

# ENERTECH UPS PVT LTD



## *SUN MAGIC<sup>+</sup>*

*SUN MAGIC<sup>+</sup>* 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<sup>+</sup>* 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<sup>+</sup>* 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<sup>+</sup>* range of products are ideal for projects ranging from 10KWp to 100KWp array installations-3Phase applications. *SUN MAGIC<sup>+</sup>* 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





|    |                                    |   |       |       |       |           |       |       |       |                |
|----|------------------------------------|---|-------|-------|-------|-----------|-------|-------|-------|----------------|
| 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

|          |                               |   |
|----------|-------------------------------|---|
| <b>1</b> | <b>Modes Available</b>        | <b>3: Hybrid , Grid Export, Stand Alone</b> |
| <b>2</b> | <b>Battery Buffer Setting</b> | <b>Selectable from 25%,50%,75%</b>          |
| <b>3</b> | <b>MPPT Modes</b>             | <b>2</b>                                    |

## INDICATIONS

|   |                        |  |   |  |  |  |   |   |   |   |   |
|---|------------------------|--|---|--|--|--|---|---|---|---|---|
| 1 | LED                    | Grid On, PV On, Grid Charger On, Load On Inverter, Load On Mains, Bypass, Fault                |   |  |  |  |   |   |   |   |   |
| 2 | LCD Display Parameters |  |   |  |  |  |   |   |   |   |   |
|   |                        | Date, Time, Total Up Time, Total Down Time, Current Up Time, Current Down Time, Current Status | INPUT GRP<br>Voltages<br>Currents<br>Frequency<br>Power W<br>Power VA<br>Import KWH<br>Export KWH | DG GRP<br>Power W<br>Power VA<br>KWH<br>Run Hr | O/P GRP<br>Voltages<br>Currents<br>Frequency<br>Power W<br>Power VA<br>Load%<br>Energy | Power GRP<br>Total I/P KW,KVA<br>Total O/P KW,KVA<br>Input PF<br>Output PF | Invert GRP<br>Voltages<br>Currents<br>Frequency<br>Power KW<br>Power VA | Solar GRP<br>PV Vol, Curr<br>PV Power<br>PV Energy<br>Panel Temp<br>PVRadiation | Batt GRP<br>Voltage<br>Current<br>I/P KWH<br>O/P KWH<br>Batt Temp<br>Batt % | Faults<br>Recent fault since last reset | 9 |
| 3 | Alarm                  | Audible For Fault And Warnings   |   |  |  |  |   |   |   |   |   |

## PROTECTIONS

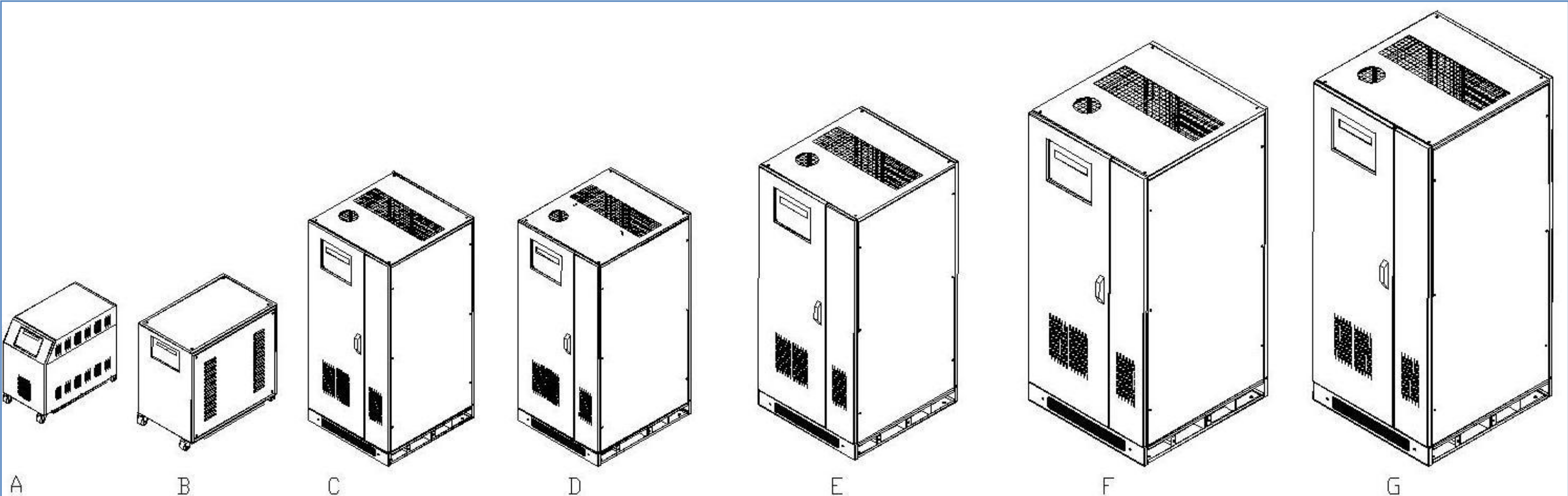
|   |                  |  |
|---|------------------|--|
| 1 | PV               | Reverse Polarity Indication , Reverse Polarity Indication , Surge Protection       |
| 2 | Battery          | Reverse Polarity Over/ Under Voltage, Over Temp, Over Charge                       |
| 3 | Grid             | 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, AJB ACDB DCDB ,Industrial ONLINE UPS, Industrial Battery charger, Frequency Converter, Grid Tied Inveter

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#### OUR ESTEEMED CUSTOMERS



#### OUR APPROVALS

