

# Off-Grid and Backup Installations



## About Xantrex

Xantrex Technology Inc. ([www.xantrex.com](http://www.xantrex.com)), a subsidiary of Schneider Electric, is a world leader in the development, manufacturing and marketing of advanced power electronic products and systems for the renewable and mobile power markets. The company's products convert and control raw electrical power from any central, distributed, renewable, or backup power source into high-quality power required by electronic equipment and the electricity grid. Xantrex is headquartered in Vancouver, Canada, with facilities in the United States, Germany, Spain, India, and a joint venture in China.

## Schneider Electric

As a global specialist in energy management with operations in more than 100 countries, Schneider Electric offers integrated solutions across multiple market segments, including leadership positions in energy and infrastructure, industrial processes, building automation, and data centres/networks, as well as a broad presence in residential applications. Focused on making energy safe, reliable, and efficient, the company's 114,000 employees achieved sales of more than 18.3 billion euros in 2008, through an active commitment to help individuals and organisations "Make the most of their energy™". [www.schneider-electric.com](http://www.schneider-electric.com)

**Xantrex Technology Inc.**  
8999 Nelson Way  
Burnaby, British Columbia  
Canada V5A 4B5  
+1 604 422 8595 Phone  
+1 604 420 1591 Fax

**Xantrex Technology S.L.**  
Bac de Roda, 52, edificio A  
08019 Barcelona  
Spain  
+34 93 433 8350 Phone  
+34 93 433 8351 Fax

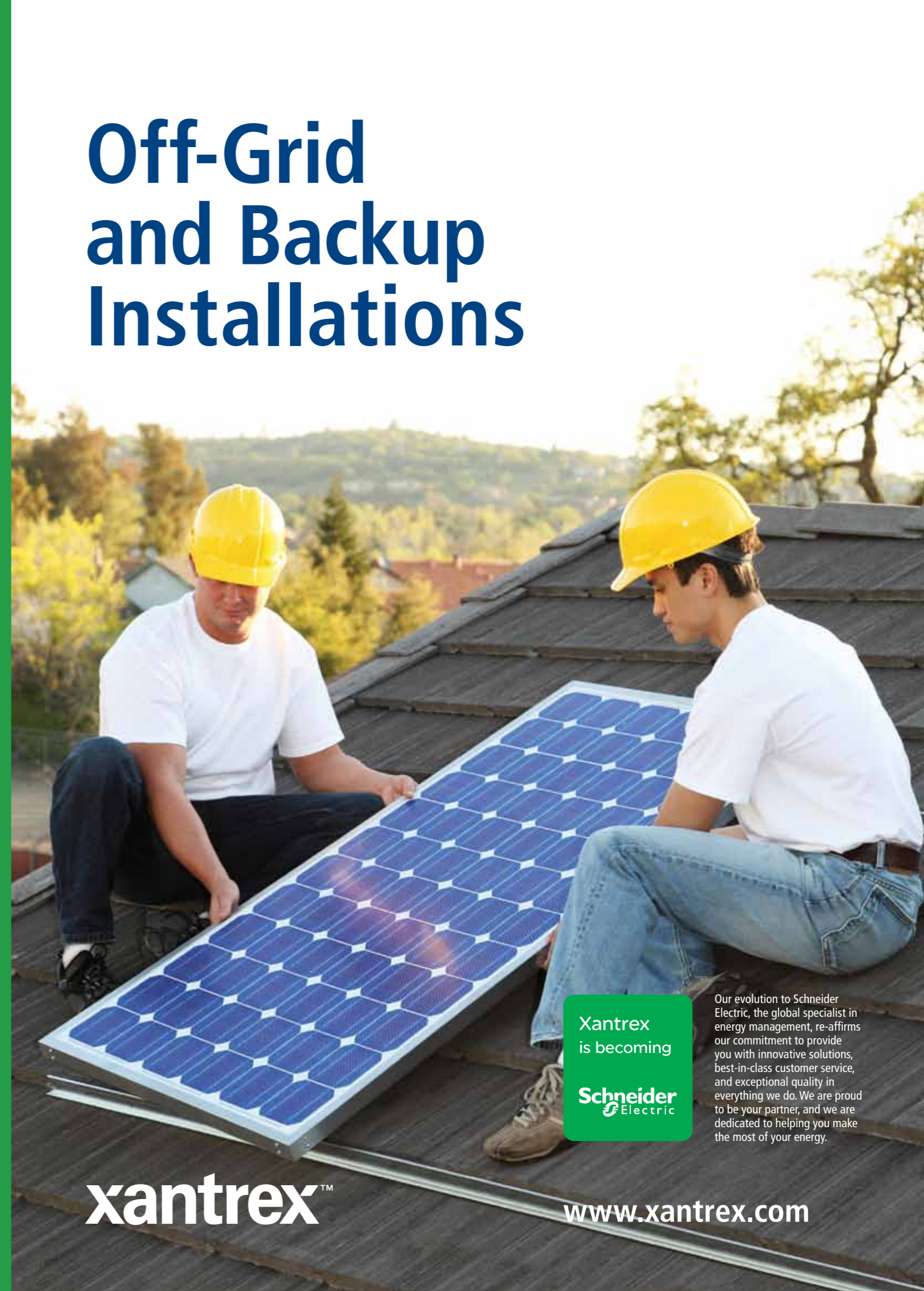
**Xantrex Technology GmbH**  
Steinheimer Str. 117  
63500 Seligenstadt  
Germany  
+49 (0) 6182 81 6000 Phone  
+49 (0) 6182 81 6001 Fax

