

# CU-ALL2 Remote Control

# User manual

Version :V1.05

The above information is subject to change without prior notice.



## Main Features

- Two remote control modes—infrared and wireless—are available, and the wireless remote control distance is adjustable.
- Wireless remote control signals boast excellent penetrability and anti-interference capability.
- Data communication adopts a multi-time handshake protocol and a data compression algorithm, realizing precise and fast data transmission.
- Powered by two AA batteries.
- Features an LCD screen that displays parameters and other information.
- Enters into a sleep mode automatically after 65 seconds of no operation, and gets awakened when any key is pressed.
- Power consumption in sleep mode is ultra low, with a current as small as 0.2uA.
- Awakens from sleep mode quickly.
- Displays battery level.
- Designed in line with ergonomics and suitable for hand-held operation.

## Panel Structure



## Key Function Descriptions

Key area	Key name	Functions	Press-and-hold functions	
Setting area	+	A. Page down B. Increases setting value	A. Continuously increases setting value B. Together with "Sleep" key, locks or unlocks parameter adjustment	
		A. Page up B. Decreases setting value	A. Continuously decreases setting value B. Together with "Sleep" key, returns the screen to the "Model Selection" interface	
Function area	Set	Sets parameters	-	
	Send	Sends operating parameters	-	
	Receive	State	Receives operating state	-
		Parameter	Receives operating parameters	-
	Test	Sends test command	-	
Backlight	Turns on backlight	-		
	Sleep	Sends sleep command	Together with "+" key, locks or unlocks parameter adjustment	

## Instructions for Use

- 1)Battery installation:** First insert two AA batteries, and do not orient them reversely by paying attention to the positive and negative terminals of the batteries.
- 2)Power on:** After the batteries are properly installed, press any key to power the remote control on, then the remote control awakens and performs the function of the pressed key.
- 3)Power off:** After 65 seconds of no operation on the keys, the system will automatically power off and enters into a sleep mode.
- 4)Parameters browsing:** After powering on the unit, press the "+" or "-" key to browse the set parameters.
- 5)Model selection:** After powering on the unit, simultaneously press and hold the "Sleep" and "-" keys for a second, and the "Model Selection" screen will appear after the remote control makes two short beep sounds. Press the "+" or "-" key to highlight the model to be selected and press the "Set" key to confirm the selection. Then the unit will enter into the "Parameters Setting" interface after letting out a long beep sound.
- 6)Remote control mode setting:** Simultaneously press and hold the "+" and "-" keys for a second, the unit will enter into the "Remote Control Setting" screen after making two short beep sounds.
- 7)Parameters modification:** When finding the parameter to be set, press the "Set" key, and the parameter will flash, then you can press the "+" or "-" key to adjust the value. After adjustment is done, press the "Set" key to confirm the setting.
- 8)Parameters sending:** After parameters setting is finished, aim at the controller and press the "Send" key. If sending is successful, the three LED indicators on the controller will flash, and the remote control will let out a long beep sound; if sending is not successful, the remote control will make three short beep sounds to indicate the failure.
- 9)State reading:** Aim at the controller and press the "State" key, and the remote control will try to read the operating state of the controller. If reading is successful, the remote control will let out a long beep sound, and meanwhile store the data obtained in itself; if reading is not successful, the remote control will make three short beep sounds, and display the state read last time.
- 10)Parameters reading:** Aim at the controller and press the "Parameter" key, and the remote control will try to read the parameter settings in the controller. If reading is successful, the remote control will let out a long beep sound, and meanwhile store the data obtained in itself (if you press the "Send" key instead, the remote control will transmit the parameters obtained just now); if reading is not successful, the remote control will make three short beep sounds, and display the parameter currently being set.

- 11)Backlight:** Press the "Backlight" key, and the LCD screen will be backlit, which facilitates use under poor light conditions.
- 12)Sleep:** If the controller features a sleep function, press the "Sleep" key, and the controller will enter into a sleep state. Pressing the "Test" key will awaken the controller from the sleep state.
- 13)Test:** Aim at the controller and press the "Test" key, and the load of the controller will be turned on, with the load power corresponding to that indicated on the remote control. Repeatedly press the "Test" key, the controller's load output power will change in a sequence of 100%, 70%, 50%, 30%, 0%. The controller will work in the test mode for 1 minute before switching to the normal working mode.
- 14)Key lock:** Press and hold the "+" and "Sleep" keys simultaneously for 3 seconds, and the remote control will make 2 short beep sounds, indicating the "Set" and "Parameter" keys are now in a locked state. In this state, parameters are no longer adjustable, which prevents the user from accidentally changing parameter values due to misoperation. To unlock the keys, press and hold the "+" and "Light" keys simultaneously for 3 seconds.
- 15)The remote control and the controller are configured into a one-to-one pair, and do not try to conduct one-to-many operation.**
- 16)Backlight or light on for a long time will shorten the battery life.**
- 17)When the low battery symbol appears, replace the batteries in a timely manner.**
- 18)If the remote control is to be stored away for a long period of time, remove its batteries.**

