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R-Unit

Smart Remote Controller
User Manual

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User Manual_R-Unit_DL09
CE, Rohs, ISO9001:2008
Subject to change without notice!

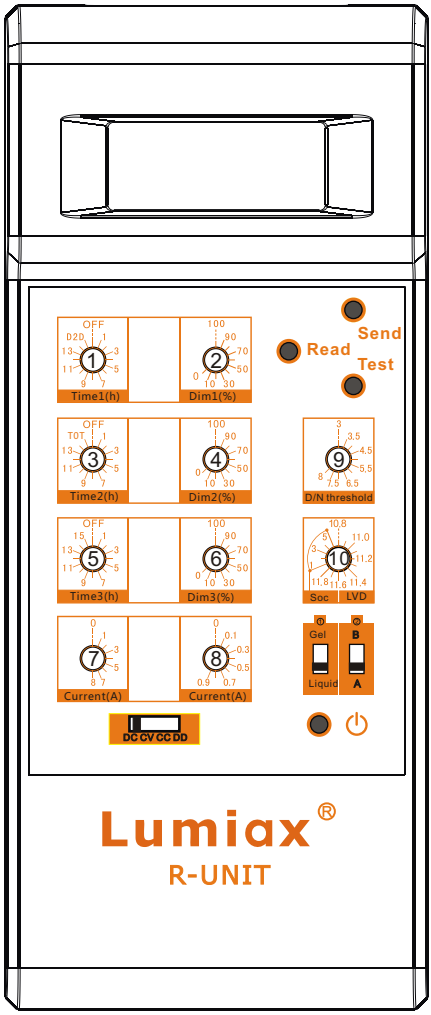
Smart Remote Controller R-Unit User Manual

Dear Clients,

Thanks for selecting the R-Unit series Smart Remote Controller. With the R-Unit you own a state-of the art device which was developed according to the latest available technical standards.
This manual gives important recommendations for installing, programming, using and so on. Read it carefully in your own interest please.

1.Description of Function

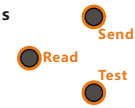
- Professional design of intelligent remote controller settings for a variety of products;
- Simple and clear configuration interface;
- User Interface: LCD screen, rotary switches, toggle switches, buttons;
- Power supply: 2 X #5 battery



2.How to use R-Unit

To configure Smart by R-Unit is very easy.
Set all switches to desired settings ---> Press "Send" button --> Wait for response.

2.1Buttons



"Send"	Transmit all Settings *1
"Test"	Load(s) on for 1 minutes *2
"Read"	Read controller information *3

*1 This action will send all the settings to the Smart controller. Be sure to program only one Smart at the same time.
*2 If pressing the button causes a load disconnect event (LVD/SOC, over current) the load will be switched off. When the system is in LVD mode, test function is not available. Described in Section 7.2。
*3 Described in Section 7.1.

2.2 Buzzer Response

	Operation and results
▬▬	After Pressing "Send/Test/Read" Button, Operating successful!
▬ ▬ ▬	After Pressing "Send/Test/Read" ,Error Press "Read" button, Error message
▬	Power on

2.3LCD display

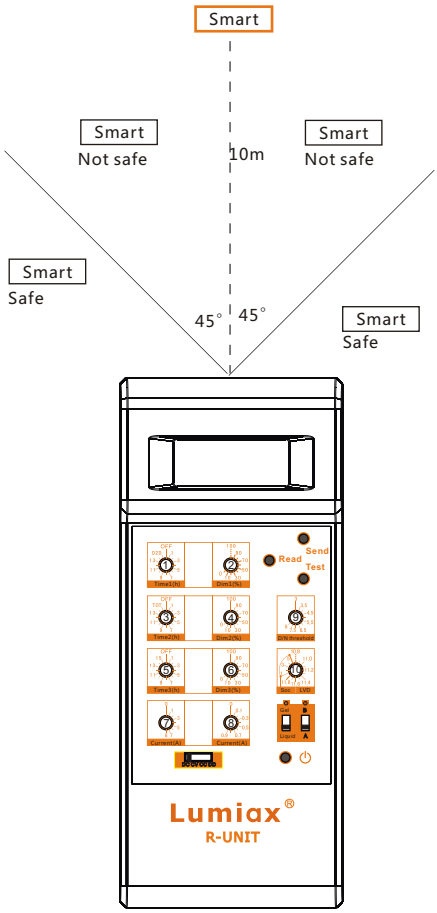
LCD display	
Send OK	Programming Successful
Send Error	Programming Error
Test Ok	Test Successful
Test Error	Test Error
Read Error	Read Error
Power Low	R-Unit Battery Empty
Setting Error	Setting error or super-range

