



Renewable Energy Off-Grid Catalog

- ▶ Inverters
- ▶ Inverter/Chargers
- ▶ System Components

Renewable Energy Off-Grid Catalog



About Xantrex

Xantrex Technology Inc., which acquired Trace Engineering in 2000, is a world leader in advanced power electronics. Our technology is a key enabler for renewable energy systems, efficiently converting raw electrical energy from any source such as solar, wind, or microhydro, into high-quality household power.

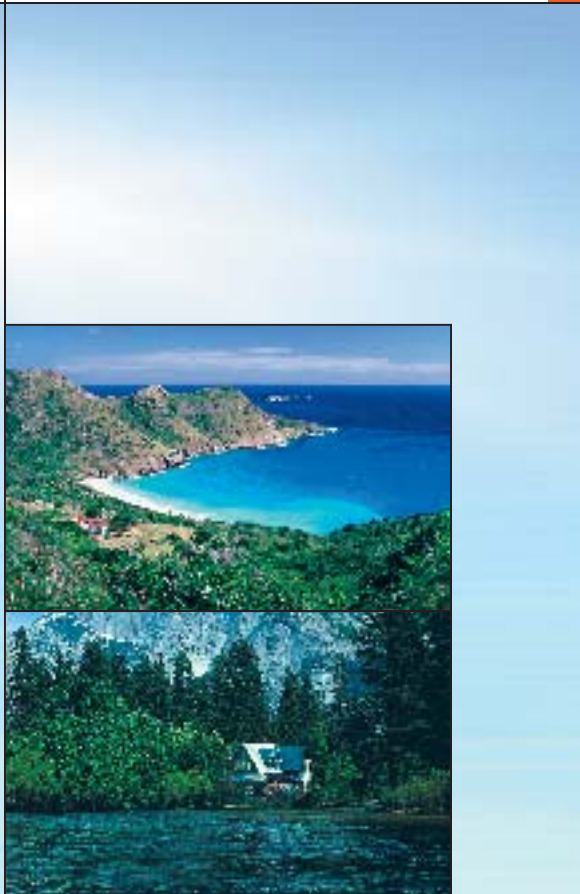
More than 200,000 homes and businesses rely on Xantrex power electronics to bring them electricity anytime, anywhere. Xantrex products allow customers around the world to increase energy efficiency and freedom, while making a positive impact on the environment.

Almost a quarter century of experience goes into creating renewable energy products at Xantrex. Our Distributed Power team has led the renewable energy movement since the 1980s. This knowledge and experience in advanced power electronics is helping to accelerate the adoption of renewable energy.

As part of our commitment to a sustainable future, Xantrex participates in the Green Power program. Our manufacturing facilities in Arlington, Washington and Livermore, California operate on 100% green electricity.

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Power to Choose

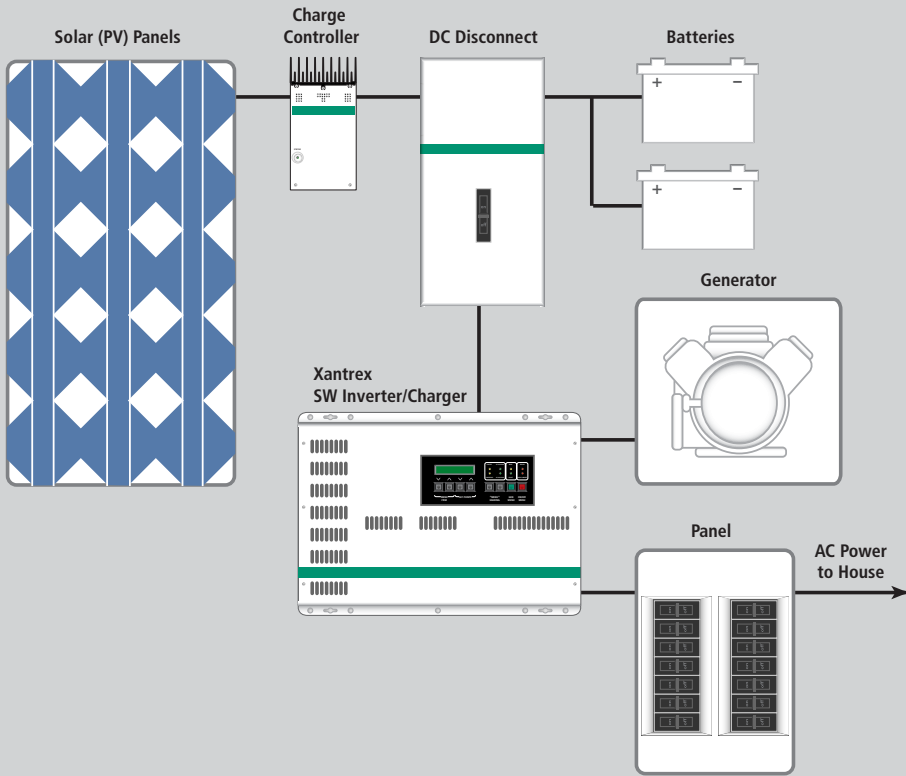
We all depend on electricity to be productive and live comfortably. But utility power isn't available everywhere and where it is available, it has become less reliable and more costly for users and the environment. Thanks to advances in technology, creating electricity from solar, wind, and other renewable power sources is easier and more affordable than ever before.

