

## GX-AS-5000 Alfa+ Solar Inverter 5000VA

Is an integrated unit consists of grid charger, inverter, MPPT Solar Charger. It continuously monitors Battery and Solar voltage as well as Grid and Output voltage with their currents. MPPT based solar charger extracts the maximum power from the solar panels whereby it increases the efficiency of the system. MPPT charger has multistage charging which maintains the battery charging voltage such that it increases the lifespan of battery. It uses Solar (primary) and Grid (secondary), to charge the batteries. Since usage of power from grid is secondary, grid power is only used when solar energy is not present and battery voltage level reduces to 11.5V/Battery (Default 11.5V, Configurable). Grid power is also needed when solar power generation is less and battery voltage is reduced to 11.5V/Battery (Default 11.5V, Configurable).

## FEATURES

- Up to 30% more efficient because of rMPPT Charge Controller
- Advance DSP based design pure sinewave
- NLSD & Grid Charging – Enable / Disable by LCD
- Tested as per IEC 61683 and IEC 60068-2-(1,2,14,30) standards
- USB / Ethernet based monitoring with 30 days data storage, DC and AC energy meter
- User configurable Parameters
- Lightning, surge protection
- Short Circuit Protection
- Intelligent Charge Sharing



## TECHNICAL SPECIFICATIONS

|                                                 |                  |                   |
|-------------------------------------------------|------------------|-------------------|
| System Rating                                   | KVA              | 5                 |
| Operating DC Voltage                            | V                | 96                |
| <b>Photovoltaic Input</b>                       |                  |                   |
| Input Voltage Range (min-max)                   | VOC              | 180-360           |
| Maximum PV Power Recommended                    | KW               | 5.0               |
| <b>MPPT Based Charging Controller</b>           |                  |                   |
| Switching Element                               | IGBT             |                   |
| Controller                                      | DSP              |                   |
| Type of Charger                                 | PWM with MPPT    |                   |
| Efficiency                                      | 95               |                   |
| <b>Configurable Parameters</b>                  |                  |                   |
| Battery Low Buzzer                              | V                | Batt low cut +0.2 |
| Battery Low Cut                                 | V                | 10-11.7           |
| Battery High Cut                                | V                | 15-17             |
| Battery Charging Voltage by SPV                 | V                | 13.5-16           |
| Battery Charging Current by SPV                 | A                | 12-50             |
| Battery Charging Voltage by Grid                | V                | 13.0-15           |
| Battery Charging Current by Grid                | A                | 6-15              |
| Grid Charging                                   | Enable/Disable   |                   |
| IT Load                                         | Enable/Disable   |                   |
| Operating Mode                                  | Smart/PCU/Hybrid |                   |
| Output Voltage Low                              | V                | 170-190           |
| Output Voltage High                             | V                | 250-260           |
| No Load Shut Down                               | Enable/Disable   |                   |
| Input Source                                    | Grid/Genset      |                   |
| <b>Inverter</b>                                 |                  |                   |
| Switching Element                               | Mosfet           |                   |
| Control                                         | PWM              |                   |
| Nominal Output Voltage                          | VAC              | 220               |
| Output Supply Phase                             | 1Phase, 3Wire    |                   |
| Output Waveform                                 | Sinewave         |                   |
| Nominal Frequency                               | Hz               | 50.0              |
| Load Current                                    | 18               |                   |
| Voltage Regulation                              | %                | 1.00              |
| Output Voltage Distortion with 100% Linear Load | %                | <3                |
| Overload Capacity (IT LOAD DISABLE)             | %                | 200-300 : 1sec    |

|                                             |                                                                                                                                                                                                                                                          |                                |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
|                                             |                                                                                                                                                                                                                                                          | 300-400 : 250ms<br>>400 : 20ms |
| Peak Efficiency                             | %                                                                                                                                                                                                                                                        | >88                            |
| Noise @ 1meter                              | dB                                                                                                                                                                                                                                                       | 60                             |
| Cooling                                     | Fan                                                                                                                                                                                                                                                      |                                |
| Protections                                 | Overload, Battery Low, Battery High, Output Low, Output High, Output Short Ckt., Overheat, Under Frequency, Over Frequency, Solar Panel Reverse                                                                                                          |                                |
| Display Parameters                          | Battery Voltage, Charging Current, Discharging Current, Charging KWH, Discharging KWH, Solar Voltage, Solar Current, Instantaneous Power, Cumulative Power, Grid Voltage, Grid Current, Grid Frequency, Output Voltage, Output Current, Output Frequency |                                |
| Switches                                    | Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)                                                                                                                                                                                   |                                |
| Indications                                 | System ON, Inverter ON, SPV Charging, Grid Charging, Battery Low/High, Overload, Overheat, Mains Low, Mains High, Under Frequency, Over Frequency, NLSD                                                                                                  |                                |
| Environment                                 |                                                                                                                                                                                                                                                          |                                |
| Operating Temperature                       | C                                                                                                                                                                                                                                                        | 0-50                           |
| Max Relative Humidity @25*C(non condensing) | %                                                                                                                                                                                                                                                        | 95                             |
| Degree of Protection                        | IP21                                                                                                                                                                                                                                                     |                                |
| Data Loggin                                 | 30 Day Data Storage                                                                                                                                                                                                                                      |                                |
| Dimension (LxWxH)                           | 24 X 13 X 23 INCH                                                                                                                                                                                                                                        |                                |
| Weight                                      | 60 KG                                                                                                                                                                                                                                                    |                                |