1.03.02.10026-1

S-Unit(SU05)

Remote Controller

User Manual

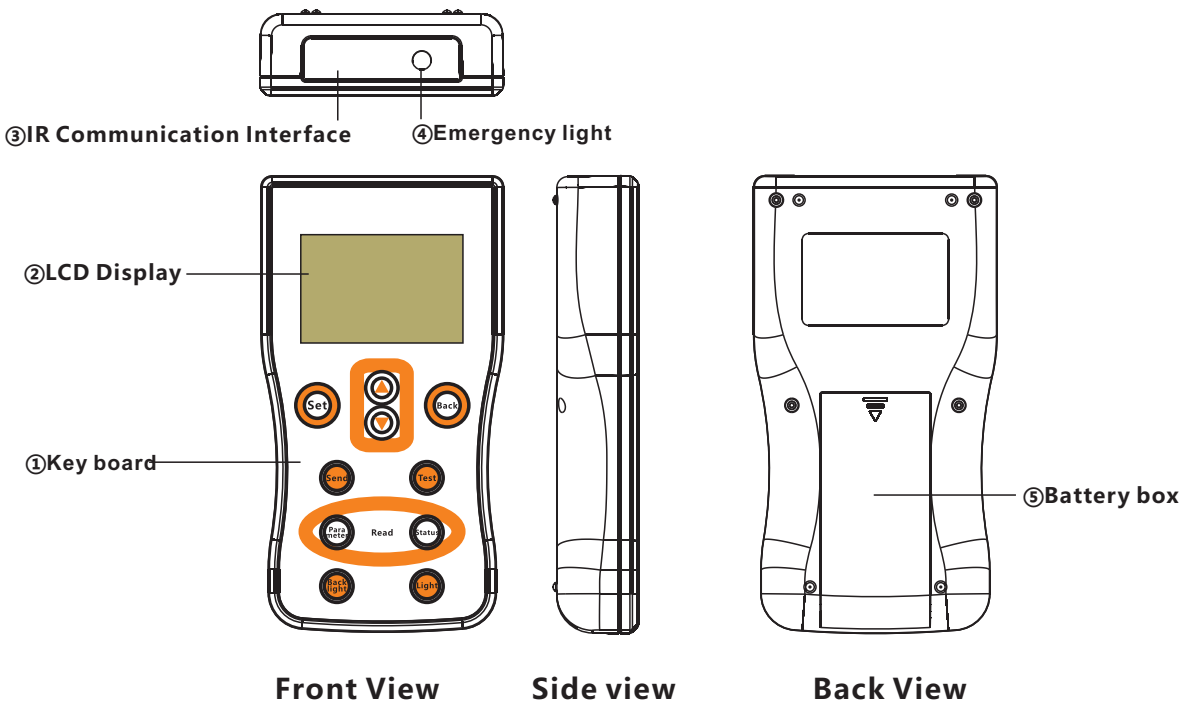
User Manual_S-series_MJ
CE, Rohs, ISO9001:2015
Subject to change without notice.

Dear Clients,

Thanks for choosing the S-series Smart Remote Controller.

With the S-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.Panel graphics



2.Description of Function

It comes with a number of outstanding features, such as:

- Professional design of intelligent remote controller settings for a variety of products
- Large LCD display with parameters and running status
- Simple and clear configuration interface
- Automatic sleeping without operation, press some keys to wake up
- Power supply: (AA) x 2pcs batteries, Battery capacity indicator
- Emergency light and SOS lights

3.Key operate instruction

Key Name		Function	Long press key function
Set		Parameter setting/ confirmation	Press “Set”and“Light” key to lock or unlock the parameters
▲		1.Menu Page Up 2.Increase the setting data	Continuous increase the setting data
▼		1.Menu Page Down 2.Decrease the setting data	Continuous decrease the setting data
Back		Return to the menu / exit	———
Send		Send Parameters	———
Test		Test the setting	———
Read	Para-meter	Read Parameters	———
	Status	Read running status	———
Backlight		Turn on the LCD backlight	———
Light		1.Open the emergency lighting 2.SOS lights switch	Press “Light”and“Set” key to lock or unlock the parameters

4.Icon Description

4.1Battery capacity indication

Capacity≥75%

50%≤Capacity＜75%

25%≤Capacity＜50%

Capacity＜25%

If the battery capacity ＜25% then the battery icon flashes to remind the user to replace the battery.

