



<b>1</b>	<b>Electrical Parameters</b>			
1-1	Normal input solar cell array voltage :	17 to 22		Vdc
1-2	Peak solar cell array voltage	23		Vdc
1-3	Maximum Current Consumption when connected 15V Array ( battery not present ) :	50		mAdc
1-4	Maximum Current Consumption when connected 13V battery ( Array not present ) :	25		mAdc
<b>2</b>	<b>Output Control &amp; metering Characteristics</b>			
2-1	<b>Charging Method    Level 1   →   Level 2   →   Level 3</b>			
2-2	<b>Minimum Charging Condition for startup :</b>			
	<i>2-2-1 Correct Polarity at input and output;</i>			
	<i>2-2-2 Charging start when Battery voltage not less than</i>	<i>5,0</i>	<i>+/- 0.3</i>	<i>Vdc</i>
	<i>2-2-3 Minimum Solar cell array voltage</i>	<i>13,0</i>	<i>+/- 0.3</i>	<i>Vdc</i>
	<i>2-2-4 Solar cell array voltage is higher than battery voltage</i>	<i>1,0</i>	<i>+/- 0.3</i>	<i>Vdc</i>
2-3	Maximum Charging Current at Level 1 period	30,0	+/- 1	Adc
2-4	Maximum charging voltage at Level 2 Period, for GEL Battery	14,1	+/- 0.3	Vdc
2-5	Maximum charging voltage at Level 2 Period, for LEAD-ACID Battery	14,5	+/- 0.3	Vdc
2-6	Level 1 to Level 2 Period when charging voltage reach, for GEL Battery	14,1	+/- 0.3	Vdc
2-7	Level 1 to Level 2 Period when charging voltage reach, for Lead-Acid Battery	14,5	+/- 0.3	Vdc
2-8	Level 2 to Level 3 Period when charging current reach, for GEL Battery	8,5	+/- 1	Adc
2-9	Level 2 to Level 3 Period when charging current reach, for Lead-Acid Battery	8,5	+/- 1	Adc
2-10	Maximum charging voltage at Level 3 Period	13,5	+/- 0.3	Vdc
2-11	LCD Meter Accuracy at DC Voltage	3		%
2-12	LCD Meter Accuracy at DC Current	5		%

Remark: 1) From item 2-3 to 2-10, the voltage and current are measured at output terminal side.  
2) LCD readings are measured from output terminal of the solar controller.

- 3 Protection**  
3-1 Over temperature protection active at above 70 °C  
3-2 The charger will resume the charging at about 65 °C

<b>4</b>	<b>LED &amp; LCD Indication</b>				
	<b>LED Indication</b>	<b>Upper LED Colour</b>	<b>Solar Power RED</b>	<b>Charging BLUE</b>	<b>Float GREEN</b>
4-1-1	Solar Power Present, Battery not present		ON	OFF	OFF
4-1-2	Solar Power Weak		ON	Flash	OFF
4-1-3	Charging at Level 1 Period		ON	ON	OFF
4-1-4	Charging at Level 2 Period		ON	ON	OFF
4-1-5	Float at Level 3 Period		ON	OFF	ON
		<b>Lower LED Colour</b>	<b>GOOD GREEN</b>	<b>FAIR YELLOW</b>	<b>POOR RED</b>
4-2-1	Battery Voltage below 11.5V +/- 0.3V		OFF	OFF	ON
4-2-2	Battery Voltage in between 11.5V and 12.5V +/-0.3V		OFF	ON	OFF
4-2-3	Battery Voltage above 12.5V +/- 0.3V		ON	OFF	OFF
4-2-4	Output terminal open circuit ,short circuit and Reverse Polarity		OFF	OFF	Flash
	<b>LCD meter Indication</b>				
4-3-1	Upper mode switch for		Battery Current mode (Display Pattern : xx.x)		
4-3-2	Middle mode switch for		OFF LCD		
4-3-3	Lower mode switch for		Battery Voltage mode (Display Pattern : xx.x)		

- 6 Electrical Parts**  
6-1 Input and output Terminal specifications : M5 Copper terminal  
Remark : The input and output terminal wire should be used 10 AWG or more; otherwise the voltage difference between output terminal and battery terminal are about 1Vdc.

- 7 Physical Parameters**  
7-1 Panel material : Plastic, ordinary ABS  
7-2 Panel dimension : 182 (W) x 110 (L) mm  
7-3 Overall depth : approx. 45 mm  
7-4 Net weight : approx. 400g

- 8 Environmental Characteristics**  
8-1 Operating temperature : 0 to 50 °C  
8-2 Storage temperature : -10 to 70 °C  
8-3 Operating Humidity range : 0 to 80% RH

**9 Charging Curve (Voltage)**