## Icon meanings

Battery capacity	Sending	Successfully sent	Failure to send	Test mode	Keys locked	Keys unlocked

## Beeper response

Beep sound pattern	Description
--- ( 3 short ones )	Failure to send
— ( 1 long one )	Successfully sent
—— ( 2 long ones )	Reset to factory default settings
--( 2 short ones )	Keys locked/ return to "Model Selection" interface
- ( 1 short one )	Keys unlocked

## Parameter settings

- 1)The parameters displaying interface for MPL/MPC/MPC-U/DM120/DM120-U/DM160/DM160-U with "Lead" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lead, Lithium 12, Lithium 24	Battery type	1	Volt	Lead
02	1st-stage duration	0 ~ 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 ~ 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 ~ 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 ~ 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 ~ 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 ~ 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 ~ 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 ~ 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 ~ 15V	Light control point voltage	1V	Volt	10V
11	Light control delay	1 ~ 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15~ 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	Over-discharge voltage	7.5 ~ 17.0V	Over-discharge protection voltage	0.1V	Volt	11.0V
15	Over-discharge return	7.5 ~ 17.0V	Over-discharge return voltage	0.1V	Volt	12.6V
16	Boost charging	7.5 ~ 17.0V	Boost charging voltage	0.1V	Volt	14.4V
17	Floating charging	7.5 ~ 17.0V	Floating charging voltage	0.1V	Volt	13.8V
18	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: boost charging > floating charging > over-discharge return > over-discharge voltage

2. The parameters displaying interface for MPL/MPC/MPC-U/DM120/DM120-U/DM160/DM160-U with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lithium 12, Lithium 24	Battery type	1	Volt	Lithium 12
02	1st-stage duration	0 to 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 to 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 to 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 to 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 to 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 15V	Light control point voltage	1V	Volt	10V
11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	No charging under freezing temperature	Yes/ No	Freezing temperature charging protection	1	Yes: Enabled No: Disabled	No
15	Charging method	0/1	Charging method management	1	0: PWM 1: Direct charging	0
16	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	10.0V

17	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.0V
18	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	Volt	14.6V
19	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	13.6V
20	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: overcharge voltage > overcharge return > over-discharge return > over-discharge voltage

3. The parameters displaying interface for DH/DH-LI/DL/MH/DM60 with "Lead" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lead, Lithium 12, Lithium 24	Battery type	1	Volt	Lead
02	1st-stage duration	0 to 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 to 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 to 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 to 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 to 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V
11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	11.0V
15	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.6V
16	Boost charging	7.5 to 17.0V	Boost charging voltage	0.1V	Volt	14.4V
17	Floating charging	7.5 to 17.0V	Floating charging voltage	0.1V	Volt	13.8V
18	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: boost charging > floating charging > over-discharge return > over-discharge voltage

4. The parameters displaying interface for DH/DH-LI/DL/MH/DM60 with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lead, Lithium 12, Lithium 24	Battery type	1	Volt	Lithium 12
02	1st-stage duration	0 to 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 to 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 to 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 to 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 to 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V

11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	No charging under freezing temperature	Yes/ No	Freezing temperature charging protection	1	Yes: Enabled No: Disabled	No
15	Charging method	0/1	Charging method management	1	0: PWM 1: Direct charging	0
16	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	10.0V
17	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.0V
18	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	Volt	14.6V
19	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	13.6V
20	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: overcharge voltage > overcharge return > over-discharge return > over-discharge voltage

5. The parameters displaying interface for SES60 (old) with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lithium 12, Lithium 24	Battery type	1	Volt	Lithium 12
02	Normal time	0 to 15H	Normal operating time	1H	Hour	0 hrs
03	Normal power	0 to 100%	Normal operating power	10%	Power percentage	100%
04	Sensing time	0 to 15H	Operating time with sensing in action	1H	Hour	15 hrs
05	Human-detected power	0 to 100%	Operating power with human detected	10%	Power percentage	100%
06	Sensing delay	0 to 150S	Sensing delay time	10S	Second	60S
07	Human-undetected power	0 to 100%	Operating power with human undetected	10%	Power percentage	30%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V
11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	Sensing distance	0 to 3	Sensing distance	1	-	0
15	No charging under freezing temperature	Yes/ No	Freezing temperature charging protection	1	Yes: Enabled No: Disabled	No
16	Charging method	0/1	Charging method management	1	0: PWM 1: Direct charging	0
17	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	10.0V
18	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.0V
19	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	Volt	14.6V
20	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	13.6V
21	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: overcharge voltage > overcharge return > over-discharge return > over-discharge voltage

