

ADVANCED SOLAR HYBRID HOME INVERTERS

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CONVENIENCE

Solar Hybrid DSP uses both Solar Power as well as A.C. Mains for charging the battery bank according to priority settings which provides the users uninterrupted power supply always.

SALIENT FEATURES

- ▶▶ Smart load sharing compatibility.
- ▶▶ Inbuilt Solar Charge Controller with high charging current
- ▶▶ Three stage solar charging (TSSC), suitable for all type of battery charging .
- ▶▶ PV availability, battery charging from solar power indication with display on LCD.
- ▶▶ Deep discharge battery charging from A.C. Mains as well as solar .
- ▶▶ Battery type charging selection (Tubular /Flat /SMF/GEL)
- ▶▶ Triple Modes of operation (EC/SC/NC)
- ▶▶ Smart grid charging with Enable/Disable option.
- ▶▶ User selectable UPS and Normal Mode.
- ▶▶ Resettable AC circuit breaker which reduce service calls.
- ▶▶ Compatible with D.G. sets.
- ▶▶ Protections against short-circuit ,Mains Fuse Trip , Overload, Reverse Phase, Low Battery, Reverse Battery And Over Temperature (With proper indications with buzzer as well as display on LCD available).
- ▶▶ User friendly, feather touch control and selection switches with LED indication on front panel.
- ▶▶ Battery charging even at low voltage.
- ▶▶ External D.C. Fuse (Easy to replace).
- ▶▶ Grid bypass option available.



