TSW2212 / TSW3224 / TSW3648

True Sine Wave Output

120/240 VAC split-phase operation

200% Surge Power Capacity

Maximum battery life & storage with Intelligent 5-stage Battery Charging

High operating efficiency: 90 to 94%

Integrated Network Communications

Easy installation and set-up

OFF-GRID TRUE SINE WAVE INVERTER/CHARGER

2.2kW@12V / 3.2kW@ 24V / 3.6kW@ 48V

The TSW TrueSineWave™ Inverter / Chargers

The Apollo Solar models TSW2212, TSW3224 and TSW3648 include a DC to AC true sine wave inverter, battery charger and AC transfer switch in a compact modular housing. These are ideal solutions for off-grid systems in the 2kW-12kW range for residential and commercial battery based installations.

Specified by installers and users

The TSW2212, TSW3224 and TSW3648 are designed to meet requests and specifications from installers, distributors, dealers and users of battery-based power systems. The result is a single box that provides both 120 and 240 volt AC power for the US and Canadian markets. The Apollo Solar Inverters meet the primary need for ease of installation in tight spaces. The inverters are available in 12, 24 and 48 volt versions.

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. Either side of the line can supply up to 75% of the total load. The input can accept the line or 240 volt AC generators. The transfer relay is internal.

200% Surge Power Capacity

Designed for real installations where motor starting without interruption of other loads is essential, over 200% of the rated power is available to allow for intermittent loads for short periods like motor starting without interrupting sensitive computer loads.

Efficient multi-stage battery charging

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

Matches the T80 and T100 TurboChargers™

The Apollo Solar PV charge controllers are a perfect match for the TSW2212, TSW3224 and TSW3648 for renewable energy installations. The ASNET ports provide integrated display of system data from all the products.

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 as well as access to the T80 or T100 Turbochargers and Remote Display for enhanced system performance.

TrueSineWave Inverter SPECIFICATIONS	TSW2212	TSW3224	TSW3648
Continuous Power Rating 25° C	2200 Watts	3200 Watts	3600 Watts
Nominal DC Battery Input Voltage	12 VDC	24 VDC	48 VDC
Battery input current at rated power	200 Amps	140 Amps	80 Amps
Nominal AC Output Voltage	120 / 240 VAC Split Phase		
Surge Power Peak (1ms)	L-N: 80A AC, L-L: 40A AC	L-N: 80A AC, L-L: 40A AC	L-N: 80A AC, L-L: 40A AC
Surge Power RMS (100ms)	L-N: 52A AC, L-L: 26A AC	L-N: 52A AC, L-L: 26A AC	L-N: 52A AC, L-L: 26A AC
Overload Capacity from 25ºC start			
10 Second Surge: 200%	4400 Watts	6400 Watts	7200 Watts
30 Seconds: 150%	3300 Watts	4800 Watts	5400 Watts
30 Minutes: 120%	2640 Watts	3840 Watts	4320 Watts
Continuous AC RMS Amps Output @ 25ºC	L-N: 18A AC, L-L: 9A AC	L-N: 26A AC, L-L: 13A AC	L-N: 30A AC, L-L: 15A AC
Full on, No load power consumption	~ 20 Watts		
Search mode power consumption	~ 5 Watts		
Inverter Efficiency (Peak)	90%	92%	94%
Total Harmonic Distortion	Typical: 3.5%, Maximum : 5% (True sine wave)		
Output Voltage Regulation	+/- 3%		
Nominal AC input Voltage	120 / 240 VAC Split Phase		
AC Input Voltage Range	L-N: 80 – 150 VAC, L-L: 160 – 270 VAC		
AC Input Frequency Range	55 to 65 Hz, 60Hz Nominal		
DC Input Range	10.0 to 17.5 VDC	20.0 to 35.0 VDC	40.0 to 70.0 VDC
Continuous Battery Charger Output at 25ºC	100 amps DC	100 amps DC	70 amps DC
Five Stage Battery Charger Output	Bulk, Absorb, Float, Equalize & Standby		
Battery Charging Power Factor Corrected	>0.95		
Battery Charge temperature compensation	With external temperature sensor		
Transfer relay capability	30 Amps per leg; 8ms (Max) transfer time		
Operating Temperature Range	-20ºC to +45ºC		
Overtemperature Protection	Sensors on MOSFETs, Transformer and Battery		
RF Emissions	FCC Class B		
UL / CSA Certification	UL 1741 & CSA C22.2 No.107.1-01		
Warranty	5 Years		
Weight	49 lbs (57 lbs shipping weight)		
Size	21.5" x 8.5" x 7.25" (26" x 13" x 12" shipping box)		
Enclosure	Powder coated steel		
Cooling	Variable Speed, Temperature controlled fans		
Data Communication	RS-485, ASNET		
OPTIONAL ACCESSORIES			
Charge Controllers	Apollo Solar T80 and T100 TurboCharger provide optimum charging from PV arrays.		
Remote Display	Optional Remote Display monitors and logs data from all devices on the ASNET bus		
Solar Power Center enclosure	Optional Power Center enclosure for Apollo Solar Inverters and Charge Controllers. includes DC and AC circuit breakers, and System Monitor wired, tested and ready for installation.		

APOLLO SOLAR

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