

ENERTECH UPS PVT LTD



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 10KWp to 100KWp array installations-3Phase 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 10KW to 100KW
- ✓ 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:
- ✓ $V_{thd} < 3\%$
- ✓ Changeover time less than 20ms
- ✓ 40 X 4 LCD with backlight & Tactile Key Pad Interface
- ✓ Detailed Metering : Solar KW , Solar KWH,
- ✓ Fault logs : 9 recent faults
- ✓ Auto fault reset for non critical faults
- ✓ Optional Input : Pyranometer , Wind speed, Battery Temperature, Heat sink Temperature
- ✓ Advanced Battery Management Feature
- ✓ Temperature Compensated Charging
- ✓ Generator compatible
- ✓ Communication Port: RS232
- ✓ GSM Based Remote Monitoring option

SPECIFICATIONS

SR.No	Parameter	10KVA	15KVA	20KVA	25KVA	30KVA	40KVA	50KVA	60KVA	80 to 100KVA
GRID CHARGER										
1	Grid Voltage Sync Range	330V to 450V(±5V)								
2	Grid Frequency Sync Range	50Hz ± 6%								
3	Charger Peak Efficiency	>90%								
4	Max Grid Import Power Capacity	Double of Inverter capacity dependent on battery charging current								
5	Max Batt Amp (Charging)	5A to 200A subjected to battery capacity and inverter rating								
6	Self Consumption	<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	10KWP	15KWP	20KWP	25KWP	30KWP	40KWP	50KWP	60KWP	80KW to 100KW
4	No of MPPT Channels	1								
5	Per Channel PV Capacity (Nominal/ Peak)	10KWP	15KWP	20KW WP	25KWP	30KWP	40KWP	50KWP	60KWP	80KW to 100KW
6	Max. Open Circuit PV Volts (Voc)	300V	500V	500V	500V	500V	700V	700V	700V	700V
7	MPPT Voltage Range	165 – 250V	290-400V	290-400V	290-400V	290-400V	450-600V	450-600V	450-600V	450-600V
8	Minimum PV Voltage	165V	290V	290V	290V	290V	450V	450V	450V	450V
9	Max I/P Amps per channel	83A	63 A	83 A	104 A	125 A	110 A	138A	165	220A to 275A
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	>94% Upto 98%								
INVERTER										
Controller		DSP								
Switching Element		IGBT								
1	Nominal Battery Voltage VDC	120	240	240	240	240	360	360	360	360
2	No of Phases/Connection Type	3Ph , 4 Wire- RYBN								
3	Nominal Output Voltage	400V AC ±2%,								
4	Output Frequency	50Hz ± 0.5%								

5	Continues Output Power	8KWP	12KWp	16KWP	20KWP	24KWP	32KWP	40KWP	48KWP	64KWP to 80KWP	
6	Out put Amp in each phase	11	17	23	28	34	46	57	69	92 to 116	
7	Voltage Regulation (Stand Alone)	±2%									
8	Frequency regulation (Stand Alone)	±0.5Hz									
9	THD	V THD <3% I THD <10%									
10	Out Put Waveform	Pure Sine Wave									
11	Galvanic Isolation	In built Isolation Transformer at Inverter Output									
12	Output Power Factor	1.0 to 0.6 Lagging									
13	Peak Efficiency (Full Load)	Upto 90%%					Upto 92%%				
14	Overload capacity	125% FOR 60 SEC, 150% FOR 5 SEC / Can be customized									
15	Allowable Phase Imbalance	30%									
16	DG Compatibility	Available									
17	Auto Bypass feature	Available									
18	Grid Export Mode	Available, Enable/Disable Options available									
19	Anti Islanding Function	Available, In Compliance with IEC 62116									
20	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 Inverter, Load On Mains, Bypass, Fault
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2	LCD Display Parameters									
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		INPUT GRP	DG GRP	O/P GRP	Power GRP	Invert GRP	Solar GRP	Batt GRP	Faults
	Date, Time, Total Up Time, Total Down Time, Current Up Time, Current Down Time, Current Status	Voltages Currents Frequency Power W Power VA Import KWH Export KWH	Power W Power VA KWH Run Hr	Voltages Currents Frequency Power W Power VA Load% Energy	Total I/P KW,KVA Total O/P KW,KVA Input PF Output PF	Voltages Currents Frequency Power KW Power VA	PV Vol, Curr PV Power PV Energy Panel Temp PVRadiation	Voltage Current I/P KWH O/P KWH Batt Temp Batt %	Recent 9 fault since last reset