Xantrex makes power electronics from 100 watts to 1 megawatt, which can be tailored to suit your power needs. Our technology is the control center of a renewable energy system, efficiently processing and converting renewable energy into useable AC electricity.

Whether you live off the power grid or in a grid-dependent suburb, Xantrex power electronics will help you manufacture your own power most efficiently. Use our off-grid products to enjoy the comforts of electricity wherever you choose to live. If you live in a grid-dependent suburb and want to achieve power independence, our grid-tie products allow you to generate your own power and sell excess electricity back to your utility. For more information on our complete range of grid-tie products, please request a Xantrex Grid-tie catalog.



System Basics



Basic Off-Grid System

With a Xantrex off-grid system, you can easily produce your own power without the expense and environmental impact of extending power lines, or relying completely on a generator.

A basic off-grid system consists of a renewable energy source, which generates DC power, a battery bank that stores the DC power, and a Xantrex inverter. Our inverter is the intelligent center of a renewable power system, seamlessly converting DC power to clean, reliable AC electricity for your needs.

The system illustrated here is a solar electric hybrid system that offers additional automatic features. It consists of solar panels, a battery bank, our top-of-the-line Xantrex SW Inverter/Charger, a charge controller that manages battery charging, and a generator. When the sun is up, the solar panels generate power to charge batteries and provide electricity. At night, the Xantrex inverter/charger automatically runs your electrical equipment from your battery bank. The generator provides additional back-up battery charging capability for extended periods of cloudy weather. The Xantrex inverter/charger can automatically start the generator and initiate a recharge cycle when the battery bank is depleted, or a load is too large for the batteries to support independently.

Xantrex manufactures a complete range of power products to suit various budgets and electricity requirements. From complete power systems that come ready to install from our factory, to components that can be integrated into a system by a Xantrex Certified Dealer, we have a system to meet your needs.

Inverters and Waveforms Explained



What is an Inverter?

Modern inverters have caused a quiet revolution in the way we live with independent power systems providing silent AC electricity anytime, anywhere. An inverter is a sophisticated microprocessor controlled device that transforms the DC power collected from your renewable energy source into household electricity.

What is an Inverter/Charger?

An inverter/charger is a combination of an inverter, battery charger, and transfer switch in one. In addition to converting DC power from the renewable energy source into AC power, an inverter/charger can also convert AC power from a generator into DC power to recharge batteries. To ensure power supply is uninterrupted, some models feature automated generator start and stop capabilities, so supplementary power is automatically produced as necessary. The inverter/charger's ability to process multiple forms of incoming power makes it a popular choice for off-grid applications providing homes with a completely autonomous supply of electricity.

Wave Forms Explained

Today's inverters, which simulate utility power electronically, produce two types of AC power: modified sine wave or sine wave. The differences between these types of inverters are subtle, but significant in the way they operate certain types of loads.

Modified Sine Wave Inverters

Modified sine wave inverters can adequately power most household appliances and power tools. These inverters are less expensive. However, this waveform may present certain compromises with some loads such as microwave ovens, laser printers, clocks, and cordless tool chargers.

Sine Wave Inverters

Sine wave inverters are the most sophisticated inverters on the market today. They are designed to replicate and even improve on the quality of electricity supplied by utility companies.

Power Panels

- ▶ Complete Systems



- ▶ Sine Wave Output

- ▶ Modified Sine Wave Output

The Xantrex Power Panel is our most comprehensive and easy to install off-grid electrical system solution. It is custom configured to your specifications. Factory assembled and tested by Xantrex technicians for reliability, the Power Panel arrives on a pallet ready to connect to your renewable energy source. This cost effective system solution is available in single and dual SW or DR configurations.

