POWERTECH

12V/24V 30A
PWM Solar Charge Controller
for Lithium or SLA Batteries
MP3755

User Manual

Contents

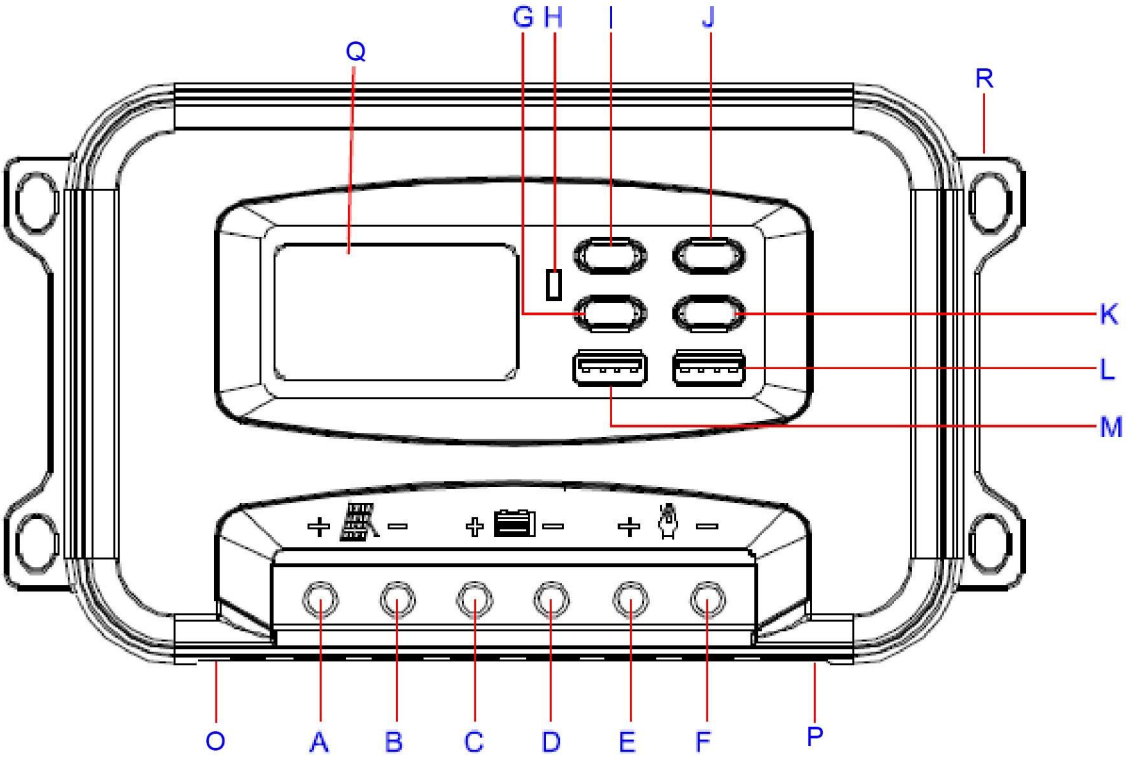
Product Overview

This product adopts the latest PWM control technology and intelligent solar controller controlled by MCU. Features high efficiency, low loss, small size, light weight, LCD interface, backlight, and complete protection functions. It is the best choice for charging onboard, domestic and industrial batteries.

The product has the following features.

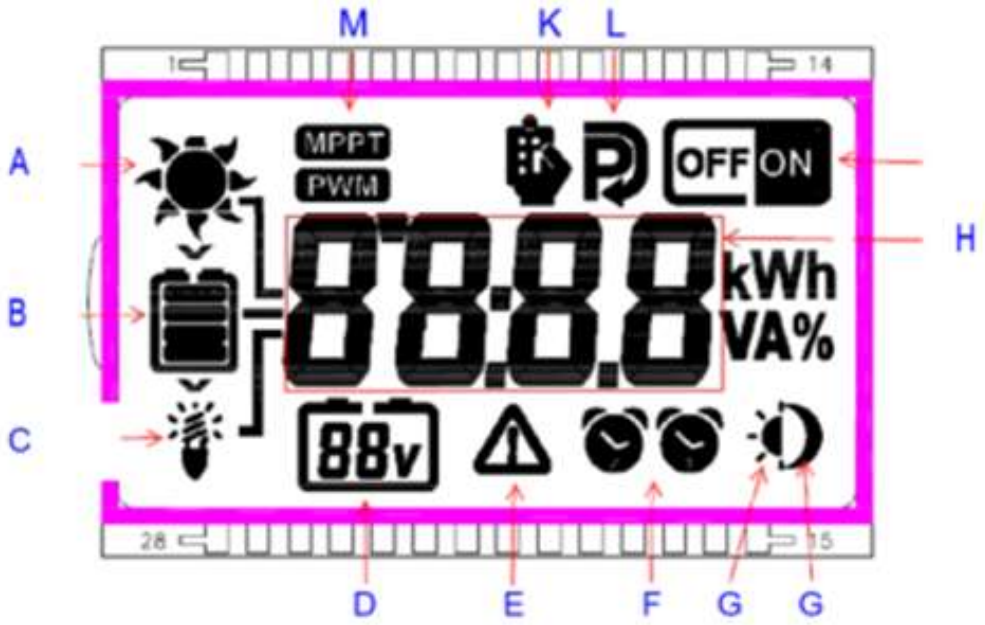
- Allow charging 12V/24V lead-acid battery and lithium battery, which is more intelligent and simple to operate.
- Adopt intelligent 4-stage charging management: battery test; current limiting; constant voltage; float voltage.
- Integrate a variety of charging modes: AGM; STD; LI.
- Wrong battery prompt, reverse connection prompt and protection, over-temperature protection, power failure memory, short circuit protection, etc.
- The button allows selecting the charging mode.
- The ambient temperature is -10~50°C.