4.2Key lock and unlock

Key lock

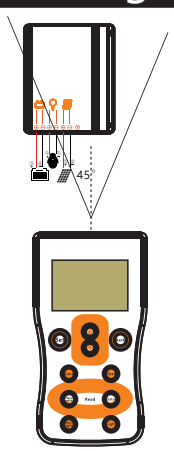
Key unlock

4.3Communication success and failure

Communication success

Communication failure

5.Operating



5.1 Precautions

- Install two AA batteries, positive and negative poles can not be reversed;
- The remote controller will automatically enter sleep mode after 1min without any key operation;
- The remote controller sets the solar controller one by one, could not set several controllers at the same time;
- Turn on the backlight and lights will shorten battery life;
- When the low battery symbol is displayed, please replace the battery;
- If long time no operation, the battery should be taken out.

5.2 Wake Up

1.Press" **Set**" or "▲▼" or **"Back"** will wake up the remote controller.

2.Press the "**Backlight**" key to wake up the remote controller will also turn on the LCD backlight.

3.Press the "**Light**" key to wake up the remote controller will also turn on the lights.

5.3 Parameter Setting

Press"▲▼ "can browse the setting parameters, when you want to modify the shading parameter, you can press the "**Set**" key, then the cursor starts blinking, press the " ▲▼ " key, the current parameter can be adjusted, after adjustment is complete, press the "**Set**" key to change to the next parameter or press the "**Back**" key to exit the current parameter setting.

——For details, please refer to Chapter 7, "Parameters Setting."

5.4 Send

When the parameters are set up , aim at the solar charge controller and press the "**Send**" key. If send successfully, remote controller displays "**Send Successful**" and will beep a long sound; if failed, remote controller displays "**Send Failure**" and beep three short sounds; if the parameters such as battery type, load current or voltage settings are wrong, remote controller displays "**Data Error**" and beep three short sounds.

NOTE: If you press the "**Send**" key, do not immediately remove the remote controller, otherwise it will cause setup failed.

5.5 Test

Aim at the solar charge controller and press " **Test**" key, the load will be on, press the "**Test**" key again the output power of the load will switch to 50%. Test mode will last for 1 min, then enter the normal work mode.

Note: This feature varies by controller, please refer to the controller' s user manual.

5.6 Transport mode

Press the "**Back**" and "**Backlight**" key at the same time more than 3s, the remote controller beeps two short sounds, at this time, the upper left of the menu shows the content from "Setting" to "Transport ".

For the lithium series controller, press the "**Test**" key in the transport mode, the remote control shows "**Transport OK**" and will be a long sound, the controller goes into the transport mode. If the remote control shows "**Transport Error**" and beeps three short sounds, the controller does not enter the transport mode.

If you want to exit the transport mode, press the “**Back**” and “**Backlight**” key again at the same time more than 3s, the remote controller beeps one short sound and the upper left of the menu shows the content from "Transport " to "Setting".

——To exit the transport mode, please refer to the controller's user manual.

5.7 Read

5.7.1 Read the parameters

Aim at the solar charge controller and press the “**Parameter**” key, the remote controller will read the setting value of the controller. If reading successfully, the remote controller will beep a long sound and display the setting values, you can press "▲▼ " key to navigate through the parameters, press the "**Back**" key to return to the previous page. If failed, the remote controller will display “**Read Failure**” and beep three short sounds, after 4s the remote controller automatically returns to the previous page.

5.7.2 Read the running status

Aim at the solar charge controller and press the” **Status**” key, the remote controller will read the running status of the controller. If reading successfully, the remote controller will beep a long sound and display the running status , you can press “▲▼ “ key to navigate through the data, press the "**Back**" key to return to the previous page. If failed, the remote controller will display “**Read Failure**” and beep three short sounds, after 4s the remote controller automatically returns to the previous page.

——For details, refer to Chapter 6, "Running status”

When display parameters or status successfully, the "**Send**" key does not work, only after press the "**Back**" key to exit, the "**Send**" key will be available.

5.8 Backlight

Press the "**Backlight**" key, the backlight of the LCD will turn on, suitable to use in dark situation.

5.9 Light

Press the "**Light**" key, the emergency light will be on, press again will switch to the SOS light, press the key the third times, the light will be off.

If you did not shut down light, it will automatically turn off after 30s.

5.10 Lock

Press the "**Set**" and "**Light**" key at the same time more than 3s, the remote controller beeps two short sounds, then the "**Set**" key will be lock to prevent carelessness operation.

If you want to unlock, press the "**Set**" and "**Light**" key again at the same time more than 3s, the remote controller beeps one short sound and the unlocked symbol comes out.

5.11 Buzzer

Beep length	Instruction
— (A short sound)	Unlock
— — (Two short sounds)	Key lock
— — — (Three short sounds)	Communication failure
——— (A long sound)	Communication successful

6.Running Status

When you press "**Status**" key, the first line of the LCD displays the system status, including "**Charge**", "**Discharge**" or "**Convert**" and so on.

If the controller is being protected for some reason, the remote controller will display failure information in priority, include "**Over CD**","**Short CD**","**Low VD**","**Over VP**","**Over TD**","**Open CP**" and"**HardwareP**".
Please refer to the controller's user manual to troubleshoot the system.