[europesales@xantrex.com](mailto:europesales@xantrex.com)  
[europemarketing@xantrex.com](mailto:europemarketing@xantrex.com)

**xantrex™**

©2009 Xantrex Technology Inc. All rights reserved. Xantrex and Smart choice for power are trademarks of Schneider Electric, registered in the United States and other countries. Make the most of their energy is a trademark of Schneider Electric.

BR20091110\_offgrid-brochure\_en



Xantrex  
is becoming

**Schneider**  
Electric

Our evolution to Schneider Electric, the global specialist in energy management, re-affirms our commitment to provide you with innovative solutions, best-in-class customer service, and exceptional quality in everything we do. We are proud to be your partner, and we are dedicated to helping you make the most of your energy.

**xantrex™**

[www.xantrex.com](http://www.xantrex.com)

# Xantrex™ Backup Systems

Did you know that power consumption grows at a rate exceeding the production capacity of power companies and for this reason major outages are becoming more frequent?

## Have you stopped to think about:

- The impact of a power outage on your life?
- How it would feel to miss your favorite team score the winning goal?
- The financial impact of being without electricity for an hour?

Europeans are growing more and more dependent on electricity, both at home and in the work place. A sudden power outage can be frustrating and troublesome as well as cause unwanted financial losses.

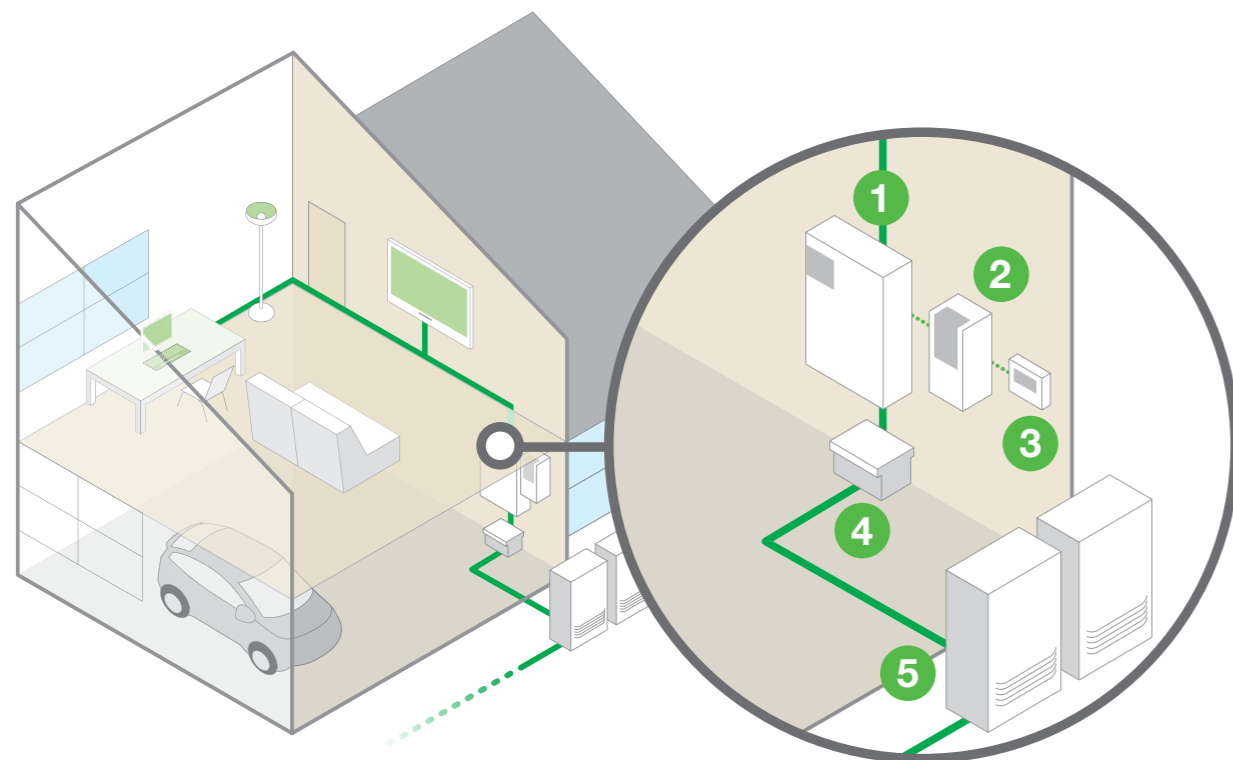