Above LCD display automatically return to the initial screen in 3 seconds, button operation within 3 seconds invalid!

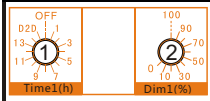
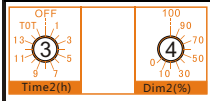
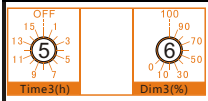
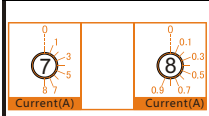
3.Working Range

The R-Unit is pointed directly in front of the Smart and please controlled the distance at 3m or less.

If you would like to configure more than one Smart, be sure to have visual proximity/contact to only one Smart controller at a time. To assure this, keep a minimum angle and distance to the others as shown below.



4.Identification and description of R-Unit

Identification	Description
	Possibilities for programming: 1~14 hours , D2D mode (Dusk to Dawn) ; Dimming: 100%~0 , 10%
	Possibilities for programming: 1~14 hours, T0T mode (* Described in Section 5.3) ; Dimming: 100%~0 , 10%
	Possibilities for programming: 1~15 hours ; Dimming: 100%~0 , 10%
	Current1 , Possibilities for programming: 0~8A ; Current2 , Possibilities for programming: 0.1~0.9A , 0.1A *Specific current according to product mode
	Possibilities for programming: 3/6V~8/16V* , Default: 3/6V
	SOC, Possibilities for programming: 1~5* ; LVD, Possibilities for programming:10.8/21.6V~11.8/23.6V*
	4 kinds of products can be set by R-Unit : DC—Smart-DC series ; CV—Smart series ; CC—Smart-CC series ; DD—Dragon series ; Slide the toggle switch, the LCD will display the corresponding product family.
	Toggle switch1, Battery type : Liquid or Gel ; Toggle switch2, Automatically Power reduced mode : A is Auto, B is Non
	Power switch, press the power button to turn on the R-Unit. Displayed on the LCD while the corresponding products. Without any response, please check whether the battery has power. *If no key is pressed within 2 minutes, the power automatically turns off, press the power button to be re-awakened.

4.1 SOC

SOC1: 11.0 V/22.0 V to 11.6/23.2 V
SOC2: 11.1 V/22.2 V to 11.7/23.4 V
SOC3: 11.2 V/22.4 V to 11.8/23.6 V
SOC4: 11.4 V/22.8 V to 11.9/23.8 V
SOC5: 11.6 V/23.2 V to 12.0/24.0 V

Around oblique line value separately on behalf of 12V and 24V system's value.

4.2 LVD

Possibilities for programming:
10.8V/21.6V~11.8V/23.6V,

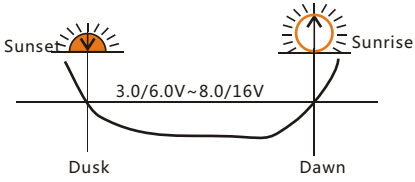
If the controller goes into low voltage protection, it will restore only when the battery being recharged and the voltage reaching the reconnect voltage.

4.3 Day/Night Threshold

The controller recognizes day and night based on the solar array open circuit voltage. This day/night threshold can be modified according to local light conditions and the solar array used.

Possibilities for programming:
3.0~8.0V/6.0V~16.0V(Default: 3.0V/6.0V).