Name	Name Describe
Charge	charging
Discharge	discharging
Convert	in charge and discharge conversion
Over CD	Over current disconnect
Short CD	Short circuit disconnect
Low VD	Low voltage disconnect
Over VP	Over voltage protection
Over TD	Over temperature disconnect
Open CP	Open circuit protection
HardwareP	Hardware protection

Num	Name	Name describe	Unit
	Status:	Charge	
1	Batt V	Battery voltage	V
2	Load I	Load current	A
3	Load V	Load voltage	V
4	PV V	PV voltage	V
5	PV I	PV current *1	A
6	Energy	Total generating capacity	AH
7	OD Times	Over discharge times	Times
8	FC Times	Fully charge times	Times
9	Day1-HV	A day ago highest voltage	V
10	Day1-LV	A day ago lowest voltage	V
11	Day2-HV	Two days ago highest voltage	V
12	Day2-LV	Two days ago lowest voltage	V
13	Day3-HV	Three days ago highest voltage	V
14	Day3-LV	Three days ago lowest voltage	V

1.Some types of controller are temporarily unable to detect PV current, the remote control displays "---."

2.When read status information successfully, press the " ▲▼ " key to navigate the page, press the "**Back**"key to return to the previous page.

7.Parameters setting

Num	Name	Range
1	Time1	0~6.5H+24H+D2D ***1**
2	Dim1	0~100%
3	Time2	0~7.5H
4	Dim2	0~100%
5	Time3	0~7.5H
6	Dim3	0~100%
7	Time4	0~7.0H+T0T
8	Dim4	0~100%
9	Time5	0~7.5H
10	Dim5	0~100%
11	D/N Thr	3.0~20.0V
12	D/N Dly	0~30min
13	Load I	0.15~6.0A
14	Dim Auto	Yes/No/365 ***2**
15	Dim V	8.0~32.0V ***3**
16	Dim %	1~20%
17	Battery	LIQ/GEL/LI ***4**
18	CVT	8.0~32.0V
19	CVR	7.5~31.8V ***5**
20	LVD	10.8~11.8V,Soc1~Soc5***6**
21	LVR	11.4~12.8V ***7**
22	0℃ Chg	Yes/No/Slow ***8**
23	DelayOff	10~150s ***9**
24	Dim NP	0~100% ***10**

Num	Name describe	Step Length	Default
1	The first working time	0.5H	4H
2	Dimming percentage	10%	100%
3	The second working time	0.5H	0H
4	Dimming percentage	10%	100%
5	The third working time	0.5H	0H
6	Dimming percentage	10%	100%
7	The fourth working time	0.5H	0H
8	Dimming percentage	10%	0%
9	The fifth working time	0.5H	0H
10	Dimming percentage	10%	100%
11	Day/Night Threshold voltage	0.5V	5V
12	Day/Night open load delay time	5min	0min
13	Load current	0.05A	0.3A
14	Automatic dimming	—	Yes
15	The voltage of start dimming	0.1V	12.5V
16	Automatic dimming percentage	1%	10%
17	Battery type	—	LI
18	Charging voltage target	0.1V	14.4V
19	Charging voltage recovery	0.1V	14.0V
20	Low voltage disconnect	0.1V	11.0V
21	Low voltage reconnect	0.1V	12.0V
22	0℃ Charging Protection	—	Yes
23	Sensing delay off time	10s	10s
24	Dimming when no people	10%	10%

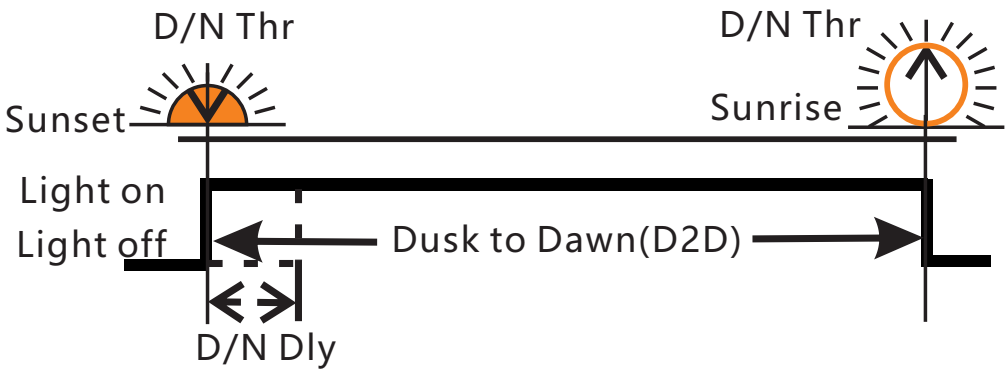
8.Work Mode

8.1 Standard(24H)

For controllers with "Standard" function(Smart series), if "Time1" is set to "24H" or "7.0H" and sent to the controller successfully, the controller's load will always open.