With a Xantrex inverter/charger you can easily protect critical electrical loads in your home or business such as computers, lights, refrigerators and alarm systems.

A Xantrex inverter/charger uses electricity from the utility grid or alternative energy source to charge and maintain a battery bank which remains ready to be used in the case of a grid failure. When power is restored, the inverter/charger will automatically recharge the batteries.



## Your benefits:

- Supply of energy to your critical loads in the event of a power outage
- Complete system solution using modular components
- All system components are networked amongst each other reducing cabling
- Expandable: easy to add on additional units as your power demands increase
- Unprecedented surge capacity to start difficult loads



### Backup System Components

1. Xantrex XW Inverter/Charger
2. XW MPPT Solar Charge Controller
3. XW System Control Panel (SCP)
4. Battery bank
5. Electric grid

# Backup Systems Applications

Xantrex™ inverter/chargers offer an efficient solution in the event of a grid connection interruption.

By using a Xantrex XW Inverter/Charger and a Gel battery bank (sealed battery, suitable for enclosed installations) with a total capacity of 300 Ah, you can keep the following appliances running for approximately 8 hours:



### Internet café:

- 8 computers
- 3 lamps

- Keep your clients happy
- Ensure that your computers continue to operate



### Café or restaurant:

- 1 refrigerator
- 3 lamps
- 1 Espresso machine

- Power lights so your customers are not in the dark
- Keep the Espresso machine operational



