



## AS-PVT4



**A Single Factory-Built Cabinet provides Simple, Clean, Trouble-free Installations**

### **Minimize OPEX and Optimize CAPEX**

- Reduce Diesel costs to zero with Solar
- Easy Field Upgrades as loads increase

### **Proven Remote Telecom Site Power**

- Over 1000 sites installed and operating
- MPPT Charge Controllers since 2006
- Hybrid DG/Solar or Pure Solar
- Smart control of external generator
- Pure Solar Loads up to 2.5kW, PV/DG Hybrid Loads up to 20kW per Cabinet

### **Complete Energy System Cabinet**

- Comprehensive Remote Monitoring
- IP66 Rated, Outdoor Cabinet
- Factory wired and tested in the USA
- 5 Year Warranty

# REMOTE TELECOM ENERGY SYSTEMS

### **Based on the field proven T80HV TurboCharger**

The T80HV *TurboCharger*™ is the industry's most robust Photovoltaic battery charge controller. It integrates Maximum Power Point Tracking (MPPT), battery charge management, State of Charge data, and communications into a single product. Each T80HV will support up to 5kW of PV Array with up to 180 volts Voc. The 80Amps of battery charge current is available even with ambient temperatures up to 45°C.

### **Reduced CAPEX with optional features**

The Gen 4 systems are designed to minimize the Capital Expense when buying solar replacements for diesel generators. The basic panels are offered at lowest cost, with optional features when required.

### **Comprehensive Remote Monitoring and Control**

Remote monitoring of the entire energy system is near real-time. Data is sent to our server every minute showing: Voltage and current on PV input, batteries, and load; Internal cabinet and battery temperatures; Battery State of Charge, Energy Harvest, Alarms and Diagnostics. Alarms are provided on all vital parameters with load disconnect on low battery SoC. Data communication is via Ethernet, GSM Modem, LTE, Satellite or SNMP.

### **Internal Rectifier & Diesel Generator Control**

Hybrid System including Internal Rectifier up to 21kW. Smart Energy Flow Algorithm starts an external generator at the optimum time and minimizes Run Time and fuel consumption. A smart ATS allows Grid Power Input with automatic selection of energy source based on costs for fuel. The Telecom BTS loads are always powered and the batteries are never deeply discharged.

### **Rectifier Shelf System with Breakers and ATS**



The Rectifier Shelf is mounted on the door. The compact system supports up to 7 of our 3kW SMPS modules plus the Controller. Easy access is provided to the Circuit Breakers and ATS mounted below the Rectifier on the door

### **Easy Installation in Remote Locations**

The PVT Systems are completely assembled, wired, and tested in our factory in the USA to provide a single point of responsibility.

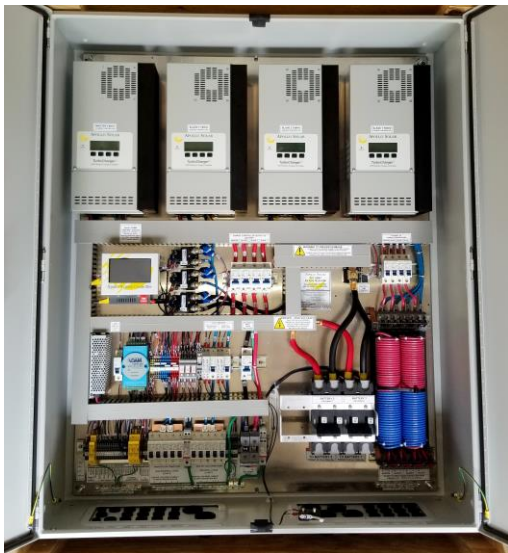
## SYSTEM SIZES:

For Pure Solar systems, the table on the right shows the typical Load sizes and Maximum PV array used with both size Cabinets. Cabinets can be upgraded in the field to add more power. Battery Capacity and types are totally flexible.

The Hybrid DG/PV Rectifier can handle Loads up to 21kW. The ATS is programmed to use the lowest cost source of energy including Grid power if available.

