User Instructions for PRLCD Remote

Remote for Solar Charger Driver

Model # LSDCMPPT

Dear valued customer:

Thank you for choosing another Autec Power Systems product. Please read the following instructions carefully before use.

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1. Product Overview

PRLCD remote is used for reading and setting parameters for the Autec Power systems series LSDCMPPT. Please verify the PRLCD model version before setting the parameters. Requires 2AA batteries, batteries not included.

2. Button Instruction

LCD Display: Displays settings and system data. (Including PRLCD Remote, Controller, Battery, etc.)

Power Button: Press once to power on LCD display. To power off hold down button for two seconds.

Up Button: Press once to move the cursor up and increase the numbers; holding the button down longer will increase the speed.

Sending Button: After setting parameters, press this button, new data will be sent to the system and LCD display will show success when the highlight disappears.

Signal Shutdown Button: Press to set the controller into sleep mode.

Confirm Button: When setting parameters, press this button to select and edit the desired parameter. To confirm press button again to exit edit mode. (Highlight will disappear).

Test Button: Use this button to test system function. (If all is working well the LED will illuminate)

Down Button: Press once to move the cursor down and increase the numbers; holding the button down longer will increase the speed.

Return Button: Press to return to home screen.

3. Operation Steps

3.1: Confirm controller's model and version

Method as follows:

1. The Model No. is on the part (See image 3-1).
   LSDCMPPT is the Model No.
2. See label on the side of controller for Product Version. (See image 3-2). G5 is the Product Version.

Image: 3-1 Model No.

Image: 3-2 Product Version

3.2: Choose Correct Controller Version on the Remote

Method as follows:

1. Power on the PRLCD Remote.
2. Move cursor to “local” parameter, press “  “, and then press “  “, to “Device”. (See image 3-3). Then press “  “ again and a highlight will appear. (See image 3-4). Later press “  “ to choose model and version. Then press “  “ to confirm. When the highlight disappears, setting is successful. (See image 3-5).

Image: 3-3 Into “Local”

Image: 3-4 Choose Model

Image: 3-5 Successful

3.3: Setting parameters

Method as follows:

1. Press “return button” to exit the current screen, then press “  “ to move cursor to “SysConfig”, and then press “  “ to view parameter setting screen. (See image 3-6 and 3-7).
2. Moving cursor on related place, then press “  “, when there are shadows press ““ to adjust parameters. After setting press ““ to confirm. (See image 3-8 and 3-9).

Image: 3-6 Choose “SysConfig”

Image: 3-7 Enter “Settings”

Image 3-8 Choose parameter

Image: 3-9 Setting Successful

3.4: Input parameters to the Controller

Method as follows:

1. Before setting parameters please make sure the remote is connected with the controller(Solar Charger/Driver). The remote should be in the range of the sensor, otherwise it won't set properly. See Image 3-10.
2. Important: Align top of remote with IR receiver sensor on the controller(Solar Charger/Driver). After the remote LCD displays correct set up of parameters, press "  ", then you will hear a tone, which will indicate the controller(Solar Charger/Driver) is successfully programmed with the new settings.

Image: 3-10 Remote IR Communication

3.5: Checking/Reading the Settings of the Controller(Solar Charger/Driver)

Method as follows:

1. Press "  " to move cursor to "SystemInfo" then into submenu of "Settings", press "  " to select, and press "  " again, then you can view all currently set parameters. As image 3-11~3-14 shows.

Image: 3-11 Settings Menu

Image: 3-12 Edit Settings

Image: 3-13 Press "" to adjust parameter

Image: 3-14 Press "  " to confirm

3.6**: Checking status and warning** Users can check the status of the controller(Solar Charger/Driver) once the remote is successfully connected by IR communication.

4. Related information (Definitions)

Battery Under-voltage: When the battery voltage is below the low-voltage protection setting, the output current will be stopped.
Recovery-voltage: The battery will output only when the correct voltage is restored.
Boost Charge Voltage: Charging voltage of the Battery.
Float Charge Voltage: Float Charge Voltage is only used for Lead-acid battery. Lead-Acid battery types need float charge method when the battery reaches the standard charging voltage. This can help fully charge the battery.
Low Voltage: The LED lamp will shut down when battery voltage reaches this value.
Clear Under-voltage: Low voltage hysteric.
PV Voltage: Photo-Voltaic Voltage (from the solar panels).
Lighting control: When PV voltage is **below** the setting of lighting voltage = lights on; When PV voltage is **above** the setting of lighting voltage = lights off.
Timer Control mode: The Timing Control can be set in five different intervals. Each Interval can be set from 0-9hours. This can help save power/current.
Sensor mode: When infrared or microwave sensor detects movement, the light will be brighter, otherwise lights will go out when no motion is detected. The lighting can be adjusted as desired.
Delay sensor mode: During the lighting period, the primary method of lighting is timer control mode, the secondary method of lighting is sensor mode.
Morning light mode: Lighting before sunrise
Power saving mode: when this mode is activated, the controller will adjust the output based on battery voltage.
Start Saving Power: Starts at this setting to reduce the output current of the LED lamp in order to get a longer "lights on" time.
Super Saving Power: The output current will stay at 50mA when the battery drops to this value.

