

CMD Series Solar Charge Controller

INSTRUCTION

MANUAL



Model: CMD-2405, CMD-2410, CMD-2415, CMD-2420

Description of product model:

CMD-24 05



05 represents the maximum discharge current 5A

24 represents the maximum voltage, means 12V/24V auto-identity

Thank you very much for selecting our product! This manual offers product overview, protection, installation instruction, status instruction, troubleshooting and technical data, etc. Please read this manual carefully before using the product.

Product overview

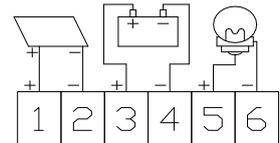
1. Use single-chip microcomputer control which makes the controller has the advantages of intelligent, strong adaptability, reliable function.
2. Use Ueiua PWM upgrade control scheme WPC mode, which can improve system efficiency and prolong the life span of the battery.
3. With intuitive digital tube to show the current battery state, it is convenient for the user to know the working condition of the controller.

Protection

1. Over-load protection
2. Short circuit protection
3. Lightning protection
4. Under-voltage protection
5. Over-charging protection
6. Reverse Polarity Protection

Installation Instructions

Open the top cover of controller and connect the wire with terminals as the diagram on the top cover of it.



1. Connect the “+”, “-” Poles of the battery to the corresponding ports of controller (the third and the fourth one from left).
2. Connect the “+”, “-” poles of the solar panel to the corresponding ports of controller (the first and the second one from left).
3. Connect the “+”, “-” poles of the load to the corresponding ports of controller (the fifth and the sixth one from left).

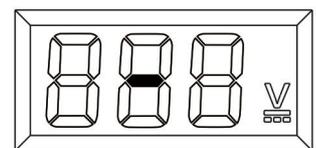
Note: If there is connection error, it may damage your controller.

Status instructions

The charge indicator: While charging, the charge indicator will be green light ON. When the battery indicator is flashing uninterruptedly, it means the battery is full charge and the system enters into intelligent protective charging.

Battery voltage display screen: the battery voltage will display only when the battery power is normal.

Battery under voltage display: when the battery is in the state of under voltage, (in the 12V system the battery voltage is less than 12V, in the 24V system the battery voltage is less than 20V) , a middle cross of the digital tube flickers as it shows in the figure.



The load indicator :

1. In the 12V system—when the battery voltage is less than 10.5V, the load indicator extinguish, at this time the load output is not allowed. When the battery voltage returns to 12V, the load indicator lights and the load output can be started.

2. In the 24V system—when the battery voltage is less than 21V, the load indicator extinguish, at this time the load output is not allowed. When the battery voltage returns to 24V, the load indicator lights and the load output can be started.

3. When the load output overload or short circuit occurs, the controller will start the protect function automatically, and then turn off the load output, the load indicator start to flicker.

Troubleshooting

When the following phenomenon happens, please check as follows,

Phenomenon	Trouble shooting
All the indicators are OFF	Check the battery wiring whether is well connected or tight connection or whether the voltage of the battery is normal or not.
The charge indicator is OFF during daytime when sunshine falls on solar panel properly.	Check the PV and battery wire whether is well connected or tight connection or not.
The charge indicator is flickering uninterruptedly.	1. The battery is full charged and the system enters into protective charging. 2. The sunshine of the solar panel is insufficient.
The battery voltage is over low, the digital tube does not display the battery voltage.	The battery is low, the load does not start. The load restart automatically until the voltage of battery has raise to the normal voltage ($\geq 10.5V$).
The load indicator is OFF, the load does not start.	1. Reference to the system wiring diagram, check the system whether is well connected or not. 2. Check the power of the battery, the load will start only when the battery voltage is Normal. 3. Connect the solar module, charge the battery until it reach to the normal state.
The load indicator is flickering uninterruptedly and there is no output.	When in the state of over current or short circuit protection, the controller will return to work automatically after finish trouble shooting for 10 seconds.
The load indicator is flickering uninterruptedly and the load output discontinuously.	Check the battery voltage, power supply capacity, as well as the connecting wire cross-sectional area is sufficient or not, or whether the cable is long enough.
Other phenomena	Check the wiring whether is tight or not, and the automatic identification of 12V/24V system is correct or not.

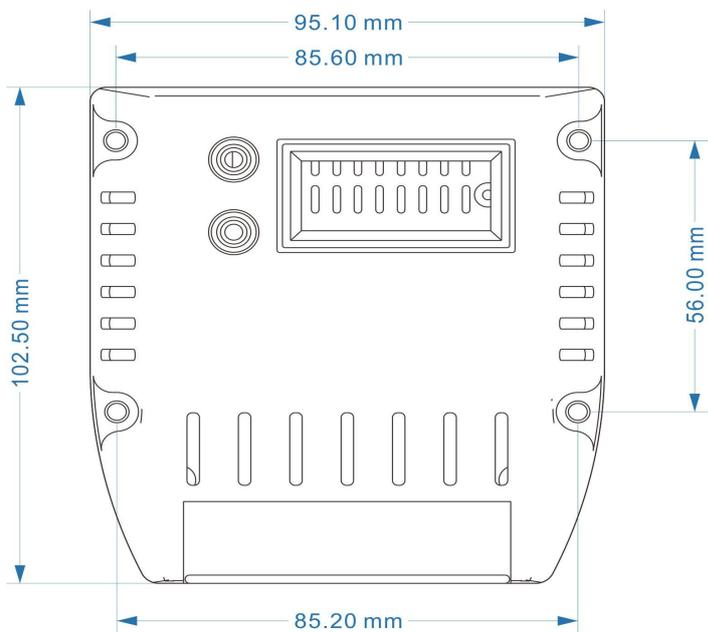
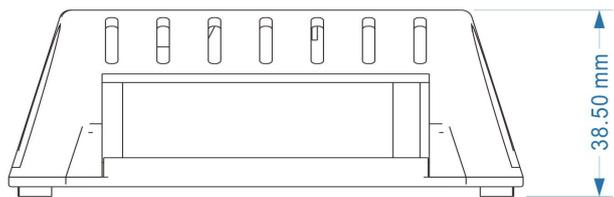
Note: We keep right to change and update without prior notice.

Technical Data

Model	CMD-2405	CMD-2410	CMD-2415	CMD-2420
Rated charge current	5A	10A	15A	20A
Rated discharge current	5A	10A	15A	20A
Over load, short circuit protection	1.5 times by rated current			
Short circuit recovery time	10s			
Open circuit voltage of solar panel	40V			
No load loss	0.05W			
Over voltage protection	15V; $\times 2/24V$			
Float charge voltage	14V; $\times 2/24V$			
Discharge recovery voltage	12V; $\times 2/24V$			
Over discharge voltage	10.5V; $\times 2/24V$			
Control mode	software intelligent control			
Working temperature	$-35^{\circ}C \sim +55^{\circ}C$			
Dimension	95.1 \times 102.5 \times 38.5(mm) (L \times W \times H)			
Weight	185g			

*Parameters may customized by customers. If you need any assistance or have further questions, please don't hesitate to contact with Ueiua or our dealers.

Dimension Figure



Version: Ueiua V3.1