6. The parameters displaying interface for MES/SES with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lithium 12 Lithium 24	Battery type	1	Volt	Lithium 12
02	Sensing duration 1	0 to 15H	1st-stage operating duration with sensing in action	1H	Hour	4 hrs
03	Human-detected power 1	0 to 100%	1st-stage operating power with human detected	10%	Power percentage	100%
04	Human-undetected power 1	0 to 100%	1st-stage operating power with human undetected	10%	Power percentage	100%
05	Sensing duration 2	0 to 15H	2nd-stage operating duration with sensing in action	10%	Hour	4 hrs
06	Human-detected power 2	0 to 100%	2nd-stage operating power with human detected	10%	Power percentage	100%
07	Human-undetected power 2	0 to 100%	2nd-stage operating power with human undetected	10%	Power percentage	30%
08	Sensing duration 3	0 to 15H	3rd-stage operating duration with sensing in action	1H	Hour	15 hrs
09	Human-detected power 3	0 to 100%	3rd-stage operating power with human detected	10%	Power percentage	50%
10	Human-undetected power 3	0 to 100%	3rd-stage operating power with human undetected	10%	Power percentage	0%
11	Sensing delay	0 to 250S	Sensing delay time	10S	Second	10S
12	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V
13	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
14	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
15	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
16	No charging under freezing temperature	Yes/ No	Freezing temperature charging protection	1	Yes: Enabled No: Disabled	No
17	Charging method	0/1	Charging method management	1	0: PWM 1: Direct charging	0
18	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	10.0V
19	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.0V
20	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	Volt	14.6V
21	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	13.6V
22	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: overcharge voltage > overcharge return > over-discharge return > over-discharge voltage

7. The parameters displaying interface for EH with "Lead" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lead, Lithium 12, Lithium 24	Battery type	1	Volt	Lead
02	1st-stage duration	0 to 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 to 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 to 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 to 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 to 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V

11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	11.0V
15	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.6V
16	Boost charging	7.5 to 17.0V	Boost charging voltage	0.1V	Volt	14.4V
17	Floating charging	7.5 to 17.0V	Floating charging voltage	0.1V	Volt	13.8V
18	Switching voltage	7.5 to 17.0V	Grid switching voltage	0.1V	Volt	11.5V
19	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: boost charging > floating charging > over-discharge return > over-discharge voltage

8. The parameters displaying interface for EH with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Adjusting step length	Unit/ notes	Factory default
01	Battery type	Lead, Lithium 12, Lithium 24	Battery type	1	Volt	Lithium 12
02	1st-stage duration	0 to 15H	1st-stage operating duration	1H	Hour	4 hrs
03	1st-stage power	0 to 100%	1st-stage operating power	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1H	Hour	0 hrs
05	2nd-stage power	0 to 100%	2nd-stage operating power	10%	Power percentage	70%
06	3rd-stage duration	0 to 15H	3rd-stage operating duration	1H	Hour	4 hrs
07	3rd-stage power	0 to 100%	3rd-stage operating power	10%	Power percentage	50%
08	Morning on stage duration	0 to 15H	Morning on stage operating duration	1H	Hour	0 hrs
09	Morning on stage power	0 to 100%	Morning on stage operating power	10%	Power percentage	30%
10	Light control voltage	5 to 11V	Light control point voltage	1V	Volt	5V
11	Light control delay	1 to 50M	Light control delay time	5M	Minute	1min
12	Load current	0.15 to 6.0A	LED load current	0.03A	Ampere	0.90A
13	Intelligent power	Yes/ No	Intelligent power control	1	Yes: Enabled No: Disabled	No
14	No charging under freezing temperature	Yes/ No	Freezing temperature charging protection	1	Yes: Enabled No: Disabled	No
15	Charging method	0/1	Charging method management	1	0: PWM 1: Direct charging	0
16	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	Volt	10.0V
17	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	12.0V
18	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	Volt	14.6V
19	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	Volt	13.6V
20	Switching voltage	7.5 to 17.0V	Grid switching voltage	0.1V	Volt	10.5V
21	Restore defaults	Yes/ No	Restore factory defaults	1	Yes: Enabled No: Disabled	No

