is required for the operation of the solar charger itself. This means that in cloudy weather or at night, when the operation of the solar regulator would be supplied only from the battery, there will be no unnecessary power consumption.

Specifications

Model	MPPT3	MPPT10 / 20 / 30
Battery voltage	12 / 24 V (automatic)	12 / 24 V (automatic)
PV module voltage range	5 ... 25V	5 ... 70V
Max. module current (Usolar > Ubatt):	3 A	10 / 20 / 30 A
Max. module current (Usolar < Ubatt):	3A	3A
Max. load	3 A	10 / 20 / 30 A
Typ. consumption in active status	60-70 mA	100-110 mA
Typ. consumption in standby status	< 1 mA	< 1 mA
Optional remote control panel with LCD	YES	YES
Optional logging possibility on SD memory card	YES	YES
Secondary battery charging	YES	NO
External temperature probe	YES	YES
Dimensions (L x W x H)	125 x 80 x 42 mm	190 x 112 x 59 mm
Weight approx.	330 g	780 / 870 / 890 g

Subject to alteration without notice