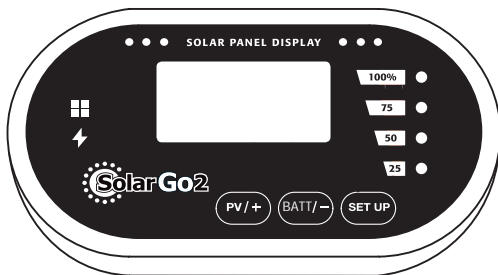




User Manual

Remote Display

For the range of SolarGo2
MPPT solar charge controllers

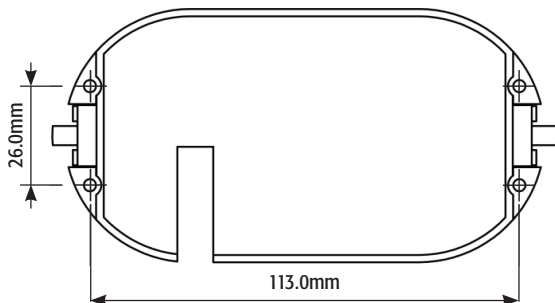


Part Number
SG2-MPPT-Display

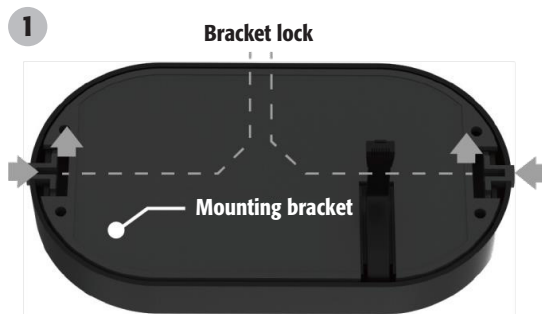
Important: Please read before first use.

MOUNTING THE DEVICE

Mounting dimension

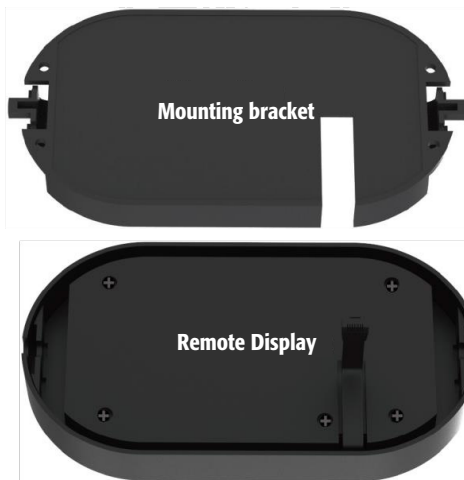


Surface mounting instruction



As per above illustration, press the bracket on the left and right side to take away the mounting bracket from the Remote Display.

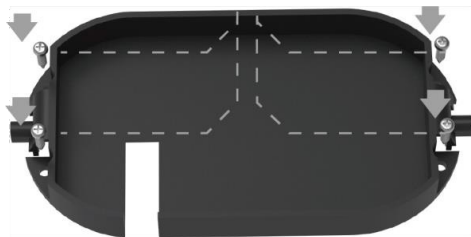
2



Position the mounting bracket to the desired mounting surface.

3

Bracket screws



Secure the mounting screws to the desired mounting surface as per above illustration.

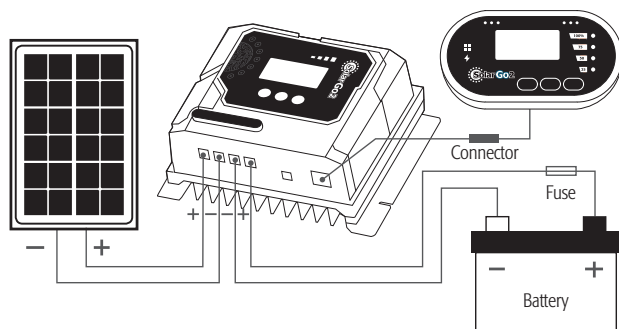
4



Clip the Remote Display into the mounting bracket.

WIRING CONNECTIONS

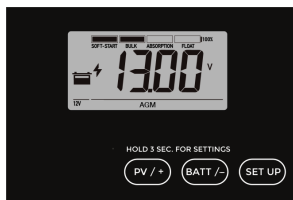
Refer to the wiring diagram below.



Remote Display connections:

1. Connect the Remote Display to the port of the MPPT solar controller.
2. The connecting cables can be detachable by inline connector.

When the connections are completed, the Remote Display will start working automatically.



OPERATION - LCD DISPLAY

When the controller powers on, the Remote Display will run self-qualify mode and automatically show below items on LCD before going into charging process.

8888	Self-test starts, digital meter segments test
r001	Software version test
12V 30A	System battery voltage and current test

System battery voltage setting

Press and hold the **SET UP button** for 3 seconds to go into the system battery voltage setting mode, press **PV / +** or **BATT / - button** to select your desired system battery voltage 12V, 24V or AUTO, press the **SET UP button** again to confirm the battery voltage setting.

The display in sequence,



The Remote Display will automatically memorize your previous battery voltage setting. If AUTO mode selected, the controller will automatically detect 12V or 24V battery connected.

System battery type setting

Please check your battery manufacturer's specifications to select correct battery type. The unit provides 8+1 battery types for selections: LCO, LTO, LFP, Crystal (Lead crystal), Gel, AGM, WET (Conventional lead acid) and Calcium (Calcium contented) battery plus custom setting.

Follow up the battery voltage setting. Press the **SET UP button** to go into your battery type setting mode, the battery type you select will be flashed on the LCD meter, the default setting is AGM Battery; the controller will automatically memorize your battery type setting.