For 24V system, the adjustment range of this day/night threshold is 6.0V~16.0V, but the setting range is 3.0~8.0V , the actual day/night threshold voltage is the setting value multiplied by two. For example, if the setting value is 3.0V, the actual value is 6.0V in 24V system.



4.4 Product Setting items

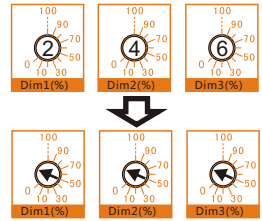
4.5 Automatically Power reduced mode

This Toggle switch 2 position A, set the controller, when the battery is low, the controller automatically reduce power operation.

*For details, please contact your dealer or the manufacturer.

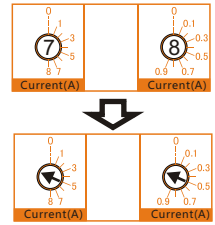
4.6 Identify other explanatory

4.6.1 Dim setting



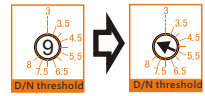
Power setting rotary switch 2,4,6, if the arrow is pointing to an empty area, the default power setting of 100%!

4.6.2 Current setting



Current setting rotary switch 7,8, if the arrow pointing to empty space, automatic identification is the default setting.

4.6.3 D/N threshold setting

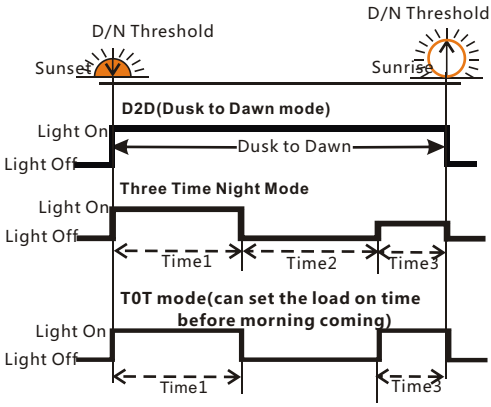


Day/Night threshold setting rotary switch 9, if the arrow points to an empty area, the default light control point is set to 3V.

For different series of products, the need to set the content is different, refer to the following schedule, in order to confirm the desired setting content.
Slide this switch to the selected set of products, all of the send / test / read operations are valid for the selected product.
*Smart Dim settings, in addition to 0%, other stalls default value is 100%.

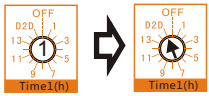
	Time1	Dim1	Time2	Dim2	Time3	Dim3	Current1	Current2	Threshold	Soc/Lvd	Battery	Power D.
	Rotary1	Rotary2	Rotary3	Rotary4	Rotary5	Rotary6	Rotary7	Rotary8	Rotary9	Rotary10	Toggle1	Toggle2
Smart-DC	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Smart	Ok	——*	Ok	——*	Ok	——*	——	——	Ok	Ok	Ok	——
Smart-CC	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok
Dragon	Ok	Ok	Ok	Ok	Ok	Ok	Ok	Ok	——	——	——	Ok

5.Operating Mode Description



5.1 Dusk to Dawn mode(D2D)

On the remote controller, D2D behalf dusk to dawn mode.



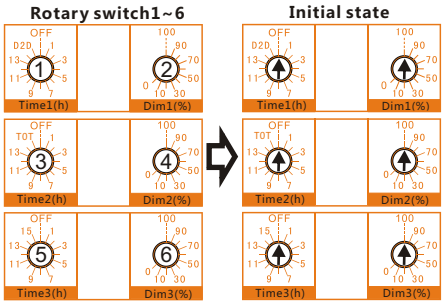
*Rotary switch 1

Smart constant current controller is set to D2D mode, corresponding to the Dim1 of a set is still valid, but the time 2 and time 3, and the corresponding Dim2 and Dim3 settings are invalid.

5.2 Three-stage Night Mode

The rotary switch 1-6 is set, the Time and Dim to achieve a variety of patterns.

* If the time is in the OFF position, the default cancel this time period.