- ▶ Our most comprehensive and easy-to-install system
- ▶ Custom configured to suit your power needs
- ▶ Factory assembled and tested for reliability



Power Panel with dual SW Inverter/Chargers



Power Panel with dual DR Inverter/Chargers

Power Panel Options

- ▶ SW Power Panels are available in 24 and 48 VDC models and can be ordered with up to 11000 watts of 120/240 VAC output power. SW Power Panels will regulate up to 3800 watts of input power from renewable energy sources and more with optional charge controllers added.
- ▶ DR Series Power Panels can be ordered with up to 7200 watts of 120/240 VAC output power. They can regulate up to 2000 watts of input power from renewable energy sources and more with optional charge controllers added. Standard input voltages available are 12 and 24 VDC.

Optional Accessories

See Accessories Section for full descriptions

- ▶ Battery Cables
- ▶ Charge Controllers

Power Modules

▶ Complete Systems



▶ Sine Wave Output

▶ Modified Sine Wave Output

▶ Three-Phase Power

The Xantrex Power Module is a premium-quality system that features secure weatherproof enclosures. It is a complete renewable energy system that is assembled onsite into attractive powder-coated enclosures. As each of its components are UPS shippable, the Power Module is the ideal power system for remote locations. The Power Module can be ordered with both DR and SW Inverter/Chargers in single and dual configurations and can be configured with SW Inverter/Chargers for three-phase operation.

- ▶ Lockable weatherproof enclosure
- ▶ Easy to ship and install
- ▶ Ideal for large installations in remote locations



Single Power Module Enclosure



Three-Phase Power Module

Power Module Features

- ▶ Circuit breakers and disconnect switches are mounted on the outside of the Power Module and are protected by locking weather-tight plastic covers.
- ▶ Sealed batteries can be installed in another Power Module enclosure below the electronic modules.
- ▶ Flooded electrolyte batteries should be installed next to the electronic modules in a separate Power Module case.
- ▶ For remote businesses, the Xantrex Three-Phase Power System configuration is available in two output voltages and four power ratings, ranging in size from 12 kVA to 16.5 kVA. All three-phase systems include our revolutionary Phase Monitoring Control System and Power Module Enclosure, plus full SWCA hardware and software.
- ▶ In all configurations, SW or DR Inverters must be ordered separately.

SW Inverter/Charger

▶ Inverter/Chargers



▶ Sine Wave Output

The SW Inverter/Charger is our most popular off-grid power solution. It is available in 24 and 48-volt models to suit your power needs. Backed by years of proven off-grid application, the SW Inverter/Charger sets the standard for reliable power on demand. It provides utility-grade output power, high-surge ability and is easy to install. The SW Inverter/Charger offers more user programmable features than any other inverter available, including automatic generator start and stop and automatic load sensing. Its built-in, fully automatic, three-stage battery charger is designed to bring maximum charge to batteries, while using minimum generator time and fuel.

- ▶ Our most popular inverter/charger
- ▶ Premium quality power and high surge capacity
- ▶ More user programmable features than any other inverter



4000 Watt SW Inverter/Charger

Features

- ▶ 4000 or 5500 watt continuous output models.
- ▶ Programmable control module with LCD and LED indicators.
- ▶ Low idle current (less than 1 watt) conserves energy when no loads are present.
- ▶ Built-in starting control circuits for two and three wire generator starting systems.
- ▶ Three user-adjustable voltage controlled signal relays for control of loads or charging sources.

Optional Accessories

See Accessories Section for full descriptions

- ▶ SWCA: Remote monitor that operates through a PC
- ▶ SWRCII: Full-function remote control
- ▶ SWI: Connects two SW units for 120/240 VAC output
- ▶ SWI/PAR: Connects two SW inverters for twice the output power at the same voltage
- ▶ SWCB: SW Series conduit box

PS Inverter/Charger

▶ Inverter/Chargers



▶ Sine Wave Output

The PS Inverter/Charger delivers dependable sine wave power at a mid-range price. The 2.5 kW inverter is available in 12 and 24-volt models. It includes a sophisticated, fully automatic, three-stage battery charger. This cost effective inverter/charger also allows you to choose optional features that suit your needs and budget. If you want your generator to start automatically when needed, add the optional GSM and SWRC.