Please note: LCO battery type setting is only recommended working with **3-SERIES** Lithium Cobalt Oxide LiCoO_2 battery.

LFP battery shown in LCD indicates Lithium Iron Phosphate battery, LiFePO_4 battery.

LTO battery shown in LCD indicates Lithium titanate oxidized, $\text{Li}_4\text{Ti}_5\text{O}_{12}$ battery.

Caution: Incorrect battery type setting may damage your battery.

Press **PV / +** or **BATT / - button** to navigate your desired battery type as below:



Press the **SET UP button** again, the selected battery type will be solid On and confirmed.

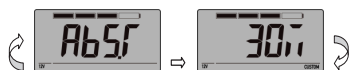
Custom setting

The Remote Display provides a custom mode to meet your special battery charging demand, the users can preset the Absorption voltage level and duration, Equalization voltage level, duration and periodical cycle, Float voltage level and Reset voltage level for your targeted battery charging parameters.

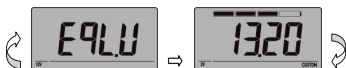
Alternatively display Absorption Voltage character **Abs.U** and voltage data when going into custom mode.



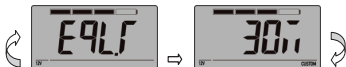
Absorption voltage setting range from 13.20V ~ 15.50V, press **PV / +** or **BATT / - button** for once +/- 0.05V variation, press the **SET UP button** again to confirm the absorption voltage level you preset, then move to next Absorption duration setting.



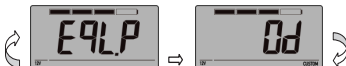
Alternatively display Absorption time character **AbS.T** and duration data; Absorption duration setting lasted from 5 – 500 minutes, press **PV / +** or **BATT / - button** for once +/- 5 minutes variation, press the **SET UP button** again to confirm the absorption duration setting, then move to next Equalization voltage setting.



Alternatively display Equalization voltage character **EqL.U** and voltage data; Equalization voltage setting range from 13.20V ~ 16.2V, press **PV / +** or **BATT / - button** for once +/- 0.05V variation, press the **SET UP button** again to confirm the Equalization voltage and then move to next Equalization duration setting.



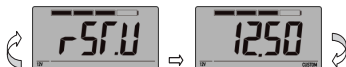
Alternatively display Equalization Time character **EqL.T** and duration data; Equalization duration setting lasted from 5 – 500 minutes, press **PV / +** or **BATT / - button** for once +/- 5 minutes variation, press the **SET UP button** again to confirm the Equalization duration setting and then move to next Equalization periodical cycle setting.



Alternatively display Equalization periodical cycle character **EqL.P** and cycle day; Equalization periodical cycle day setting from 0 – 100 days, press **PV / +** or **BATT / - button** for once +/- 1 day variation, 0 indicates no Equalization setting; press the **SET UP button** again to confirm the Equalization periodical cycle setting and move to next Float voltage setting.



Alternatively display Float voltage character **FLT.U** and voltage data; Float voltage setting range from 13.00V ~ 14.00V, press **PV / +** or **BATT / - button** for once +/- 0.05V variation, press the **SET UP button** again to confirm the Float voltage and then move to next Reset/Restart setting.



Alternatively display Reset / Restart voltage character **rST.U** and voltage data; Reset voltage setting range from 12.50V ~ 13.50V, press **PV / +** or **BATT / - button** for once +/- 0.05V variation, press the **SET UP button** again to confirm the Reset / Restart voltage and all settings will be automatically stored.

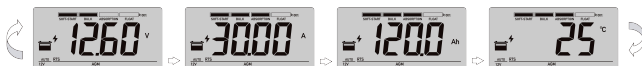
Solar input parameter display

Once the settings are completed, the solar controller will automatically go into charging process, the LCD displays the parameters of solar input as below:

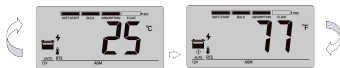
Press **PV / + button** in sequence, the LCD will display in turn with solar input voltage, current, power and kWh.



Press **BATT / - button** in sequence, the LCD will display in turn with battery voltage, charging current, charged capacity (Amp-hour) and battery temperature (if external temperature sensor connected).



The users also can read the battery voltage as degree centigrade or Fahrenheit degree by pressing **SET UP button** for converting.



Alternatively display voltage and FUL when battery is fully charged.






You also can visually monitor your battery charging condition for each battery. There is an LCD bar to show the percentage of charge. You can easily see the battery is charged to 25%, 50%, 75% or 100%, and also roughly match each charging stage of Soft-start, Bulk, Absorption and Float.








The LCD also can be treated as an independent voltage meter.











OPERATION - L.E.D. INDICATION

Normal charge

LED indications						
LED colour	green	blue	white	white	white	white
Soft-start	on	flash	flash	off	off	off
Bulk charge	on	on	on	flash	off	off
Absorption / Equalisation	on	on	on	on	on	flash
Float charge	on	off	on	on	on	on

Abnormal charge

Solar panel abnormal mode	LCD display	LED indicator	CD backlight
Solar panel weak <15V		 flash on	on
Solar panel reverse connection		 flash on	flash
Solar panel over voltage (>95V)		 flash on	flash

Battery abnormal mode	LCD display	LED indicator	CD backlight
Solar panel is connected, battery disconnected		 flash	flash
Battery reverse connection		 flash	flash
Battery over voltage than >17V		 flash flash flash flash	flash
Battery temperature over 65°C		 flash flash flash flash	flash
The controller over temperature protection		 on	flash

MAINTENANCE

1. Ensure all wire connections are solid and free from corrosion, overheating, replace any wires showing wear with new wires of the same gauge.
2. Check each LED status and LCD display to ensure match with specifications using a voltmeter.



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