——For details, refer to the controller's instruction manual.

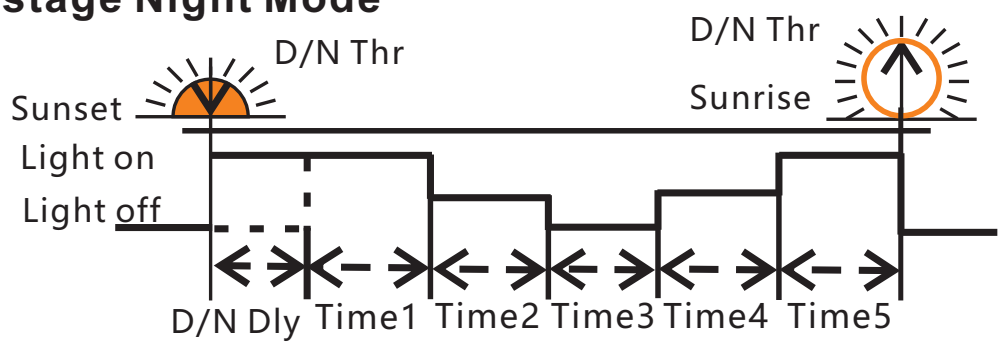
8.2 Dusk to Dawn (D2D)



If "Time1" is set to "D2D",the controller works in dusk to dawn mode.

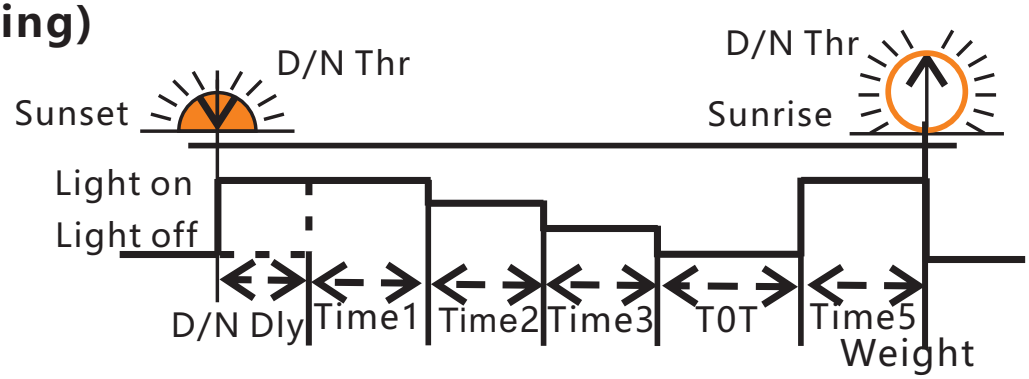
If "Time1" is set to D2D mode, "Time4" can not be set to T0T mode.

8.3 Five-stage Night Mode



You can set the Time 1-5 and Dim 1-5 with S-Unit.

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



If "Time4" of the S-Unit is set to "T0T", this mode is T0T mode.

* If Time4 is set to T0T mode, Time1 can not set to D2D mode.

8.5 Infrared sense mode

For controllers with infrared sensing function, if work mode is set to " Five-stage Night Mode" or " T0T mode" , "DelayOff" and "Dim NP" works in "Time3" and "Time4" period.

If you set the operating mode parameters are as follows:

Num	Name	Setting Data
1	Time1	1.0H
2	Dim1	100%
3	Time2	2.0H
4	Dim2	80%
5	Time3	3.0H
6	Dim3	60%
7	Time4	T0T
8	Dim4	40%
9	Time5	2.0H
10	Dim5	100%
11	DelayOff	10s
12	NP Dim	10%

The controller works as follows:

After the arrival of the evening the first time the load is lit for 1 hour (full power 100%), the second time the load is lit for 2 hours (power 80%), the third time load light for 3 hours (when people is near the lamp then the load is 60% light, when people is away from the lamp the load is 60% * 10% light), and then the controller according to the actual night time automatically calculate the length of the fourth paragraph (when people is near the lamp then the load is 40% light, when people is away from the lamp the load is 40% * 10% light), the fifth time load light 2 hours (full power 100%).

9.Technical parameters

Battery model	(AA) x 2Pcs
Power supply voltage	3.0V
Power consumed of sleep mode	<6uA
Normal power consumption	<6mA
Sending power consumption	<20mA
Light consumption	<15mA
Backlight consumption	<7mA
Effective distance	<8m
Size(mm)	120x65x20 (L x W x H)
	92g(Not including the battery)
Automatic sleep	1min
Lighting time	30s
Backlight time	30s
2000mAH battery	50000 cycles
Working temperature	-25℃~50℃
Protection degree	IP22