



SUN MAGIC

***SUN MAGIC* is a state of art PCU product from ENERTECH product basket with Global standards. This unit will give operational flexibility to its customers to enjoy the benefits of advanced monitoring and control features.**

Grid power in Indian subcontinent frequently suffers from voltage &/or frequency variations , Grid outages, voltage sag/ surges which inhibits users from enjoying benefits of solar grid tied systems.

***SUN MAGIC* series has evolved to overcome the limitations and give maximum possible yield to its users using DSP based advance control and monitoring features.**

***SUN MAGIC* product range aims to cater roof top requirement for commercial, Individual and utility scale solar plant requirements with 3Phase grid export + battery backup feature.**

***SUN MAGIC* range of products are ideal for projects ranging from 1KWp to 15KWp array installations-1Phase applications. *SUN MAGIC* product, packaged with optional data monitoring software, GSM based wireless monitoring provides perfect solution for power plant management large scale.**

Distinctive Features:

- ✓ Bidirectional solar PCU
- ✓ Hybrid inverter (Solar/ Grid/BATT)
- ✓ Vector Modulated Inverter Control
- ✓ Multiple DSP control operation
- ✓ Range 1KVA to 15KVA
- ✓ Battery Less operation compatible
- ✓ Paralleling Compatibility
- ✓ MPPT Based Solar Charger -2 modes of operations
- ✓ Higher Capacity PV connection option available
- ✓ Multi Mode function: SGB/ SBG/GFM (selectable)
- ✓ SBG Modes with Buffer level selection facility 25/50/75
- ✓ GFM FEED mode feeds power to grid when grid available, feeds power to load when grid fails.
- ✓ GFM levels are selectable 0/25/50/75/100
- ✓ Unity power Factor for grid charging
- ✓ Adjustable Grid Charging Current:
- ✓ Vthd <3%
- ✓ Changeover time less than 20ms
- ✓ 20 X 4 LCD with backlight & Tactile Key Pad Interface
- ✓ Detailed Metering : Solar KW , Solar KWH,
- ✓ Fault logs : 6 recent faults
- ✓ Auto fault reset for non critical faults
- ✓ Optional Input : Pyranometer , Wind speed, Battery
- ✓ Generator compatible
- ✓ Communication Port: RS232
- ✓ GSM Based Remote Monitoring option

SPECIFICATIONS

SR.No	Parameter	1KVA	2KVA	3KVA	5KVA	6KVA	8KVA	10KVA	12.5KVA	15KVA
GRID CHARGER										
1	Grid Voltage Sync Range	170V to 260V (±5V)								
2	Grid Frequency Sync Range	50Hz ± 6%								
3	Charger Peak Efficiency	Higher than 90%								
4	Max Grid Import Power Capacity	Double of Inverter capacity dependent on battery charging current								
5	Max Batt Amp (Charging)	5A to 20A selectable								
6	Self Consumption	Lower than 4%								
7	Recommended DG/GRID Capacity	Double of Inverter Capacity								
SOLAR CHARGE CONTROLLER										
Controller Type		DSP								
1	Charge Controller Type	MPPT								
2	Charger Topology	BUCK								
3	MAX PV Connection Capacity	1 KWP	2 KWP	3 KWP	5KWP	6 KWP	8 KWP	10KWP	12.5KWP	15KWP
4	No of MPPT Channels	1								
5	Per Channel PV Capacity (Nominal/ Peak)	1 KWP	2 KWP	3 KWP	5KWP	6 KWP	8 KWP	10KWP	12.5KWP	15KWP
6	Max. Open Circuit PV Volts (Voc)	150V	150V	250V	250V	250V	300V	300V	300V	300V
7	MPPT Voltage Range	65 –120V	65 –120V	130-200V	130-200V	130-200V	165-250V	165-250V	165-250V	165-250V
8	Minimum PV Voltage	65V	65V	130V	130V	130V	165V	165V	165V	165V
9	Max I/P Amps per channel	21A	41 A	31 A	52 A	62 A	66 A	83A	104	125
10	Max Battery Amps during PV charging	Full Capacity in Boost Mode / Current Control in Float Mode as per Battery AH								
11	Battery type Supported	LMLA, VRLA, SMF, Ni-Cd: Charging Profile can be configured as per the battery requirement								
12	Peak Charging Efficiency	Higher than 94% Upto 98%								
INVERTER										
Controller		DSP								
Switching Element		IGBT								
1	Nominal Battery Voltage VDC	48	48	96	96	96	120	120	120	120
2	No of Phases/Connection Type	1Ph , 3 Wire- LNE								
3	Nominal Output Voltage	230V AC ±2%								
4	Output Frequency	50Hz ± 0.5%								

