

300VA Solar Inverter



Product Specifications

Parameters	300VA (Output Power – 240 W)		
	Narrow voltage	Wide voltage	
1. Voltage:			
- Mains AC lower voltage cut / Recovery	180 ± 5 V / 190 ± 5 V	110 ± 10 V / 120 ± 10 V	
- Mains AC Higher voltage cut / Recovery	265 ± 5 V / 255 ± 5 V	285 ± 10 V / 275 ± 10 V	
2. Battery charging voltage range	180 V AC to 265 V AC	110 V AC to 285 V AC	
3. Output voltage (Inverter mode)			
without load (V)	230 ± 5 %	230 ± 5 %	
Voltage Regulation(V)	230 ± 10 %	230 ± 10 %	
4. Change over time	< 10 milli-sec	< 30 milli-sec	
5. Battery Charging:			
through grid(AC Mains)			
No. of Batteries	Single (12V)		
Charging Current	> 120 V AC	180 V AC - 230 V AC	> 260 V AC
	1.5 +/- 0.5 A	5 +/- 1 A	5 +/- 1 A
'Boost Charging' voltage	14.4 ± 0.2 V		
'Float Charging' voltage	13.8 ± 0.2 V		
Charging methodology	Constant current followed by constant voltage		
Through grid(AC Mains)			
'Battery low voltage cut-off	10.8 ± 0.2 V		
6. No Load Current	Shall be less than 1.0A		
7. SPV Charging (PWM Charge			

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Controller):	
Nominal SPV input voltage	12V DC
Max. SPV input voltage	30V DC
Float Charge	13.7V DC (25 deg. C
Main Charge	14.4V DC (25 deg. C), 30 min. (daily)
Boost charge	14.4V DC (25 deg. C), 2 h
Equalisation	14.8V DC (25 deg. C), 2 h
Max. charge current	15.0 A
Recommended Battery Capacity	80 AH to 180AH (Flat Paste Flooded or Tubular)
8. Output Wave form	Pure Sine Wave
9. Output frequency	Same as input when AC mains available & 50.0 ± 0.5 Hz on UPS
10.Efficiency	AC to DC : $\geq 75\%$ DC to AC : $\geq 80\%$
11.Operating Environment	0 deg. C to 50 deg. C
12. LED indications (Display)	LED No. (from left) 1. SPV ON (Continuous glow) 2. Mains ON (Continuous glow when mains input voltage as per Point No. 1) 3. Charging (Continuous glow when battery charged); (Blinking when battery getting charge through mains) 4. INV ON (Continuous glow either mains is not available or input voltage out of range as per Point No. 1) 5. Over load (Continuous glow in short circuit); (Blinking in overload) 6. Low battery (Continuous glow when battery voltage reaches as per Point No. 5.5)

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13. Audible Alarm	<p>Low battery : When battery voltage reaches 10.8 ± 0.2 V, Long beep with 2sec delay between beeps</p> <p>Over load : Beep sound for 1 minute continuously then Inverter goes to shutdown, again inverter gets ON within 5 sec if load gets reduced</p> <p>Short circuit : Long beep continuously till the UPS reset</p>
14. Protections:	
Over load	<p>100 + 5% load on UPS</p> <p>(auto reset if reduce the load within 3 retries - Beep sound for 1 minute continuously then Inverter goes to shutdown, again inverter gets ON within 5 sec., checks for this condition)</p>
Over charge	Protects the battery from overcharging by limiting the charging current & voltage
Short circuit	Shutdown when AC mains is not there and AC fuse fails when AC mains is available
Thermal shutdown	Above 93 deg. C inside the unit
Battery reverse polarity	Protects the UPS and DC fuses blown on PMB
Battery deep discharge	Protects the battery from deep discharge having cut-off at 10.8 ± 0.2 V DC (per battery)
15. Mechanical Details:	
Cabinet	Full Metal Cabinet with Sticker on Front side
Cabinet Colour	White
Outer dimensions (All dimensions in mm)	<p>Without Carton Box:</p> <p>300VA: 270 (L) x 240(W) x 110 (H)</p>
Carton Box	Plain white
16. Recommended Loads	Light, Fan & Television

Load Assumptions: Fan – 42 Inch Sweep considering 75W; Light – 4 Feet Tube Light considering 40W; Television – 21 Inch CRT considering 150W; CFL – 18 W