OFF-GRID TRUE SINE WAVE SPLIT PHASE, STACKABLE INVERTER/CHARGER

TSW3224

True Sine Wave Output

120/240 VAC Split-phase Operation or 120 VAC at Twice the Current

200% Surge Power Capacity

Parallel Stacking of Multiple Inverters

High Current 5-stage Charging for Maximum Battery Life & Storage

Peak Efficiency 93%

2 Line LCD Shows Major Parameters

Optional Network Communications
- Remote Internet Monitoring
- Ethernet to Local Computers

The TSW TrueSineWave™ Inverter / Charger

The Apollo Solar TSW3224 includes a DC to AC true sine wave inverter, battery charger, and AC transfer switch in a compact modular housing. Providing 3200W at 24V, the TSW is the ideal solution for residential and commercial off-grid systems in the 2kW-12kW range.

Specified by Installers, Required by End-Users

The TSW3224 meets specifications provided by installers, distributors, and dealers and required by end-users of battery-based PV power systems. The result is a single box that provides 120 and 240 volt AC power at 60Hz as well as 230 VAC at 50Hz. With a compact footprint and modest weight, the Apollo Solar TSW Inverter also provides ease of installation in tight spaces.

120/240 Volt AC Split-Phase Input and Output

No external transformers are required for step-up, step-down, or balancing, thus, saving added costs, installation time, and several points of efficiency. The output provides 240 volts for well pumps, appliances, or shop tools while providing 120 volts for standard circuits. 75% unbalanced loads are handled as well. The input can accept the line or 240 volt AC generators. The output can be wired for single 230/240VAC output or for single 120VAC output at twice the current. The option to select 230VAC or 240VAC and to select 50Hz or 60Hz is provided by easily accessible internal jumpers.

200% Surge Power Capacity, Starts a 3HP Motor

Over 200% of the rated power is available to allow for intermittent loads for short periods, like starting a 3HP motor, without interrupting sensitive computer loads.

Parallel Stacking of Multiple Inverters

The TSW Inverters can be wired in parallel to provide additional output current.

Efficient Multi-stage Battery Charging

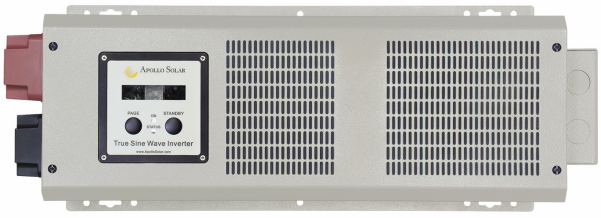
Power factor corrected, the high-current battery-charging circuit optimizes the efficient use of energy from generator or line input. The 5-stage charging algorithm maximizes both battery life and storage capacity.

Advanced Apollo Solar Data Communications

Monitoring of energy used, battery state-of-charge, and system performance is included. The ASNET port provides networking capability of multiple units, access to the T80/T80HV MPPT Turbocharger Controllers. Remote system monitoring on a local Ethernet and/or on the Internet is provided via the Apollo Solar Communications Gateway and even from sites lacking telephone landline via the Apollo Solar GSM Modem.

SPECIFICATIONS	
Continuous Power Rating 25℃	3200 VA
Nominal DC Battery Input Voltage	24 VDC
Battery input current at rated power	148 amps
Nominal AC Output Voltage	Selectable 120/240 VAC Split Phase, 120VAC single phase or 230VAC single phase
Surge Power Peak (1ms)	120VAC: 80A, 240VAC: 41A
Surge Power RMS (100ms)	120VAC: 52A, 240VAC: 37A
Overload Capacity from 25℃ start	
7 Seconds:	6400 VA 200%
30 Seconds:	4800 VA 150%
30 Minutes:	3840 VA 120%
Max Continuous AC RMS Amps Output at 25℃	120VAC: 26A, 240VAC: 13A
Full on, No load power consumption	< 29 Watts
Search mode power consumption	~ 4.5 Watts
Inverter Efficiency (Peak)	93%
Total Harmonic Distortion	Typical: 3.5%, Maximum: 5% (True Sine Wave)
Output Voltage Regulation	+/- 3%
AC Output Frequency	50 or 60Hz +/- 1% (Switch Selectable)
AC Input Frequency Range for Charge Mode	46 to 55Hz at 50 Hz, 55 to 65Hz at 60Hz Nominal
AC Input Voltage Range for Change Mode	L-N 80-150VAC for 120VAC, L-L: 160-270VAC for 240VAC
AC Input Maximum Current	120VAC: 26A, 240VAC: 13A
DC Input Range	21 to 35 VDC
Continuous Battery Charger Output at 25℃	100 amps DC
Five Stage Battery Charger Output	Bulk, Absorb, Float, Equalize, & Standby
Battery Charging Power Factor Corrected	>0.92
Battery Charge temperature compensation	With external temperature sensor
Transfer relay capability	40 amps per leg; 8 to 16 ms transfer time
Operating Temperature Range	-20℃ to +45℃
Over-temperature Protection	Sensors on MOSFETs, Transformer and Battery
Certification	UL 1741, CSA C22.2 No. 107.1-01
Warranty	5 Years
Weight	22.23kg, 49lbs. (25.4kg, 56 lbs shipping weight)
Size	572x229x184mm, 22.5”x9”x7.25” (686x330x305mm, 27”x13”x12” box size)
Enclosure	Powder-coated steel
Cooling	Variable speed, Temperature controlled fans
Data Communication	ASNET (RS-485) and CANBUS

OPTIONAL ACCESSORIES	
Inverter Switchgear Module	Optional Switchgear Module includes all the DC and AC circuit breakers required
Charge Controllers	Apollo Solar T80 and T80HV TurboChargers provide optimum charging from PV arrays
Ethernet / Internet Monitoring	Optional Communication Gateway provides full data monitoring from any computer



LCD reads out in either vertical or horizontal installation. The display is easily rotated.

APOLLO SOLAR

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