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ASPIRO 
CONVEY THE **SUN POWER**



**DSP SINE WAVE
STATIC UPS & INVERTER SERIES**

DSP SINE WAVE STATIC UPS & INVERTER SERIES

2.75/48VDC TO 10/120VDC



PRODUCT DESCRIPTION

Most appliances like LED Bulb, Fans, motor based equipments like air conditioners and pump sets are designed to work at Sine Wave 50Hz frequency. Running such equipments on unregulated quasi sine wave-square wave based inverters poses a risk in regards with performance and durability. ASPIRO DSP sine wave Static UPS and inverters are designed to provide stable 50Hz sine wave irrespective of load and battery voltage, making them the most suitable for inductive, capacitive and non-resistive loads. Importantly, our inverters and UPS are designed to deliver instantaneous high current during start up, especially in case of air conditioners and refrigerators, with safety cut out when battery voltage goes lower than a specified point to avoid brownouts and burning of motors.

SALIENT FEATURES

- = DSP Based Design with absolute and stable Sine Wave output voltage and frequency
- = State of the art MOSFET based PWM technology with greater efficiency at lower cost with Dynamic Stability
- = Over Temperature Protection
- = Three stage solar charging (TSSC) suitable for all types of battery charging..
- = Deep Discharge Battery charging from A.C. Mains.
- = Monitoring/data logging feature for batter system information at user end through SNMP / GPRS (optional)
- = Protection such as Mains MCB Trip, overload, short circuit, Battery low, over temperature indication with buzzer as well as display on LCD available.
- = AC Mains available, battery charging /charged and its voltage indication provided on LCD display.
- = Grid charging enable /disable options which makes it fully compatible with solar (Optional).
- = Selectable battery charging current (High /Low).
- = Fast change over in UPS mode makes computer compatible .
- = Comprehensive LCD Display

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TECHNICAL SPECIFICATION OF STATIC UPS & INVERTER

KEY FEATURES

- Highly efficient battery charging algorithm as a result you will get non-stop power
- Advanced DSP technology with arm cortex controller for absolute and stable and 100% pure sine wave output
- Indications for Mains ON, UPS ON, Battery Low, Charging/Discharging, Over Load, Short Circuit, Thermal Trip on LCD Display
- User-Friendly LCD for the display of mode of operation and all parameters

• DUAL MODE OF WORKING : UPS AND NORMAL

- UPS Mode : Fast switching, Input operating range from 180V to 260V
- Normal Mode : Wide Input operating range from 100V to 290V

• DUAL BATTERY CHARGING MODE : TUBULAR AND SMF BATTERY MODE

Different Battery selection mode to enhance the battery life

- Intelligent overload sensing circuitry with auto retries facility
- Programmable thermal protection : cooling fan which operates as needed
- High Power new generation MOSFET cable to handle high in-rush/ surge current
- Double stage MOSFET Over Current Protection by measuring Rds ON
- Highest efficiency at lower cost
- Pure Sine Wave Output with low Total Harmonic Distortion (THD)
- High End ARM-Cortex based design of Solar Charge Controller for charging through Solar Power
- Eco-friendly operation
- Electronic Over Current Charging Protection
- No mechanical contact for charge Controller
- Designed for continuous reliable and robust operation

Model	2.75 KVA	3.75 KVA	5.2 KVA	5.2 KVA	7.5 KVA	10 KVA
Nominal Battery Voltage	48 VDC			96 VDC	120 VDC	120 VDC

AC MAINS MODE

Input Voltage Range (Normal Mode)	100 to 290 VAC $\pm$ 5 VAC (Wide Range)
Input Voltage Range (UPS Mode)	180 to 260 VAC $\pm$ 5 VAC
Changeover Time Maximum	< 30 ms (in Normal Mode) and < 10 ms (in UPS Mode)
Max. Charging Current	5A to 18A $\pm$ 1A (User Programmable)
Boost Charging Voltage	14 VDC to 15 VDC $\pm$ 0.2 VDC per Battery (User Programmable)
Boost Charging Voltage (Factory Default)	14.4 $\pm$ 0.2 VDC per Battery for Tubular 13.8 $\pm$ 0.2 VDC per Battery for SMF
Float Charging Voltage (Factory Default)	13.7 $\pm$ 0.2 VDC per Battery for Tubular 13.5 $\pm$ 0.2 VDC per Battery for SMF