### Marginal grid residences:

- 1 refrigerator
- 3 lamps
- 1 TV
- 1 computer

- No interruption of the power when the grid fails to supply enough energy



### Small business:

- Network server
- 1 telephone
- 2 computers

- Keep the server running
- Power your reception telephone

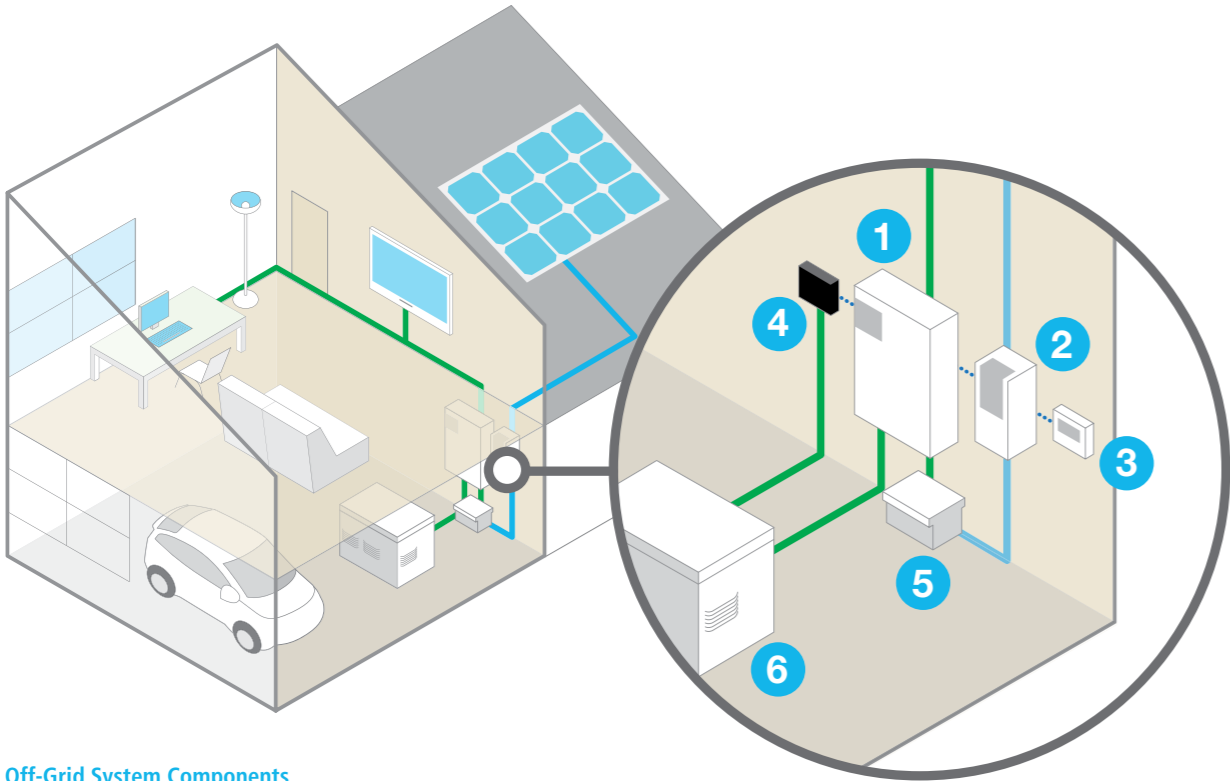
# Xantrex™ Off-Grid Systems

A Xantrex inverter/charger can also be used to get power to remote areas where the the grid is not accessible.

Xantrex inverter/chargers are the main components of off-grid systems. Depending on customer needs, an off-grid installation can consist of PV modules, wind turbines, hydro systems or a combination of all of these. A backup power system provides continuous power to run all the appliances connected to the system.

The configuration of your system will depend on the type of electrical loads that will be connected to it and also on the total power consumption of these loads. With a Xantrex XW Inverter/Charger you will be able to add extra units as your power demands rise thanks to its plug and play expandable system.

Your off-grid installation can be set up in a single or three-phase configuration. Dual AC inputs allow flexible and adaptable installation to suit many customer location requirements.