5.3 T0T mode(can set the load on time before morning coming)

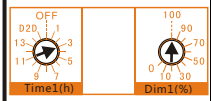
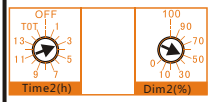
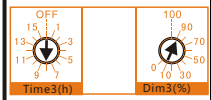
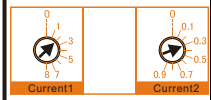
If the time 2 of the R-Unit is rotated to T0T position, this mode is T0T mode.

The following figure shows the load lit two hours after the arrival of the dusk, and then turn off (according to half-power setting determines), the load lit three hours before the arrival of the dawn.

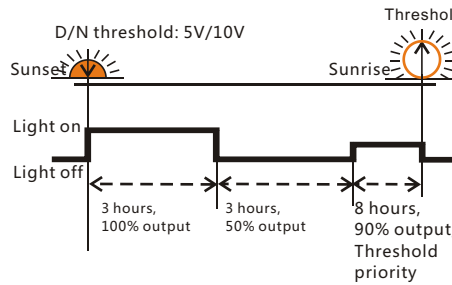
* This mode can not be set at the time a D2D stalls!

6.Setting Example

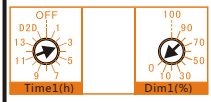
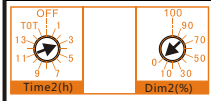
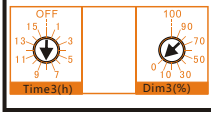
6.1 Example-1

Setting	Description
	Smart-DC series
	Time1: 3 hours ; Dim1: 100%
	Time2: 3 hours ; Dim2: 50%
	Time3: 8 hours ; Dim3: 90% ; Note: If the time exceeds the total of Time 1-3 at night, D/N threshold will be preferred.
	Current: 2.3A
	5V in 12V system , 10V in 24V system
	LVD: 11.0V/22.0V
	Battery type: Liquid

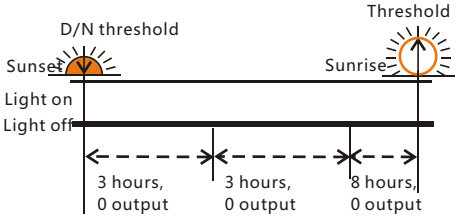
the following illustration:



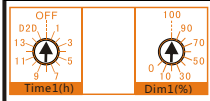
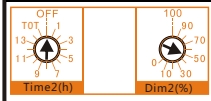
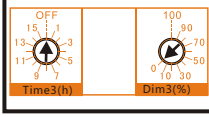
6.2 Example-2

Setting	Description
	Time1: 3 hours; Dim1: 0%
	Time2: 3 hours; Dim2: 0%
	Time3: 8 hours; Dim3: 0%

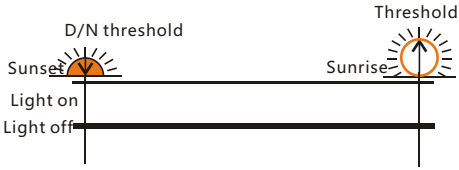
the following illustration:



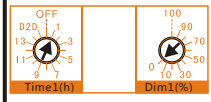
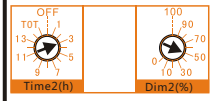
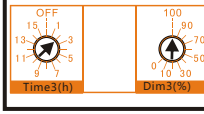
6.3 Example-3

Setting	Description
	Time1: OFF ; Dim1: Arbitrary value
	Time2: OFF ; Dim2: Arbitrary value
	Time3: OFF ; Dim3: Arbitrary value

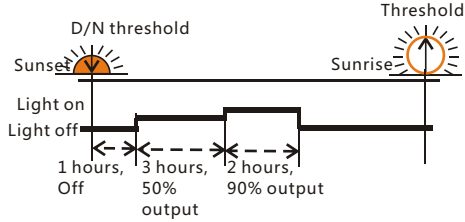
the following illustration:



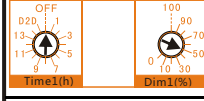
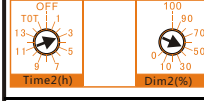
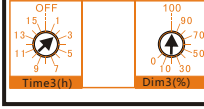
6.4 Example-4

Setting	Description
	Time1: 1 hours; Dim1: 0%
	Time2: 3 hours; Dim2: 50%
	Time3: 2 hours; Dim3: 100%

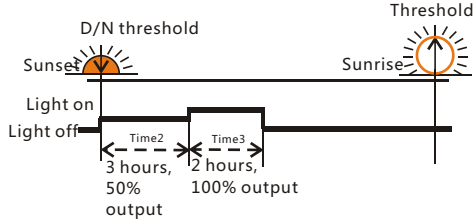
the following illustration:



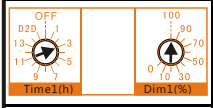
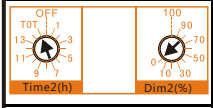
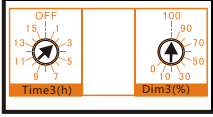
6.5 Example-5

Setting	Description
	Time1: OFF ; Dim1: Arbitrary value
	Time2: 3 hours; Dim2: 50%
	Time3: 2 hours; Dim3: 100%

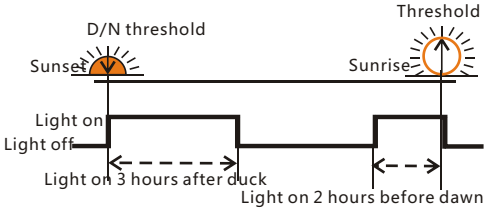
the following illustration:



6.6 Example-6

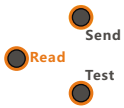
Setting	Description
	Time1: 3 hours; Dim1: 100%
	Time2: T0T ; Dim2: 0%
	Time3: 2 hours ; Dim3: 100%

the following illustration:



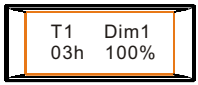
7. Information View, the test

7.1 information View

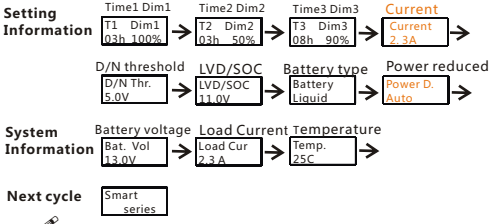


Long press (2 seconds) "Read" button, R-Unit reads the controller settings and system information; then continue press "Read" button, you can turn the page view and circular display. As shown below!

- Press the "Send or Test" key to exit, or no key operation automatically exit after 30 seconds, and then press the "Read" button to return to View.
- After the exit, if it continues to press "Send or Test" button to send and test operations, or toggle the four DIP switches to another product settings, the read information is erased and the information to avoid confusion.



R-Unit LCD



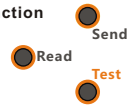
If the set products no setting item will not be displayed or directly display the default values! Controller for the first time set up, you can read the information by viewing the proofing settings are correct!

7.2 Error information

Press "Read" button, if the following message appears, it means that the corresponding controller failure. Continue to press, to show 7.1 controller information.

Display	Description
Over Current	Over Current Protection
Short Circuit	Short Circuit Protection
Low Voltage	Low Voltage Protection
High Voltage	High Voltage Protection
Over Temp.	Over Temperature Protection

7.2 Test function



Press the "Test" key to enter the test function.

Pressing "Test" button will switch on load terminal for 1 minute in daytime. The testing function can help the user to verify correct installation or for trouble shooting a system problem.

- For nominal controller, the lights can be turned off via pushing the test button again within this 1 minute.
- For Smart-CC or DC series controller, the user can press the test button again to make the controller works in dimming mode, press the button thirdly to turn off the load.

8.Technical Data

Own Consumption	10mA
Run-time	Up to 20 k programmings with 2000mAh batteries
Dimensions/Weight	175X72X28mm/160g
Ambient Temperature	-10~+60℃
Case Protection	IP22