For example; Assuming the battery setting as below:

Average voltage: 12.5V
Under-voltage: 9V
Recovery: 11.1V
Power saving: on
Start saving power: 11V
Super saving power: 10V

Power saving - Model 2: split into 5 levels, each level reduces by 10%

10.8-11V:85% on base of original setting

10.6-10.8V:70% on base of original setting

10.4-10.6V:55% on base of original setting

10.2-10.4V:40% on base of original setting

10-10.2V:25% on base of original setting

Power saving - Model 1: split into 5 levels, each level reduces by 15%

10.8-11V:85% on base of original setting

10.6-10.8V:70% on base of original setting

10.4-10.6V:55% on base of original setting

10.2-10.4V:40% on base of original setting 40%

10-10.2V:25% on base of original setting 25%

Start Saving Power and Super Saving Power must be higher than low-voltage setting. Start Saving Power voltage must be higher than Super Saving Power.
When the voltage drops to low-voltage setting the lamp will turn off. When the battery voltage recovers to 11.1V, the lamp will turn on again.

Attention:

1. For both model 1 or model 2, when the electrical current is below 50mA, the battery will operate.
2. *Start Saving Power* and *Super Saving Power* must be above *Under-voltage*, *Start Saving Power* voltage must be above *Super Saving Power* voltage settings.
3. Only G3 has “model 1” & “model 2” options. G4 and G5 are “power saving models”, same as “model 1”.

5. Lock/Unlock Remote

The remote can be used to program many controllers. Once the controllers are programmed successfully, the remote can be locked to prevent accidental reprogramming. The remote can be unlocked and be used again.

Lock/Unlock operation as below:

Press "  ", "  " and "  " at same time, when you hear tone it means it's locked. Press the three buttons again to unlock.

Note: Under locked condition you can't revise parameters, but you can read controller's parameters.

Image 3-15 lock/unlock remote

6. Indicator Light of Controller Conditions

Below are the Controller LED *Alert Conditions*:

No.	Condition	Run Status	Charge	Discharge
1.	Initialization	Flashing	Flashing	Flashing
2.	Standby	ON	OFF	OFF
3.	Discharge	ON	OFF	ON
4.	Charging	ON	ON	OFF
5.	Battery reversed	OFF	Fast Flashing	OFF
6.	Output Short	OFF	OFF	Fast Flashing
7.	Battery Voltage Low	OFF	Slow Flashing	OFF
8.	Driver Timeout	OFF	OFF	Slow Flashing
9.	Battery Voltage High	Slow Flashing	OFF	OFF
10.	PV Voltage High	Fast Flashing	OFF	OFF
11.	PV Reversed	Fast Flashing	Fast Flashing	OFF
12.	Parameter Set Fail	Slow Flashing	Slow Flashing	OFF
13.	Save Parameter Fail	Fast Flashing	Fast Flashing	Fast Flashing

7. Setting Battery Parameters (For Reference)

	String No.	Standard Voltage	Boost Charge Voltage	Low Voltage	Recovery-Voltage	Lighting Control Voltage	Start Saving Power	Super Saving Power
LiFePO4	1	3.2	3.6	2.6	3.0	1-3	3.2	3.1
	4	12.8	14.4	10.5	12	4-5	12.8	12.4
	8	25.6	28.8	21	24	8-10	25.6	24.8

	String No.	Standard Voltage	Boost Charge Voltage	Low Voltage	Recovery-Voltage	Lighting Control Voltage	Start Saving Power	Super Saving Power
Li-ion	1	3.7	4.15	3	3.5	1-3	3.8	3.3
	3	11.1	12.5	9	10.5	4-5	11.4	10
	6	22.2	25	18	21	8-10	22.8	20

	String No.	Standard Voltage	Boost Charge Voltage	Low Voltage	Recovery-Voltage	Lighting Control Voltage	Start Saving Power	Super Saving Power	String No.
Lead-acid	6	12	14.4	13.6	11	12.5	4-5	13	12
	12	24	28.8	27.2	22	25	8-10	26	24

- Above parameters are for reference, users should set parameters according to their lighting needs.