- ▶ Reliable sine wave power at a mid-range price
- ▶ Choose from a wide range of optional features
- ▶ Ideal for moderate power demands



2500 Watt PS Inverter/Charger

Features

- ▶ 2500 watts of continuous power.
- ▶ Sine wave output for clean, utility grade power.
- ▶ High-efficiency operation.
- ▶ Three-stage battery charging system (bulk, absorption, and float) with automatic temperature compensation ensures your batteries are properly maintained.
- ▶ Surge capacity of 2.5 times peak power rating starts even the most demanding loads.

Optional Accessories

See Accessories Section for full descriptions

- ▶ ALM: Starts and stops auxiliary loads
- ▶ GSM: Automatic generator start module
- ▶ SWCA: Remote monitor that operates through a PC
- ▶ SWRCII: Full-function remote control
- ▶ SWI: Connects two SW units for 120/240 VAC output
- ▶ SWI/PAR: Connects two SW inverters for twice the output power at the same voltage
- ▶ PSCB: PS Series conduit box

Prosine 2.0 Inverter/Charger

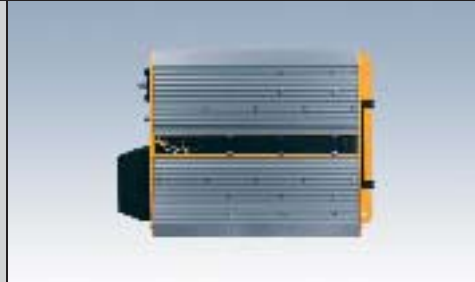
▶ Inverter/Chargers



▶ Sine Wave Output

The Prosine 2.0 Inverter/Charger provides true sine wave output to power today's most sophisticated electronic equipment. It has a technologically superior power-factor corrected battery charger, a full-function remote control panel, and a temperature sensor. Light weight and compact, the Prosine 2.0 is the premiere choice for small power installations.

- ▶ True sine wave inverter/charger at an entry-level price
- ▶ Non-volatile memory saves custom settings
- ▶ Premium power for 12 volt homes



2000 Watt Prosine Inverter/Charger

Features

- ▶ 2000 watt continuous, premium, sine wave output.
- ▶ 50 amp high surge capability.
- ▶ 100 amp multistage charger in the Prosine 2.0.
- ▶ Equalization mode conditions batteries for longer life.
- ▶ 30 amp transfer switch automatically turns inverter and charger on/off.
- ▶ Larger models available.

Optional Accessories

See Accessories Section for full descriptions

- ▶ Prosine 2.0 Remote Panel

DR Inverter/Chargers

▶ Inverter/Chargers



▶ Modified Sine Wave Output

The DR Inverter/Charger sets the standard for modified sine wave inverters ranging in size from 1500 watts to 3600 watts. The DR provides dependable power for vacation homes and is an excellent choice for use in a work shop. This hard working inverter runs common tools and kitchen appliances. Its high-surge capacity gives it the ability to start difficult motor loads. Once set up, all functions of the inverter/charger are fully automatic. LED status indicators provide vital information such as charge mode, high or low battery voltage, and over temperature or overload.

- ▶ Modified sine wave inverter/charger at a mid-range price
- ▶ High surge capacity
- ▶ Dependable power for cabins, workshops and well pumps



1500 Watt DR Inverter/Charger

Features

- ▶ Extremely efficient.
- ▶ Available in 1500, 2400, or 3600 watts of continuous power
- ▶ Built-in, three-stage battery charging system.
- ▶ Automatic AC transfer relay.
- ▶ Connected in series a pair of DR Inverters produce both 120 and 240 VAC power.

Optional Accessories

See Accessories Section for full descriptions

- ▶ BTS: Battery temperature sensor
- ▶ DRI: DR stacking interface
- ▶ DRCB: DR Series conduit box
- ▶ RC8: Remote control with LED indicator

UX Inverter/Chargers

▶ Inverter/Chargers



▶ Modified Sine Wave Output

The UX Series Inverter/Charger is an economical and efficient choice for moderate power needs. It is easy to operate and provides enough power to run electric tools and many kitchen appliances. This compact inverter is available in 600 to 1400 watt models and can start and run appliances up to three times the continuous rating. The UX is extremely efficient and consumes as little as one-half a watt under no-load conditions.

- ▶ Modified sine wave inverter/charger at an entry-level price
- ▶ Provides reliable basic power
- ▶ Operates power tools effectively



600 Watt UX Inverter/Charger

Features

- ▶ Quiet, high efficiency operation.
- ▶ Durable construction for long life under extreme environmental conditions.
- ▶ 600-1400 watt models available.
- ▶ Front panel LED indicator and adjustable "Search Mode" switch.
- ▶ Selectable settings for flooded lead acid or gel batteries (with SB option).