**Off-Grid System Components**

- 1. Xantrex XW Inverter/Charger
- 2. XW MPPT Solar Charge Controller
- 3. XW System Control Panel (SCP)
- 4. XW Automatic Generator Start (AGS)
- 5. Battery bank
- 6. Generator



**Your benefits:**

- Stand alone systems from 1.5kW to 36kW
- Dual AC inputs with integrated transfer switch < 8ms transfer time
- Expandable: easy to add on additional units as your power demands increase
- Efficient, power factor corrected, high-current, multistage battery charging minimizes charging time while increasing AC pass-through capacity

# Off-Grid Systems Applications

By using a Xantrex™ inverter/charger you will be able to get electricity even in areas where there is no grid connectivity.



**Single-family home:**

- PV array: 3 kWp
- Battery bank: 300 Ah / 24 V
- Inverter/charger: 4 kVA nominal / 8 kVA peak
- Diesel genset: 5 kVA

• The smart solution for homes that are not connected to the grid



**Alpine remote installation:**

- Wind turbine: 10 kVA
- PV array: 20 kWp
- Battery bank: 4000 Ah / 48 V
- Inverter/charger: 18 kW / three phase
- Diesel genset: 27 kVA

• An alpine hotel, a mountain vacation home or an observation station are applications that need the constant use of reliable power



**Remote telephone station:**

- PV array: 5.7 kWp
- Battery bank: 2500 Ah/ 48 V
- Inverter/charger: 13.5 kVA nominal / 27 kVA peak
- Diesel genset: 11 kVA single phase

• The inverter/charger that minimizes the required maintenance services



**Remote winery:**

- PV array: 6 kWp
- Battery bank: 500 Ah / 48V
- Inverter/charger: 6 kVA nominal / 12 kVA peak
- Diesel genset: 5 kVA

• The ideal solution for rural areas where no electricity is available

# Xantrex™ Off-Grid and Backup Products

## Inverter/Chargers:



### Xantrex XW Hybrid Inverter/Charger

- True sine-wave output
- Single phase (230V) and three phase (400/230V) configurations possible
- Dual AC inputs
- Several units can be connected in parallel
- Efficient power factor corrected, high-current, multi-stage battery charging



### Xantrex Trace Series Inverter/Charger

- Better thermal performance allows full output power 50°C(122°F) without de-rating
- Durable power coated, corrosion resistant steel chassis
- New power factor corrected (PFC) charging
- High surge capacity starts more difficult loads and handles overload conditions reliably

## Charge Controllers:



### Xantrex XW MPPT Charge Controller

- Maximum Power Point Tracking (MPPT) deliver maximum available power for PV array to battery bank
- Integrated PV ground-faulted protection
- Convection-cooled design – does not require a cooling fan
- Selectable two or three-stage charging algorithms
- Up to 30% more PV then PWM charge controllers



### Xantrex C Series and C12 Charge Controllers

- Silent, pulse width modulated microprocessor control (maximizing battery life)
- Field adjustable voltage and battery type set points
- Electronic protection against short-circuit, overload, over temperature, and reverse polarity conditions

## Accessories:



### Xantrex XW Automatic Generator Start

- Automatically activates a generator to provide an XW Series Hybrid Inverter/Charger with power to recharge a depleted battery bank or provide additional power for heavy loads



### Xantrex XW System Control Panel

- Gives a single point of control to setup and monitor an entire system, which may consist of multiple XW Inverter/Chargers, XW MPPT Solar Charge Controllers and other components



### Xantrex Communications Gateway

- Can monitor a network consisting of up to 20 single phase GT inverters or up to 8 XW devices (XW Inverter/Charger(s), XW Charge Controller(s), XW SCP, and XW AGS)
- Wi-Fi/Ethernet module with 10/100 Base-T or 802.11 b/g
- Can be configured to send energy and alarm reports via email
- Graphical interactive solar monitoring software