3	Alarm	Audible For Fault And Warnings
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PROTECTIONS

1	PV	Reverse Polarity Indication , Reverse Polarity Indication , Surge Protection
2	Battery	Reverse Polarity Over/ Under Voltage, Over Temp, Over Charge
3	Grid	Over/ under Voltage, Over/ Under Frequency, Surge Protection
4	Load	Overloads, Short circuit
5	Circuit Breakers	Grid Input MCB/MCCB, Battery Input MCB/MCCB, PV Input MCB/MCCB, Load Rotary Switch
6	Temperature	Inverter Over Temperature

Enclosure

1 Degree of Protection	IP 20 Compatible to IEC 60529:2001-02- As per MNRE Requirement
2 Cooling	Temperature Dependent Forced Cooling
3 Noise	<50dB
4 Color	Siemens Grey/Blue
5 Termination	Bottom

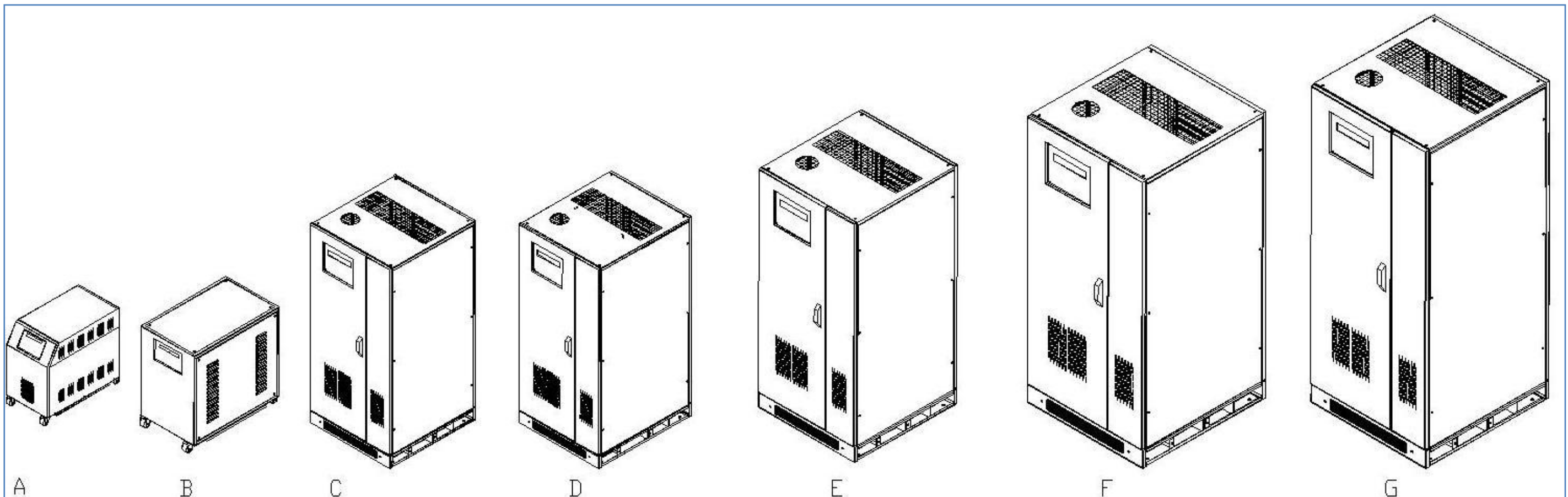
Environmental

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

DIMENSIONS

Specifications are subjected to changes without prior notice

	A	B	C	D	E	F	G
Ratings	5-8KW	10-12.5KW	15KW	20-35KW	40-60KW	65-75KW	80-100KW
Width	450 mm	500 mm	750 mm	800 mm	800 mm	900 mm	900 mm
Length	800 mm	800 mm	800 mm	900 mm	1000 mm	1200 mm	1200 mm
Height	825 mm	825 mm	1600 mm	1600 mm	1800 mm	1900 mm	2100 mm
Weight	125KGS	150KGS	350KGS	350KGS	600KGS	800-1000KGS	



OTHER PRODUCTS:

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

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OUR ESTEEMED CUSTOMERS



OUR APPROVALS

