

Smart choice for power

xantrex



Xantrex- The Smart Choice for Power  
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## Xantrex overview

<b>Offices</b>	<b>Burnaby BC, Arlington WA, Livermore CA, Elkhart IN, Barcelona Spain, Reading England</b>
<b>Manufacturing</b>	<b>Burnaby BC, Arlington WA, Dominican Republic, China (4 Outsourced Locations)</b>
<b>Employees</b>	<b>500</b>
<b>Revenue</b>	<b>US\$143 Million in 2004 (2005 pending)</b>
<b>Patents</b>	<b>79 patents with 97 more in progress</b>
<b>Ownership</b>	<b>Public, Traded on Toronto Stock Exchange (XTX)</b>
<b>Established</b>	<b>1983</b>

# Xantrex Target Markets

Distributed Power



Mobile Power



Programmable Power



## Renewable Power Leadership

- Products used worldwide in solar, wind, and backup systems – enable alternatives to centralized or combustion generators
- Expert provider to installers, integrators
- Grid-tie/off-grid DC-to-AC converters, battery chargers, backup power
- Solar
  - Residential: < 10 kW
  - Commercial/Industrial: > 10 kW
- Backup
  - Residential/Commercial: 1 kW to 1 MW
- Wind
  - Industrial: 5 kW to 2.5 MW



## Renewable Power Product Portfolio



### Solar



#### SW Plus

Off-Grid Inverter/Charger



#### PV Series

10 kW to 225 kW  
NA 3 Phase  
Commercial Grid Tie



#### GT3.0

Residential  
Grid-tie Inverter



#### GT100E

Int'l 3 Phase  
Commercial Grid Tie



#### GT500E

Int'l 3 Phase Commercial Grid Tie



### Wind



#### 1.5 MW Converter

Industrial Wind



#### 10 kW Grid Tie Inverter

Small Scale Wind



### Backup



#### SW Power panel

Off-Grid Backup Power  
Inverter Charger



#### SW Plus

Off-Grid Backup Power  
Inverter Charger



#### DR

Inverter/Charger

## Grid Tie Objectives

- Flexible applications
- Ease of installation
- Ease of use
- Easy to maintain
- Reliable
- Attractive

## Inverter Features

- Wide MPPT range 195-550 VDC with high efficiency
- Faster and less expensive to install
  - Light weight and compact
  - Installation mounting bracket
  - DC/AC disconnect
  - Wiring box
  - Split chassis design (easy to service)
- Communications:
  - LCD display
  - communication ports and software
- Excellent industrial design – “superior aesthetics”



## Multi-unit Installations

- Reduces visible conduit and industrial switch gear
- Superior aesthetics
- Identical form factor for all inverters





# Installations



- **Carlson Solar**
- **Hemet, CA**
- **40 Sharp 170's**
- **7 kW**

## Installations



- **Carlson Solar**
- **San Marcos, CA**
- **91 GT 3.0's**

## Design Topology

- Robust EMI filtering on input and output
- Surface mount components used wherever possible
  - Machine placed, reducing human error, results in better repeatability and reliability
  - Thru-hole components used where high current, high power capacity is required
  - Every component on PCB's in-circuit tested before being installed and powered up
- Passive cooling:
  - Extra large heatsink ensures components are kept well below critical temperatures

## Inverter Features

- Can be used in positive grounded configurations for inverters 45 kW and smaller
- Sealed design
  - External air is not used to cool electronics
  - No filters to replace or clean
- Designed for maintainability and reliability
  - Low relative part count to comparable inverters
- Communications capabilities
  - S models have optional modem kits (LAN, wireless, dial-up)
  - Free Graphical User Interface allows for remote monitoring and control such as inverter reset
  - Third party solutions such as Fat Spaniel available

## Wiring Box Features

### PV/Utility Disconnect

- Complies with NEC
- No external DC disconnect needed



### Split Chassis Design

- Inverter separable from wiring box
- Field service friendly



## Array Sizing

### Customer Input Values:

1. Module

Kyocera KC187G

Can't find the module you need? Let us know by email..[click here](#)

2. Inverter

Xantrex GT3.0

3. Celsius or Fahrenheit

Fahrenheit

4. Lowest Ambient Temp (°F)

-4

5. Highest Ambient Temp (°F)

95

### Calculated PV String Configurations:

Min. # Modules: 9

Max. # Modules: 15

Max. # Strings: 2

### Legend:

#### STC Rating

Standard Test Conditions

#### PTC Rating

### PV String Configurations:

	1 String	2 Strings
<b>9 Modules</b>	--	--
<b>10 Modules</b>	1870 1674 1574	3740* 3348 3147
<b>11 Modules</b>	2057 1841 1731	4114* 3683** 3462***
<b>12 Modules</b>	2244 2009 1888	4488* 4018** 3777***
<b>13 Modules</b>	2431 2176 2046	4862* 4352** 4091***
<b>14 Modules</b>	2618 2344 2203	5236* 4687** 4406***
<b>15 Modules</b>	2805 2511 2360	5610* 5022** 4721***

\* STC wattage exceeded.

\*\* PTC wattage exceeded.

\*\*\* CEC rebate wattage exceeded.

Inverter will regulate power to 3000Wac on oversized arrays

### References:

Module:		Kyocera KC187G	
Max Power Voltage - Vmp	26.1	Vdc	
Open Circuit Voltage - Voc	32.5	Vdc	
Voltage Temp Coeff - Vtcc	-0.123	V/°C	
STC Rating - Pmp	187	W stcdc	
Max Power Current - Imp	7.17	A dc	
PTC Rating	167.4	W ptc	

Inverter:		Xantrex GT3.0	
Pnom	3000	Wac	
Idc max	18.75	Adc	
Vmptmax	550	Vdc	
Vinvmax	600	Vdc	
Vmptmin	195	Vdc	
Efficiency	94	% Avg Efficiency	

	Max Imp	
<b>1 String</b>	7.2	Adc
<b>2 Strings</b>	14.3	Adc

	Max Voc at Min Temp (Vdc)	Min Vmp at Max Temp (Vdc)
<b>9 Modules</b>	<b>342.31</b>	<b>185.08*</b>
<b>10 Modules</b>	<b>380.35</b>	<b>205.65</b>
<b>11 Modules</b>	<b>418.38</b>	<b>226.22</b>
<b>12 Modules</b>	<b>456.42</b>	<b>246.78</b>
<b>13 Modules</b>	<b>494.45</b>	<b>267.35</b>

Questions?