

## ADVANCED SOLAR HYBRID INDUSTRIAL / STATIC INVERTER / PCU



### INDUSTRIAL SOLUTION BY SOLAR CONVENIENCE

Solar Hybrid DSP uses both Solar Power as well as A.C. Mains for charging the battery bank according to priority setting providing the users availability of uninterrupted power supply.

#### SALIENT FEATURES

- ▶▶ User friendly Wide LCD display for battery user interface.
- ▶▶ Smart Load sharing compatibility.
- ▶▶ Monitoring/data logging feature for better system information at user end (optional)
- ▶▶ Selectable charging current with high charging (HI) and Normal Charging (Low).
- ▶▶ PV availability, battery charging from solar power indication with solar power priority
- ▶▶ User friendly, control and selection switches with LCD indication on front panel
- ▶▶ Protections such as Mains MCB Trip, Overload, Short circuit, Battery low, over temperature indication with buzzer as well as display on LCD available
- ▶▶ Power Saving through No Load Shutdown Feature
- ▶▶ Maximum Solar Power Utilization during charging and backup mode
- ▶▶ PV pole reversal protection indication on LCD
- ▶▶ Deep discharge battery charging from A.C. Mains as well as Solar
- ▶▶ No humming Noise (Silent UPS)
- ▶▶ AC Mains available, battery charging/charged and its voltage indication provided on LCD display
- ▶▶ Dual Modes of operation (EC/SC/NC)
- ▶▶ Grid bypass option available.



2.5KVA | 3 KVA | 3.5 KVA | 5 KVA | 7.5 KVA | 10 KVA

Also Available in  
**SNMP & GPRS**  
(Simple Network Management Protocol)



# ADVANCED SOLAR HYBRID INDUSTRIAL / STATIC INVERTER / PCU



## TECHNICAL SPECIFICATIONS HYBRID USP/SPCU

Model name		3KVA 36V/48V	2.5KVA 36V/48V	3.5KVA 48V	5KVA 48V	5KVA 96V	7.5KVA 96V/120V	10KVA 120V	10KVA 192V
System rating (Name Plate)	VA	3000	2500	3500	5000	5000	7500	10000	10000
Full Load Input Current ±2A	Amp	63/48	63/46	63	104	50	75/63	77	48
Operating DC voltage	V	36/48	36/48		48	96	96/120	120	192
<b>PV input</b>									
Input voltage max Voc	Vdc	75/90		75/90		180		180/235	300
Maximum Solar array power	Wp	3000	2500	3500	5000	5000	7500	7500	10000
Max PV modules	Nos	12	10	14	16	20	30	39	40
Modules in series	Nos	3/2	3/2	2	2	4	4/5	5	8
Parallel strings	Nos	4	5	7	8	5	6	6	5
Switching element in SCC		MOSFET							
Type of control		Micro							
Type of solar charger		PWM							
Max current rating of SCC	Adc	50.0	50.0	50.0	70.0	70.0	70/50	70.0	50.0
Efficiency of SCC	%	>90							
<b>Inverter and Battery</b>									
Switching element in Inverter		MOSFET							IGBT
Type of Control		PWM							
Nominal Output voltage in inverter mode	Vac	220V ± 7V							230±7V
Output supply phases		single							
Nominal Frequency (in inverter mode)	Hz	50 ± 1							
Frequency (Min - Max during Grid by pass) UPS mode	Hz	47-53							
Frequency (Min - Max during Inverter mode)	Hz	40-60							
Output voltage regulation	%	195-220							195-230
Output THD (v) at linear load	%	<5%							
Crest 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%load and Solar >15A)							Continuous Run
Cooling Fan Off at temp	°C	55 (or <40%load and Solar <10A)							Continuous Run
Peak efficiency of inverter	%	82	86	89	88	87	88	89	88
Battery low voltage alarm per battery	Vdc	10.8 ± 0.2							
Battery low voltage cut per battery	Vdc	10.5 ± 0.2 (4 Retry)							
Batter low cut recovery per battery through Solar	Vdc	12.7 ± 0.2 (Or mains and Front Switch)							
Max Battery charging voltage by grid per battery	Vdc	14.4±0.2V							
Max Battery charging current by grid in Hi/Lo option	Adc	18±2							
Max Battery charging voltage by Solar per battery	Vdc	14.4±0.2V							
Battery High cut with Alarm per battery	Vdc	14.8±0.2							
Battery High cut Recovery per battery	Vdc	14.3±0.2							
Max Battery charging current by Solar	Adc	20±2							
Max Charging current to battery by Solar+Grid	Adc	20±2							
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		Thru switch							
Selection of Operating Mode		QC-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 <=11.5V per Battery.							
Output Voltage at 100% load at Nominal Battery voltage	Vac	218±5							228±5
Input current at no load at Nominal Battery voltage	Adc	2.2	2.2	2	2.2	2.2	2	2	2.2
Noise @ 1 meter	dB	<50							
Protections		Batt. Low, Batt. High,Overload, Short circuit,Over temp, PV reverse,MCB Trip/Fuse Trip							
LCD Display parameters		PV Current, Bty voltage, Mains voltage, PCU on-off, UPS Mode on-off, Solar On-off, Load percentage (0 to 150%), Load status (on solar, battery or grid), Charging status, over load, short ckt, fault, battery low, over temp, PV reverse, MCB trip, (Alpha numeric 16x2)							
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 Rocker Switch							
Rear panel details (MCB, Terminals etc)		Fan,mcb,rotary,terminal,switch							
Enclosure protection		20							
Changeover time from inverter to mains in UPS mode	ms	<10							
Changeover time from inverter to mains in Normal mode	ms	<10							
Changeover time from mains to inverter in UPS mode	ms	<10							
Changeover time from mains to inverter in Normal mode	ms	<50							
Mains connection		TERMINAL 30A				TERMINAL 60A			
Output		Terminal 30A				TERMINAL 60A			
MCB in battery path		Yes							
Fuse in battery path		NO							
MCB in Solar path		Yes							
Fuse in Solar Path		NO							
TDR ( For Compressive Load)		NA				Provided			
Input Protection		Through MCB							
Cabinet		Metal Cabinet							
With Packing LxWxH in MM		470x440x610	470x440x610	470x440x610	470x440x610	500x495x660	600x500x740	600x500x740	600x500x740
Net Weight		38	38	40	52	52	72	92	92
Gross Weight		40	40	42	56	56	76	96	96

Technical Specifications can be changed without prior notice.