Note: parameter settings: overcharge voltage > overcharge return > over-discharge return > over-discharge voltage

9. The parameters displaying interface for DHA/SEA with "Lead" selected as the "Battery type"

No	Item	Data range	Item description	Tap step length	Press-and-hold step length	Unit/ notes	Factory default
01	Battery type	Lithium 12 Lithium 24	Battery type	1	1	Volt	Lead
02	Sensing delay	None or 0 to 60min	Sensing delay time	1s or 1min	10s or 10min	Second/minute	None
03	Light control voltage	5 to 11V	Light control point voltage	1V	1V	Volt	5V
04	Light control delay	0 to 60min	Light control delay time	1s or 1min	10s or 10min	Second/minute	1min
05	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	0.1V	Volt	10.0V
06	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	0.1V	Volt	12.0V
07	Boost charging	7.5 to 17.0V	Boost charging voltage	0.1V	0.1V	Volt	14.6V
08	Floating charging	7.5 to 17.0V	Floating charging voltage	0.1V	0.1V	Volt	13.6V
09	Low-temperature charging	Yes/ 0 to -40°C	Charging disabled at low temperatures	1°C	1°C	°C	Yes
10	High-temperature operation	40 to 90°C	Charging and discharging disabled at high temperatures	1°C	1°C	°C	65°C
11	Load current	0.15 to 6.0A	LED load current	0.01A	0.10A	Ampere	0.90A
12	Intelligent power	No, High, Medium, Low, Auto	Intelligent power control	1	1	Other than No: Enabled No: Disabled	No
14	Restore defaults	Yes/ No	Restore factory defaults	1	1	Yes: Enabled/ No: Disabled	No

--> Load parameter settings <-

01	1st-stage duration	0 to 15H	1st-stage operating duration	1min	10min	HH: MM	4 hrs
02	1st-stage power	0 to 100%	1st-stage operating power	1%	10%	Power percentage	100%
03	2nd-stage duration	0 to 15H	2nd-stage operating duration	1min	10min	HH: MM	0 hrs
04	2nd-stage power	0 to 100%	2nd-stage operating power	1%	10%	Power percentage	70%
05	3rd-stage duration	0 to 15H	3rd-stage operating duration	1min	10min	HH: MM	4 hrs
06	3rd-stage power	0 to 100%	3rd-stage operating power	1%	10%	Power percentage	50%
07	4th-stage duration	0 to 15H	4th-stage operating duration	1min	10min	HH: MM	0 hrs
08	4th-stage power	0 to 100%	4th-stage operating power	1%	10%	Power percentage	0%
09	5th-stage duration	0 to 15H	5th-stage operating duration	1min	10min	HH: MM	0 hrs
10	5th-stage power	0 to 100%	5th-stage operating power	1%	10%	Power percentage	0%
11	6th-stage duration	0 to 15H	6th-stage operating duration	1min	10min	HH: MM	0 hrs
12	6th-stage power	0 to 100%	6th-stage operating power	1%	10%	Power percentage	0%
13	7th-stage duration	0 to 15H	7th-stage operating duration	1min	10min	HH: MM	0 hrs
14	7th-stage power	0 to 100%	7th-stage operating power	1%	10%	Power percentage	0%
15	8th-stage duration	0 to 15H	8th-stage operating duration	1min	10min	HH: MM	0 hrs
16	8th-stage power	0 to 100%	8th-stage operating power	1%	10%	Power percentage	0%
17	9th-stage duration	0 to 15H	9th-stage operating duration	1min	10min	HH: MM	0 hrs
18	9th-stage power	0 to 100%	9th-stage operating power	1%	10%	Power percentage	0%
19	Morning on stage duration	0 to 15H	Morning on stage operating duration	1min	10min	HH: MM	0 hrs
20	10th-stage power	0 to 100%	Morning on stage operating power	1%	10%	Power percentage	30%

Note: parameter settings: boost charging > floating charging > over-discharge return > over-discharge voltage, and "Sensing delay" is set to "None"

