



T100 TURBOCHARGER™



100 Amps continuous output at up to 45°C / 113°F ambient temperature

Free Battery Energy Monitor Built In

Wired/Wireless Remote Displays

One-minute set-up with fail-safe calculated defaults

Patent Pending MPPT Provides Best Energy Harvest Available

Easy stacking of up to 16 T100's in parallel for higher currents

Precision charging of 12/24/36/48V batteries using voltage sense wires

100 AMP MPPT BATTERY CHARGE MANAGEMENT SYSTEM

Power and Control in a Single Device

The T100 *TurboCharger™* integrates Maximum Power Point Tracking, battery charge management, state-of-charge information, and communications into a single device. With 100 Amps continuous output, the T100 has the largest capacity in the industry.

FREE Energy Monitor Built In

The T100 includes a built-in Energy Monitor using TriMetric™ Technology from Bogart Engineering. The monitor tracks power production and consumption to calculate the energy remaining in the battery. State-of-Charge (SOC) is displayed in Percent Full, Amp-hours, Watt-Hours, and Bar-Graph format. In addition, 90 days of energy-harvest history is stored in the T100.

Integral Performance-and-Update Communications

The slot for optional add-in cards provides data communication to Wireless Remote Displays, PCs and the Internet. System performance can be monitored remotely and the T100 accepts software upgrades using a PC and the Remote Display SD Card.

Continuous Power Rating Up to 45°C/113°F Ambient

The T100 *TurboCharger™* produces full-rated power without de-rating at up to 45°C ambient temperature. Above that temperature, the output current is reduced gradually to protect the life of the T100 and then automatically ramped up as the temperature decreases. High-efficiency power circuits and robust thermal design minimize heat generation. The internal temperature-controlled variable speed fan runs just fast enough to maintain optimum reliability.

Enhanced Battery Performance and Life

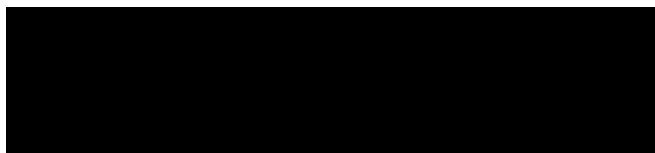
The T100 supports Flooded Lead Acid (FLA), GEL and Absorbed Glass Mat (AGM) batteries. Four-stage charging with adjustable set points for all parameters.

Optimum MPPT/Charging Efficiency Cuts Costs

The T100 captures up to 35% more power from the photovoltaic (PV) array with patent-pending MPPT technology. The Apollo MPPT algorithm starts early and locks onto the peak power during rapidly changing insolation and temperature. The T100 dramatically cuts the cost of a PV system by reducing the number of PV panels required, eliminating the need for heavy gauge wiring, and increasing the life of the storage batteries.

T100 TurboCharger™ SPECIFICATIONS

Maximum output current	100 Amps continuous at up to 45°C/113°F ambient temperature
Battery voltages	12, 24, 36, or 48 VDC nominal
Max PV input current	90 Amps
Input voltage range	16 to 112 VDC operating 140 VDC Maximum Open Circuit Voltage
Max PV array power	5200W for 48v batteries, 3200W for 24v batteries, 1600W for 12v batteries
Charge regulation modes	Bulk, Absorption, Float, Standby, Auto Equalization, and Manual Equalization
MPPT Features	Apollo Solar patent-pending MPPT algorithm harvests the optimum power under all conditions of clouds or temperature.
Battery temperature compensation...	6.0mV per °C per 2 volt cell
DC to DC conversion capability	Charge 48v batteries from 68v to 112v PV arrays* Charge 36v batteries from 51v to 112v PV arrays* Charge 24v batteries from 34v to 112v PV arrays* Charge 12v batteries from 17v to 112v PV arrays* *Check max Voc from PV modules at low temperature extremes.
Display	Built-in 4-line 20-character LCD with back light
Status reporting	LCD status screen displays Input voltage and current, Output voltage and current, Charge-mode, and Battery State-Of-Charge (SOC).
Data logging	Logs energy harvested for 90 days. LCD displays Watt-hours, kW-hours, Amp hours, and hours each day that Float mode is active.
Energy Monitor	LCD shows SOC (State-of-Charge) in a fuel gauge style bar graph as well as % Full, Amp-hours, Watt-hrs and present charge or discharge current. A 50mV/500Amp shunt is required to use the Energy Monitor features.
Auxiliary relays	Two independent relays with form A (SPST) contacts for control of external devices. Configurable as NO or NC. Contact rating ½ Amp, 50 VDC.
Operating Temperature	Full power output to +45°C ambient Output current automatically ramped and de-rating down above 45°C and softly restored as temperature decreases.
Standby Power	Less than 2 Watts
Data Communication Options	Card slot for optional Apollo Network and Wireless link to Remote Display.
Connectors	Power lugs accept 14 to 1/0. No. 2 wire recommended.
Conduit knockouts	One 1" or 1-¼" and one ½" or ¾" on left side. Two ½" or ¾" on back. Two 1" or 1-¼" on bottom. Bottom holes line up with power connectors.
Unit dimensions	38.7cm X 21.6cm X 11.1cm (15.2" X 8.5" X 4.4") Length X Width X Depth
Shipping dimensions	53cm X 31.8cm X 21.6cm (21" X 12 ½" X 8 ½")
Weight	Unit: 7.3 kg/16 lbs Shipping weight: 10 kg/22 lbs
Certification	UL1741, CSA C22.2 No. 107.1
Environmental rating	Indoor Type 1 (Not intended for outdoor mounting)
Included Accessory Kit	Apollo Shunt Board and cable, battery monitor cable, and Battery Temp Sensor
Optional Accessories	True Sine Wave Inverter / Chargers TSW2212, TSW3224, TSW3648 Solar Power Center enclosure with DC and AC breakers & System Monitor



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