APOLLO SIZE TABLE FOR PURE SOLAR AND HYBRID PV/DG SYSTEMS					
BTS POWER REQUIRED	APOLLO PART NUMBER	TYPICAL PV ARRAY	T80HV MPPT CHARGE CONTROLLERS	TYPICAL AC INPUT SUGGESTED	NUMBER OF RECTIFIER MODULES
0.5 kW	AS-PVT1	5 kW	1	6 kW	2
1.0 kW	AS-PVT2	10 kW	2	6 kW	2
1.5 kW	AS-PVT3	15 kW	3	9 kW	3
2.0 kW	AS-PVT4	20 kW	4	9 kW	3
2.5 kW	AS-PVT5	25 kW	5	12 kW	4
3.0 kW	AS-PVT6	30 kW	6	12 kW	4
3.5 kW	AS-PVT7	35 kW	7	15kW	5
4.0 kW	AS-PVT8	40 kW	8	15 kW	5

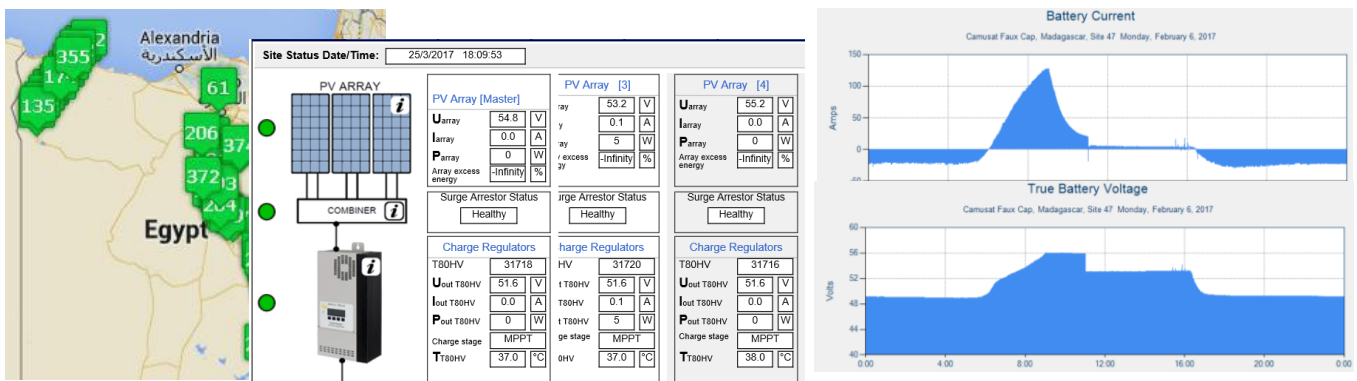
The photo below is the PVT panel inside the Cabinet which is 1000mm wide by 300mm deep by 1200mm tall. Legs for ground mounting provide 450mm of room underneath for cables. Direct access to all parts makes field service and power upgrades easy. The Cabinet is IP66 rated powder-coated steel.



## OPTIONS:

- Combiner Boxes – 4 to 6 PV string inputs with 75kA SPD
- 3 to 21kW Rectifier – Hybrid PV/DG includes Gen Starting
- Lithium Ion Batteries – Integrated BMS for Li-Ion Batteries
- 350W Inverter – True Sine Wave AC for small accessories
- 4kW Inverter – True Sine Wave output for major AC loads
- Enhanced Surge Protection – for high lightning strike areas
- 250A Battery Breakers – Protect AWG 4/0 battery cables
- Fans and Filters – Provide cooling for 40°C ambient temps
- Air Conditioner – Provide cooling for 55°C ambient temps
- Energy Metering – Current sensors on each DC output
- Multiple DC Outputs – Essential and Non-Essential Loads
- ATS – For Hybrid units with occasional Grid availability

## REMOTE MONITORING: Site Locations, fast Status Dashboard and Charts of parameter history.



Due to continuous enhancement, the specifications are subject to change without notice. January 2018

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