MPPTPOWER+ Solar Charge Controller 12-48 V 40A



Réf : **MPPT20040PL**

Ultra-efficient solar charge controller that optimises battery charging in all conditions thanks to MPPT technology, with advanced communication, intelligent protection and multi-battery compatibility.

CRISTEC

Classic delivery

Public price TTC

N.C.

CARACTERISTICS

MPPTPOWER+ SOLAR CHARGE CONTROLLER 12-48 V 40A

Réf. **MPPT20040PL**

Dangerous material : non

Weight :

Catalog page : 256

- Nominal current : 40A
- Length : 198
- Temperature range : -30 to +60°C
- Weight : 1,5 kg
- Depth : 77 mm
- Height : 150 mm

SPECIFICATION

MPPT Technology

The MPPTPOWER+ range optimizes and converts the energy supplied by photovoltaic (PV) panels to charge 12, 24, 36, or 48 VDC batteries. Thanks to MPPT (Maximum Power Point Tracking) technology, energy collection is improved by more than 30% compared to traditional, now outdated, PWM-type charge controllers. Even in shaded conditions, the algorithm continuously adjusts the solar panels' energy output.

Exceptional Efficiency

MPPTPOWER+ controllers are fanless, ensuring silent operation. They offer efficiency levels exceeding 98%.

Thermal Performance up to 60°C

They maintain full performance without power derating up to an ambient temperature of 60°C, enabling optimal operation even in harsh environments (e.g., an engine room at 50°C).

Advanced Communication

Thanks to Bluetooth and CAN BUS connectivity, the following data can be accessed in real time or from history, via mobile devices or the C-Box: Charging voltage and current; Battery temperature; PV panel voltage and current. They are also compatible with the VE.Direct protocol. Bluetooth allows configuration, monitoring, updating, and data logging of the charger.

Sophisticated Electronic Protection

Overheating protection with automatic power reduction at high temperatures. Reverse PV input polarity protection. Short-circuit protection on the battery output.

Regeneration Mode

This feature enables restarting a charging cycle even if the battery (especially lithium types) is completely discharged. Charging starts automatically at a low current and gradually increases as the battery recharges.

Charging Start Conditions

With Buck technology, the voltage delivered by the PV panels must exceed Vbat + 5V for battery charging to begin.

Example: to charge a 12V battery, the PV panels must supply 17VDC or more.

This constraint is removed with Boost technology. In this case, charging starts at Vbat - 7V, i.e., from 5V for a 12V battery. This technology is very well suited for low-power PV panels.

5-Stage Charging Profile

- Boost: Rapid charging up to 80% capacity
- Absorption: Slow charging up to 100%
- Floating: Charge maintenance
- Automatic Refresh: Prevents sulfation and revitalizes the battery
- Reboost: Automatically restarts the Boost phase if needed (high DC consumption or weak battery)

Internal Temperature Sensor

The internal sensor automatically adjusts the charging voltage according to ambient temperature to protect the battery.

Customizable Charging

Compatible with various types of batteries:

- Classic open lead-acid
- Sealed lead-acid (gel or AGM)
- Spiral lead-acid
- Lithium Iron Phosphate (LiFePO4) with integrated BMS

Battery type selection is easily performed using the front keypad.

Remote Control

The OTD output allows the charger to be started or stopped remotely, without using the other communication ports.