Product Diagram



A	Positive solar input	**H**	LED indicator red light on in case of error, flashing green during charging, stay green after fully charged.
B	Negative Solar input	**I**	Up button
C	Positive battery output	**J**	Menu button
D	Negative battery output	**K**	OK button
E	Load output positive	**L & M**	USB output
F	Load output negative	**P**	RJ45 interface
G	MODE button		

LCD Diagram



A	Solar icon and current intensity	**H**	Current parameter display
B	Battery Connected Icon	**I**	Load on/off
C	Load On Icon	**J**	Settings
D	Battery voltage	**K**	Settings
E	Error warning	**L**	Settings
F	Clock	**M**	Charging mode (MPPT / PWM)
G	Day / Night Sensor		

Functions

To view LCD parameters and set functions, press the UP/DOWN button in the default interface (battery voltage interface) to view the battery charging current; press the Menu button once, then press the UP/DOWN button to view the battery in turn to view the battery voltage, charging current, load current, solar voltage, time, and LCD display as follows.

Press the Menu button twice in the default interface to view the solar panel voltage and current, and press the UP/DOWN button to switch.

Press the Menu button once in the default interface to view the load voltage and current, and press the UP/DOWN button to switch.

Press the Menu button three times in the default interface to view the time.

Function settings and LCD icons are as follows

Press and hold Menu for 2 seconds in the default state to enter the Settings interface, press the Menu button repeatedly to switch to battery category setting, WIFI switch setting, under voltage protection setting, restart voltage setting after under voltage, clock setting, timer switch setting, dawn load TO mode, and dawn load Ld mode. Press the “OK” button to enter desired function, press the UP/DOWN button to select, and then press “OK” toconfirm.

AGM battery mode

Lithium battery mode

Standard battery mode

Battery low voltage protection setting

Battery restart voltage

Time setting

The figure above shows the LO timer load mode setting. When the PV is less than 11V, the clock 1 is the delay on load, and the clock 2 is the delay off load time (in minutes) when the PV is greater than 11V.

The timer switch setting. The clock 1 or 2 allows setting the switching time (same as the product clock).

Ld load mode setting. When the PV is less than 11V, the clock 1 is turned on, the clock 2 is the off load time, and then the load is turned on until the PV is greater than the 11V off load.

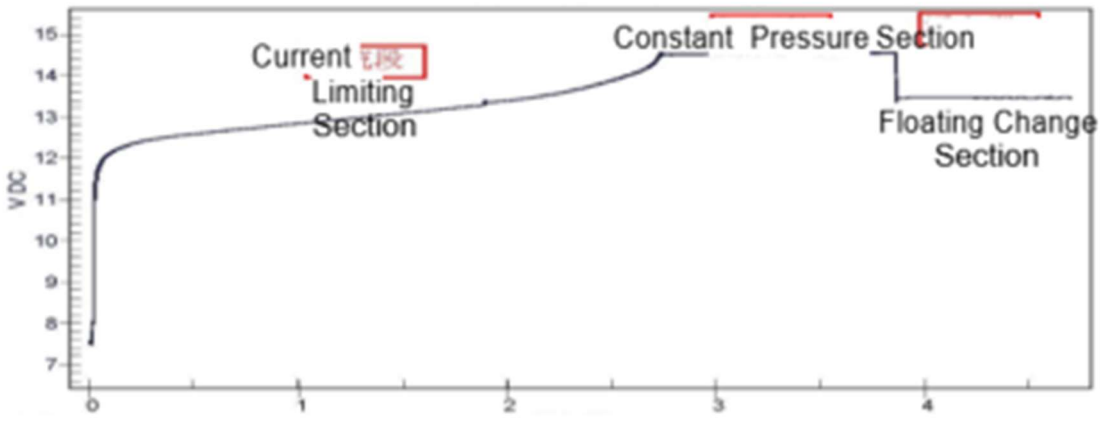
The “TO”, “LO” and “Ld” load mode setting mentioned above refers to the DC output, excluding the settings for the USB output. USB is automatically turned on and automatically turns off when under the set low voltage limit.

Product Function

5.1 This product adopts 4-stage charging mode: battery test; current limiting; constant voltage; float charging.
5.2 Battery test: After the battery is connected, it will check whether the battery meets the voltage requirements for the operation of this product.
5.3 Current limiting: This product allows a maximum charging current of 30A.
5.4 Constant voltage: When the maximum voltage allowed by this product is

reached, the product will be charged at the highest voltage point until the current is reduced to below 3A or the time exceeds 3 hours.
5.5 Float charging: Float charging is started after constant voltage charging, but charging voltage and current are smaller; it is maintenance charging and allows a longer time of safe charging. By float charging, the battery can be charged to nearly 100%. Too small current is not enough to make up for self-discharging of the battery, while excessive current will lead to overcharging and dehydration; small current charging for a long time can eliminate sulfuration of negative plate.
USB output: This product has two USB output interfaces, the output voltage is 5V, and the maximum current is 3.4A; smart identification of the terminal device is available.

Charging Voltage Profile



Certification and environmental protection

Meet CE, RoHS and PAHs requirements;

7. Precautions

7.1 The solar input voltage must not exceed 51V (VOC), and the current must not exceed 30A.
7.2 Pay attention on to polarity when connecting, and do not reverse the polarity.
7.3 The maximum output of the USB port can only be 3.4A. Check the maximum charging current of the charging product before charging.
7.4 This product can only be used indoors.

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