

CMTD Series Solar Charge Controller

User's Manual

1. Product Introduction

CMTD series solar charge controller is a kind of intelligent, multi-functional solar charge and discharge controller. All the controlling parameters can be reset flexibly to satisfy your different needs.

This controller has the following features:

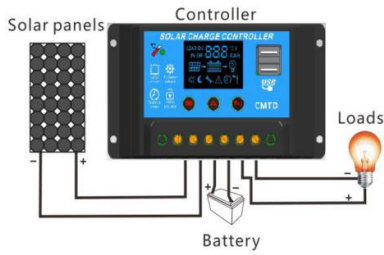
- Visual LCD graphic symbol
- Automatic identification system voltage level
- Adjustable charge-discharge control parameters
- Multiple selection of battery
- Battery low voltage protection
- Overload & short circuit protection
- Brief key operation
- Intelligent PWM charge mode
- Settable operating modes of loads
- Battery over temperature protection
- Battery reverses polarity protection
- With Dual USB 5V output

2. Specification

Model	CMTD-Li310 (3 series of lithium battery) CMTD-A2410 (lead-acid battery) CMTD-G2410 (lead-acid battery) CMTD-2410 (lead-acid battery)	CMTD-Li320 (3 series of lithium battery) CMTD-A2420 (lead-acid battery) CMTD-G2420 (lead-acid battery) CMTD-2420 (lead-acid battery)	CMTD-Li330 (3 series of lithium battery) CMTD-A2430 (lead-acid battery) CMTD-G2430 (lead-acid battery) CMTD-2430 (lead-acid battery)	CMTD-Li340 (3 series of lithium battery) CMTD-A2440 (lead-acid battery) CMTD-G2440 (lead-acid battery) CMTD-2440 (lead-acid battery)
Max. charge current	10A	20A	30A	40A
Max. discharge current	10A	20A	30A	40A
Max. solar panel input voltage	≤50V			
Rated voltage	12.6V (3 series of lithium battery) ; 12V/24V auto work (lead-acid battery) ;			
Stop charge voltage	12.6V (3 series of lithium battery) ; 14.7V; 29.4V			
Low voltage recovery	11.1V (3 series of lithium battery) ; 12.2V; 24.4V			
Low voltage protection	9.0V (3 series of lithium battery) ; 10.5V; 21.0V			
USB output voltage/current	5V 2A			
Characteristic	No load loss:≤10mA; Temperature compensation:-3mV/cell/°C			
Operation temperature	-20°C~+60°C			


***Parameters may customized by customers.**

3. Installation Instructions





As shown in the installation connection diagram, the battery, solar panel, load and controller should be connected by turns. Please connect the battery first, and then the solar panel or load.


4. Setting Instructions and Parameters Display

 Parameters setting and checking button

Setting method:

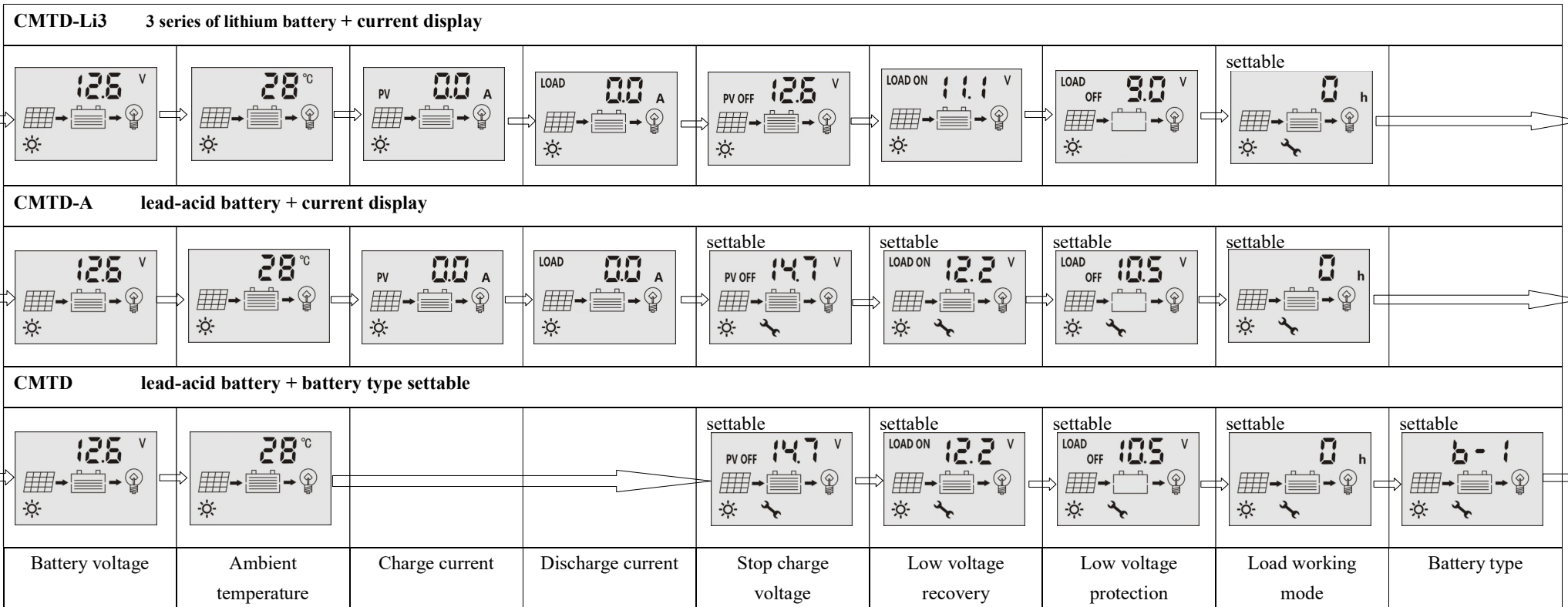
At the setting interface, keep pressing the  button for 5 seconds, the figure flickers, it means the controller enters into the setting mode. After finish setting the parameters, shortly press the  button and the controller will save the set parameters automatically.

At this interface, when there is no operation for 20 seconds, it will automatically exit the setting mode, cancel to save the parameters and return to the main interface.

 Parameters plus button

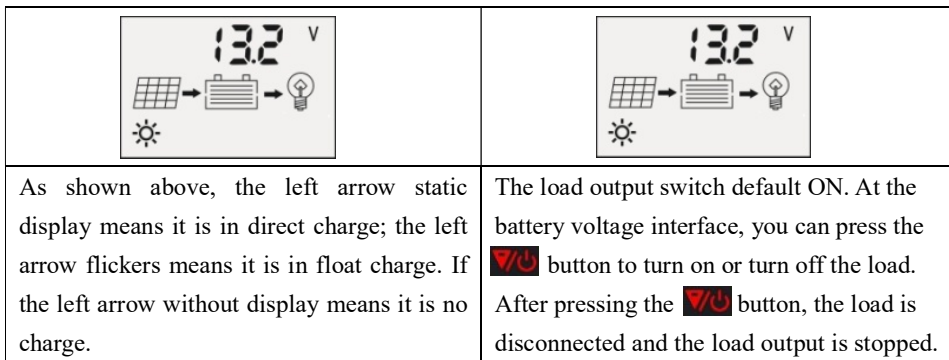
 Parameters minus button (load output switch)

Parameters Display



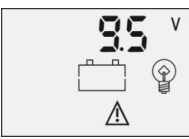




Load working mode (settable) [0h] Manual mode [1-23h] Light control delayed mode [24h] Light control mode

Battery type (settable) b-1 AGM lead-acid battery b-2 GEL lead-acid battery b-3 OPEN lead-acid battery



NOTE: When there is no sunshine, the light intensity decreases to starting point. Then the controller recognizes the starting signal after six minutes. The load will start to work according to the setting parameter. When there is sunshine, the light intensity rises to starting point, and then the controller recognizes the close signal after six minutes. The load will stop working.

5. Trouble Shooting

	<p>Low voltage alarm</p>	<p>When the battery voltage lower than 9.0V (3 series of lithium battery); 10.5V (12V system); 21.0V (24system), the controller enter into the state of low voltage protection, the  icon appears in the bottom of the LCD and the  icon flickers. The load is disconnected in order to prevent it from over discharging. At this time, you need to charge the battery. When the battery voltage return to the low voltage recovery11.1V (3 series of lithium battery); 12.2V (12V system); 24.4V (24system), the load output restart.</p>
	<p>Short circuit</p>	<p>When short circuit occurs, it shows as the right figure. The controller will not recover after trying to recover for ten times. At this time, you need to shortly press the  button to turn off the load output, and then the system return to normal work.</p>