Optional Accessories

See Accessories Section for full descriptions

- ▶ SB: Three-stage battery charger with AC transfer switch
- ▶ BTS: Battery temperature sensor
- ▶ RC8: Remote control with LED indicator

Prosine Inverters

▶ Inverters



▶ Sine Wave Output

The Prosine Inverter is ideal for power systems that already have a quality multistage battery charger. It is often used as a dedicated inverter to power sensitive electronic loads in off-grid applications. The Prosine provides clean sine wave power suitable for use with sensitive electronic equipment and is built to operate mid-range inductive loads. Available in 12 and 24-volt models, this inverter's lightweight and compact design makes installation easy. It includes a removable digital LCD panel to provide operating status and control from a remote location.

- ▶ Compact and easy to install
- ▶ Ideal choice for telecommunications and satellite equipment
- ▶ Excellent inverter-only choice for system with stand-alone battery charger



1000 Watt Prosine Inverter

Features

- ▶ Removable LCD display - requires optional remote interface kit.
- ▶ Optional transfer switch available.
- ▶ CSA/NRTL certified to UL and CSA standards.
- ▶ Over temperature shutdown and automatic overload protection.
- ▶ Suited for use as a second inverter in a specialty application, such as telecommunications equipment.

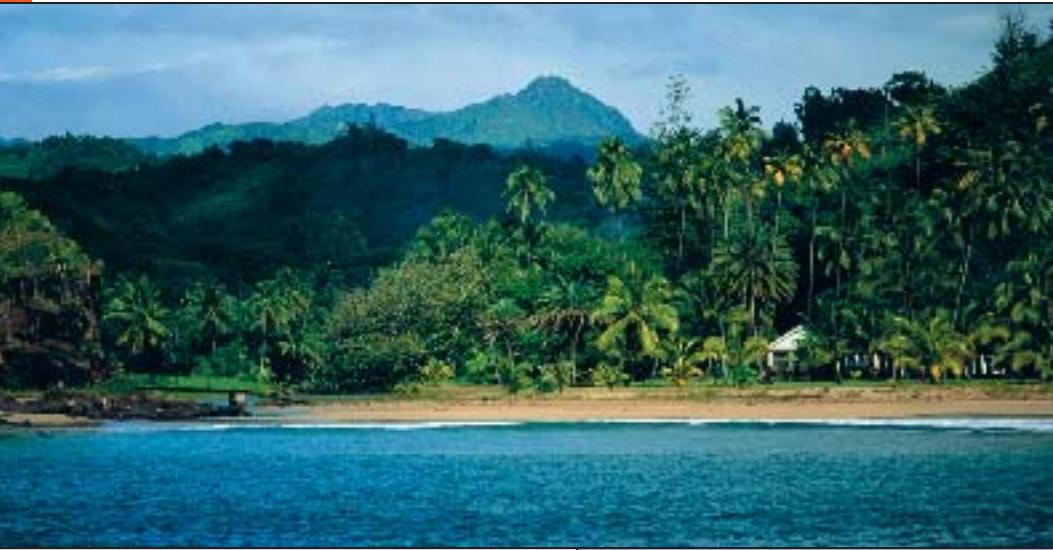
Optional Accessories

See Accessories Section for full descriptions

- ▶ Remote Interface Kit

Charge Controllers

► Accessories



► Charge, Lighting, or Load Controllers

A charge controller is an important system component that regulates the voltage generated from your renewable energy system and properly maintains your batteries. It protects your batteries from being over and under charged, and ensures maximum battery life. Considered to be the best in the industry, Xantrex Charge Controllers offer a variety of features including three-stage battery charging and a battery temperature sensor. Our Charge Controllers can be configured to operate in one of three distinct modes based on application: three-stage PV charge control mode, automated load control mode, or wind and microhydro application load diversion control mode.

- Increases longevity of batteries
- Ensures batteries are always charged
- Properly maintains your batteries



C12 Charge Controller



C40 Charge Controller

C12

The C12 charge, lighting, or load controller is uniquely sophisticated. As a charge controller, it features three-stage charging, user definable voltage parameters, and automatic equalization. Standard in the C12's load control circuitry are field adjustable low voltage disconnect and reconnect points, along with a five minute low battery disconnect warning. The C12 also functions as a lighting controller. Lighting run time is adjustable from 2 to 8 hours or can be set for dusk to dawn operation.