10. The parameters displaying interface for DHA/SEA with "Lithium 12" or "Lithium 24" selected as the "Battery type"

No	Item	Data range	Item description	Tap step length	Press-and-hold step length	Unit/ notes	Factory default
01	Battery type	Lithium 12 Lithium 24	Battery type	1	1	Volt	Lithium 12
02	Sensing delay	None or 0 to 60min	Sensing delay time	1s or 1min	10s or 10min	Second/minute	10s
03	Light control voltage	5 to 11V	Light control point voltage	1V	1V	Volt	5V
04	Light control delay	0 to 60min	Light control delay time	1s or 1min	10s or 10min	Second/minute	1min
05	Over-discharge voltage	7.5 to 17.0V	Over-discharge protection voltage	0.1V	0.1V	Volt	10.0V
06	Over-discharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	0.1V	Volt	12.0V
07	Overcharge voltage	7.5 to 17.0V	Overcharge charging voltage	0.1V	0.1V	Volt	14.6V
08	Overcharge return	7.5 to 17.0V	Over-discharge return voltage	0.1V	0.1V	Volt	13.6V
09	Low-temperature charging	Yes/ 0 to -40°C	Charging disabled at low temperatures	1°C	1°C	°C	Yes
10	High-temperature operation	40 to 90°C	Charging and discharging disabled at high temperatures	1°C	1°C	°C	65°C
11	Load current	0.15 to 6.0A	LED load current	0.01A	0.10A	Ampere	0.90A
12	Intelligent power	No, High, Medium, Low, Auto	Intelligent power control	1	1	Other than No: Enabled No: Disabled	No
14	Restore defaults	Yes/ No	Restore factory defaults	1	1	Yes: Enabled/ No: Disabled	No

--> Load parameter settings <-

01	1st-stage duration	0 to 15H	1st-stage operating duration	1min	10min	HH: MM	4 hrs
02	Human-detected power 1	0 to 100%	1st-stage operating power with human detected	1%	10%	Power percentage	100%
03	Human-undetected power 1	0 to 100%	1st-stage operating power with human undetected	1%	10%	Power percentage	100%
04	2nd-stage duration	0 to 15H	2nd-stage operating duration	1min	10min	HH: MM	0 hrs
05	Human-detected power 2	0 to 100%	2nd-stage operating power with human detected	1%	10%	Power percentage	100%
06	Human-undetected power 2	0 to 100%	2nd-stage operating power with human undetected	1%	10%	Power percentage	100%
07	3rd-stage duration	0 to 15H	3rd-stage operating duration	1min	10min	HH: MM	4 hrs
08	Human-detected power 3	0 to 100%	3rd-stage operating power with human detected	1%	10%	Power percentage	50%
09	Human-undetected power 3	0 to 100%	3rd-stage operating power with human undetected	1%	10%	Power percentage	0%
10	4th-stage duration	0 to 15H	4th-stage operating duration	1min	10min	HH: MM	0 hrs
11	Human-detected power 4	0 to 100%	4th-stage operating power with human detected	1%	10%	Power percentage	0%
12	Human-undetected power 4	0 to 100%	4th-stage operating power with human undetected	1%	10%	Power percentage	0%
13	5th-stage duration	0 to 15H	5th-stage operating duration	1min	10min	HH: MM	0 hrs
14	Human-detected power 5	0 to 100%	5th-stage operating power with human detected	1%	10%	Power percentage	0%
15	Human-undetected power 5	0 to 100%	5th-stage operating power with human undetected	1%	10%	Power percentage	0%
16	6th-stage duration	0 to 15H	6th-stage operating duration	1min	10min	HH: MM	0 hrs
17	Human-detected power 6	0 to 100%	6th-stage operating power with human detected	1%	10%	Power percentage	0%
18	Human-undetected power 6	0 to 100%	6th-stage operating power with human undetected	1%	10%	Power percentage	0%
19	7th-stage duration	0 to 15H	7th-stage operating duration	1min	10min	HH: MM	0 hrs
20	Human-detected power 7	0 to 100%	7th-stage operating power with human detected	1%	10%	Power percentage	0%
21	Human-undetected power 7	0 to 100%	7th-stage operating power with human undetected	1%	10%	Power percentage	0%
05	8th-stage duration	0 to 15H	8th-stage operating duration	1min	10min	HH: MM	0 hrs

06	Human-detected power 8	0 to 100%	8th-stage operating power with human detected	1%	10%	Power percentage	0%
07	Human-undetected power 8	0 to 100%	8th-stage operating power with human undetected	1%	10%	Power percentage	0%
08	9th-stage duration	0 to 15H	9th-stage operating duration	1min	10min	HH: MM	0 hrs
09	Human-detected power 9	0 to 100%	9th-stage operating power with human detected	1%	10%	Power percentage	0%
10	Human-undetected power 9	0 to 100%	9th-stage operating power with human undetected	1%	10%	Power percentage	0%
11	Morning on stage duration	0 to 15H	Morning on stage operating duration	1min	10min	HH: MM	0 hrs
12	Human-detected power 10	0 to 100%	Morning on stage operating power with human detected	1%	10%	Power percentage	0%
13	Human-undetected power 10	0 to 100%	Morning on stage operating power with human undetected	1%	10%	Power percentage</	