BATTERY BACKUP MODE

Output Voltage at No Load	220 VAC $\pm$ 7 VAC
Output Frequency	50.0Hz $\pm$ 0.5Hz
Output Wave Form (At No Load)	100% Pure Sine Wave
Battery Low Alarm	10.6 $\pm$ 0.2 VDC per Battery
Battery Low Protection	10.4 $\pm$ 0.2 VDC per Battery
Overload (Normal/UPS)	120% (30 Sec.)
Short Circuit (Normal/UPS)	300%

DISPLAYING PARAMETERS

- AC Mains Voltage
- Output Voltage
- O/P Load in % on Battery
- Battery Voltage
- Charging Mode
- Grid Charging Current
- Faults Status
 - Overload
 - Short Circuit
 - Mains Fuse Trip
 - Over Temp
 - Low Battery
 - High Battery
 - Grid Over Load
- Inverter Status

PROTECTION

Battery Voltage Low (3 Auto Retries), Over Load (6 Auto Retries), Battery Full Charge, Over Temperature, Short Circuit

DESCRIPTION OF SWITCHES ON FRONT PANEL

S.No.	SWITCH	FUNCTION(S)	SWITCH LED STATUS
1	POWER	ON/OFF the UPS Output	System ON - Led ON
2	INV/UPS	When it is Short Pressed it Enables UPS/Inverter Mode Selection When it is Long Pressed Enables the UPS Parameter Setting The LCD Displays : "Edit Parameters Setting" The Switches function now Change to : POWER - Enter/OK Switch INV/UPS - Increment Value SMF/TUB - Decrement Value HYBRID/PCU - Back/Exit Switch	UPS Mode ON - Led ON UPS Mode OFF - Led OFF
3	SMF/TUB	When it is Short Pressed it Enables TUBULAR or SMF Battery Selection	TUBULAR Battery - Led ON SMF Battery - Led OFF
4	FREEZE	When it Freeze the Screen of LCD	

UPS PARAMETER SETTING

Default Values & Limits:

- 1 Maximum Battery Voltage SMF Battery : 13.8V (Cannot be Changed) Tubular Battery : Min : 14.0V Default : 14.8V Max : 16.0V
- 2 Battery Low Cut Voltage Min : 10.4V Default : 10.5V (Tubular Mode), 11.0V (SMF Mode) Max : 11.5V
- 3 Maximum Grid Charging Current Min : 05A Default : 15A Max : 18A

SETTING PROCESS

- Step 1 : Long press the INV/UPS Switch until LCD Display : "Edit Parameter Settings"
- Step 2 : Press POWER Switch (Enter/OK in Setting Mode) then "MAX BATT VOLTAGE" Setting Screen will appear if TUBULAR Battery Selected else "BATT LOW CUT" Setting Screen appear
- Step 3 : To Change the Maximum Battery Voltage Value press INV/UPS Switch (Increment Value in Setting Mode) or SMF/TUB Switch (Decrement Value in Setting Mode)
- Step 4 : After Setting Maximum Battery Voltage Now press POWER Switch (Enter/OK in Setting Mode) then "BATT LOW CUT" Setting screen will appear
- Step 5 : To Change the Battery Low Cut Voltage Value press INV/UPS Switch (Increment Value in Setting Mode) or SMF/TUB Switch (Decrement Value in Setting Mode)
- Step 6 : After Setting Battery Low Cut Voltage Now press POWER Switch (Enter/OK in Setting Mode) then "MAX GRID CHG" Setting Screen will appear
- Step 7 : To Change the Maximum Grid Charging Current Value press INV/UPS Switch (Increment Value in Setting Mode) or SMF/TUB Switch (Decrement Value in Setting Mode)
- Step 8 : To Change the Grid Reconnect Voltage Value press INV/UPS Switch (Increment Value in Setting Mode) or SMF/TUB Switch (Decrement Value in Setting Mode)



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