5	Continues Output Power	800 WP	1600 Wp	2400 WP	4000 WP	4800 WP	6400 WP	8000 WP	10,000 WP	12,000 WP	
6	Out put Amp	3.5	7	10.5	17	21	28	35	43.5	52	
7	Voltage Regulation (Stand Alone)	±2%									
8	Frequency regulation (Stand Alone)	±0.5Hz									
9	THD	THD less than 4%									
10	Out Put Waveform	Pure Sine Wave									
11	Galvanic Isolation	In built Isolation Transformer at Inverter Output									
12	Output Power Factor	0.8 Lagging									
13	Peak Efficiency (Full Load)	Higher than 75%			Higher than 94%						
14	Overload capacity	125% FOR 60 SEC, 150% FOR 5 SEC / Can be customized									
15	DG Compatibility	Available									
16	Auto Bypass feature	Available									
17	Grid Export Mode	Available, Enable/Disable Options available									
18	Anti Islanding Function	Available, In Compliance with IEC 62116									
19	Compatible IEC standards	IEC -61683:1999- As per MNRE Requirement									

CONFIGURATION

1	Modes Available	3: Hybrid , Grid Export, Stand Alone								
2	Battery Buffer Setting	Selectable from 25%,50%,75%								
3	MPPT Modes	2								

INDICATIONS

1	LED	Grid On, PV On, Grid Charger On,, Load On Grid, Load On Battery , Fault								
2		LCD Display Parameters								

		Load Status	INPUT GRP	INVERTER GRP	O/P GRP	Solar GRP	Batt GRP	Dash board	Faults	
		Load on Batt Grid CHRG Grid Sharing	Voltage Current Frequency	Voltage Current	Voltage Current Frequency	PV Vol, Curr PV Power PV Energy	Voltage Status Current CH Current DISC	Input KW Output KW Solar KW	Recent 6 fault since last reset	

3	Alarm	Audible For Fault And Warnings								
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PROTECTIONS

1	PV	Reverse Polarity Indication, optional- Surge Protection								
2	Battery	Over/ Under Voltage, Over Charge , Optional - Reverse Polarity ,Over Temp								
3	Grid	Over/ under Voltage, Over/ Under Frequency, Optional - Surge Protection								
4	Load	Overloads, Short circuit								

5	Circuit Breakers	Grid Input MCB, Battery Input MCB, PV Input MCB, Load Rotary Switch								
6	Temperature	Inverter Over Temperature (optional)								
Enclosure										
1	Degree of Protection	IP 20 Compatible to IEC 60529:2001-02- As per MNRE Requirement								
2	Cooling	Forced Fan Cooling								
3	Noise	<50dB								
4	Color	Siemens Grey/Blue								
5	Termination	Bottom								
6	Weight	35KGS	40KGS	55KGS	75KGS	75KGS	115KGS	125KGS	135KVA	170KGS
Environmental										
1	Temperature Range (Operating)	0 to 50°C								
2	Temperature Range (Storage)	-10 to 50°C								
3	Altitude (max)	1000 m								
4	Humidity	0-95% NON Condensing								
5	Compatible IEC standards	IEC- 60068-2-1, IEC-60068-2-2, IEC-60068-2-14, IEC-60068-2-30- As per MNRE Requirement								
	Connectivity	RS-232/GSM								

Specifications are subjected to changes without prior notice

OTHER PRODUCTS:

Solar Conversion KIT, Solar Lift Inverter, Solar PCU for Petrol Pump, AJB ACDB DCDB ,Industrial ONLINE UPS, Industrial Battery charger, Frequency Converter, Grid Tied Inveter

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OUR APPROVALS