300VA | 700VA | 900VA | 1100VA | 1600VA | 2100VA | 2500VA

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TECHNICAL SPECIFICATIONS

| Model name | 300/700VA 12V DC | 900VA 12V DC | 1100VA 12V DC | 1100VA 124V DC | 1600VA 12-24V DC | 2100VA 24 VDC | 2500/24 VDC | |
|---|---------------------|--------------|---------------|---|---|---------------|---|-------------|
| System rating (Name Plate) | VA 300/700 | 900 | 1100 | 1100 | 1600 | 2100 | 2500 | |
| Full Load Input Current ±2A | Amp 20-45 | 55 | 65 | 35 | 75-51 | 65 | 75 | |
| Operating DC voltage | V | 12 | | | | 24 | | |
| PV INPUT | | | | | | | | |
| Input voltage max Voc | Vdc | 25 | | | | 45 | | |
| Maximum Solar array power | Wp 300-700 | 900 | 1000 | 1000 | 1600 | 2000 | 2500 | |
| Max PV modules | Nos 2(165W)/4(165W) | 5(165W) | 6(165W) | 3(330W) | 5(165W)/5(330W) | 6(330W) | 8(315W) | |
| Modules in series | Nos | NO | | | | NO | | |
| Parallel strings | Nos | 2 | 5 | 6 | 3 | 5 | 6 | |
| Switching element in SCC | | | | | MOSFET | | | |
| Type of control | | | | | Micro | | | |
| Type of solar charger | | | | | PWM | | | |
| Max current rating of SCC | Adc | | 50.0 | | | | 70.0 | |
| Efficiency of MPP tracking | % | | | | NA | | | |
| Efficiency of SCC | % | | | | >90 | | | |
| Switching element in Inverter | | | | | MOSFET | | | |
| Type of Control | | | | | PWM | | | |
| Nominal Output voltage in inverter mode | Vac | | | | 220V ± TV | | | |
| Output supply phases | | | | | single | | | |
| Nominal Output Frequency of Inverter | Hz | | | 50/60 ± 1 (Default is 50Hz) selectable 50/60Hz (Optional) | | | | |
| Frequency (Min - Max during Grid by pass) UPS mode | Hz | | | | 47-53/57-63 | | | |
| Frequency (Min - Max during Grid by pass) Inverter mode | Hz | | | | 40.60/50-70 | | | |
| Output voltage regulation | % | | | | 180-220 | | | |
| Output THD (v) at linear load | % | | | | <5% | | | |
| Creast Factor | | | | | 3:01 | | | |
| Overload capacity 125% | Sec | | | | 6 (6 Retry) | | | |
| Overload capacity 150% | Sec | | | | 2 (6 Retry) | | | |
| Cooling Fan ON at temp | °C | | | | 60 (or 45% of rated Load or Solar I>15A) | | | |
| Cooling Fan Off at temp | °C | | | | 55 (or 40% of rated Load or Solar I<15A) | | | |
| Battery low voltage alarm per battery | Vdc | | | | 10.8 ± 0.2 | | | |
| Battery low voltage cut per battery | Vdc | | | | 10.5 ± 0.2 (With 4 Retry) | | | |
| Batter low cut recovery per battery through Solar | Vdc | | | | 12.7 ± 0.2 (or Mains or reset swich on front panel) | | | |
| Max Battery charging voltage by grid per battery | Vdc | | | | 14.4 ± 0.2 settable for Tub-14.4V/28.8V, GEL-14.2V/28.4V, SMF-14.2V/28.4V, Flat-14.2V/28.4V settable for Tub-13.8V/27.6V, GEL-13.8V/27.6V, SMF-13.8V/27.6, Flat-13.8V/27.2V | | | |
| Max Battery charging current by grid in H/Lo option | Adc | | | | 16/12 ± 2A settable for Tub-12/16A, GEL-10/16A, SMF-10/14A, Flat-14/10 | | | |
| Max Battery charging voltage by Solar per battery | Vdc | | | | 14.4 ± 0.2 settable for Tub-14.4V/28.8V, GEL-14.2V/28.4V, SMF-14.2V/28.4V, Flat-14.2V/28.4V settable for Tub-13.8V/27.6V, GEL-13.8V/27.6V, SMF-13.8V/27.6, Flat-13.8V/27.2V | | | |
| Battery High cut with Alarm per battery | Vdc | | | | 15.5±0.2 | | | |
| Battery High cut Recovery per battery | Vdc | | | | 14.5±0.2 | | | |
| Max Battery charging current by Solar | Adc | | | | 20±2A | | | |
| Max Charging current to battery by Solar+Grid | Adc | | | | 20±2A | | | |
| Grid low cut voltage (IT load/Normal load) | Vac | | | | 180/100 ± 10 | | | |
| Grid low cut voltage recovery (IT load/Normal load) | Vac | | | | 190/110 ± 10 | | | |
| Grid high cut voltage (IT load/Normal load) | Vac | | | | 265/280 ± 10 | | | |
| Grid high cut voltage recovery (IT load/Normal load) | Vac | | | | 255/270 ± 10 | | | |
| Grid charging Enable/Disable | | | | | yes | | | |
| Selection of UPS Load/Normal Load | | | | | yes | | | |
| Selection of Operating Mode | | | | | HC-Charging current = 20A ±1A Solar + Mains till battery boost voltage with maximum Solar Sharing. System will not be disconnect Grid in any case EC-Charging current= 20A ±1A Solar + Mains till boost voltage, System will cut off the mains when battery voltage reaches boost voltage level and output load is transferred to Solar + Battery and Grid reconnected <=11.8V/11.2V per Battery. SC-Charging current= 20A ±1A Solar + Mains till boost voltage, System will cut off the mains when battery voltage reaches boost voltage level and output load is transferred to Solar + Battery and Grid reconnected <=12.0V per Battery or Solar fails or if Solar <5A check if Solar < discharging connect grid | | | |
| Output Voltage at No load at rated Battery voltage | Vac | | | | 220 | | | |
| Output Voltage at 100% load at Nominal Battery voltage | Vac | 200±5 | 200±5 | 200±5 | 200±5 | 200±5 | 200±5 | |
| Input current at no load at Nominal Battery voltage | Adc | 2.2 | 2.6 | 2.4 | 2.2 | 2.5 | 2.8 | |
| Noise @ 1 meter | dB | | | | <50 | | | |
| Protections | | | | | Overload, Battery Deep discharge, Battery Overcharge, Short circuit (1 retry), Battery Hi, PV Reverse, Over Temp, Fuse Trip, battery reverse | | | |
| LCD Display parameters | | | | | PV Current, Battery voltage, Mains voltage, UPS ON/OFF, UPS Mode, Symbol of sun (Smily) if solar available, (non smily symbol in absence of solar), Load percentage (0 to 150%), over load, short ckt, fault, battery low, over temp, PV reverse, Fuse trip, (Customised LCD) | | | |
| Indication LEDs | | | | | Tact switch Status | | | |
| Operating Temperature range | °C | | | | 0-50 | | | |
| Storage Temperature range | °C | | | | 0 + 65 | | | |
| Max RH | % | | | | 95 | | | |
| Front panel details (MCB, Display, Selection switch etc) | | | | | Display with tact switch | | | |
| Rear panel details (MCB, Terminals etc) | | | | | O/P socket, fuse/Circuit breaker, mains & batt. Cable and fan | | O/P socket, fuse/Circuit breaker, mains & batt. Cable and fan, Terminal | |
| Changeover time from inverter to mains in UPS mode | ms | | | | < 10 | | | |
| Mains connection | | | | | 3 core copper cable size 0.75sqmm, 1.5mtr length with TOP | | Terminal 30A | |
| Output | | | | | 3pin socket 16A | | Terminal 30A | |
| MCB in battery path | | | | | NA | | | |
| Fuse in battery path | | | | | External Fuse | | | |
| MCB in Solar path | | | | | NO | | | |
| Fuse in Solar Path | | | | | Yes | | | |
| Grid By pass Manually | | | | | Through switch | | | |
| Input Protection | | | | | ReSettable Circuit breaker | | Circuit breaker | |
| RESET Switch - If Switch is press for 5Sec and release after beep sound then the all setting wil be reseted to default value. | | | | | | | | |
| With Packing LxWxH In MM | | 365*345*185 | 365*345*185 | 365*345*185 | 370*345*240 | 370*345*340 | 405*350*330 | 405*350*330 |
| Net Weight | | 7/8.5 | 9.5 | 10 | 12 | 17 | 20 | 23 |
| Gross Weight | | 8/9.5 | 10.5 | 11 | 14 | 17.5 | 21 | 24 |

Technical Specifications can be changed without prior notice.