C Series

The C Series, including the C35, C40, and C60, is the benchmark of our charge controller lineup. The C35 and C60 are field configurable for 12 and 24 VDC operation. The C40 may be configured for 12, 24, or 48 VDC operation. All can be used as a charge, diversion, or load controller and come with a standard multi-color charge status LED.

Optional Accessories

See the Accessories Section for more information

C12

- BTS: Battery temperature sensor

C Series

- CM: Cumulative amp hour meter
- CM/R: Remote cumulative amp hour meter (available in 50 or 100 foot lengths)
- BTS: Battery temperature sensor

Features:

- 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

Series and Parallel Stacking

► Accessories

SWI

SW Interface

The SWI is used to stack two identical SW or PS Inverters in series. This will provide twice the power output in a 3-wire, 120/240 VAC, 60 Hz configuration. The SWI is only available for use with North American SW and PS Inverters.

► For use with SW and PS Inverters



SWI/PAR

SW Paralleling Kit

The SWI/PAR is used to connect two identical SW or PS Inverters in parallel to produce twice the output power at the same voltage.

► For use with SW and PS Inverters



DRI

DR Interface

The DRI is used to stack two identical DR Inverters in series. This will provide twice the power output in a 3-wire, 120/240 VAC, 60 Hz configuration. The DRI is only available for use with North American DR Inverters.

► For use with DR Inverters



Remote Controls

SWRC

SW Remote Control

The SWRC is a full-function remote control with backlit LCD display. The remote control comes with a standard 25-foot (7.5 m) cable or a 50-foot optional (15 m) cable. The SWRC or SWCA are required on the PS to adjust settings.

► For use with SW and PS Inverters



RC/8

The RC/8 remote control panel can be mounted up to 100 feet (30 meters) away for convenient status monitoring and on/off inverter activation.

► For use with PS, DR, and UX Inverters



Remote Controls (continued)

Prosine 2.0 Remote Panel

The PROsine 2.0 Remote Panel has independent inverter and charger on/off controls, push button control of power sharing, equalizing, and battery set-up, easy to read backlit digital text messaging display, single at-a-glance view of all AC and DC information, and text message fault diagnostics. Comes with 25' (7.6 m) cable.

► For use with Prosine 2.0 Inverters



Prosine 1800 Remote Panel

This remote panel provides DC input voltage from the battery, DC input current (amps) drawn from the battery, power scale with inverter wattage output, and status/error display for shutdown conditions - overload, over-temperature, over/under voltage. Comes with 25' (7.6 m) cable.

► For use with Prosine 1800 inverters



CM & CM/R

Digital Meter or Remote Display

This digital meter mounts onto the front of a charge controller or as a remote can be installed up to 100' (31 m) away. It displays volts, amps, and resettable cumulative amp hours for a solar array, DC loads, or diversion loads, depending on application. The CM/R comes with 50' (15 m) or 100' (31 m) communication cable for remote installation.

► For use with C Series Charge Controllers



System Monitors

SWCA

SW Communications Adapter

The SWCA allows PC connection and monitoring of up to eight SW or PS Inverters. The package includes the adapter, DOS based software, 25' (7.6 m) of cable and a DB9 connector. The SWCA or SWRC are required on the PS to adjust settings.

► For use with SW and PS Inverters



TM500A Meter

Battery System Monitor

The TM500A provides easy to understand information such as produced and used DC current. The fuel gauge style battery meter makes keeping track of state-of-charge virtually fool proof. The TM500A comes with 50 feet (15m) of cable, a Deltek 50mV/500 amp shunt, a prewired cable, and a plug-in adapter board.

► For use with multiple systems



System Extensions

▶ Accessories

GSM

Generator Start Module

The GSM is used to control an external automatic start generator. It is used to start or stop a generator when the batteries can't support the power loads because they are out of range or the load exceeds a pre-set current level. It can also be used to start and stop the generator at regular intervals.

▶ For use with PS Inverters



ALM

Auxiliary Load Manager

The ALM is designed to start and stop auxiliary loads, such as fans and water pumps, based on programmable voltage parameters. An ALM can be used in place of a charge controller because it can be configured to shunt excess power to useful power loads.

▶ For use with PS Inverters



T240 Auto Transformer

The T240 is a great way to operate 240 VAC power tools and water pumps from a single inverter. 120 VAC is supplied to the T240 which steps it up to 240 VAC. This versatile auto transformer can also turn 240 VAC into 120 VAC. This allows the full output of a 240 VAC generator to be used by our 120 VAC battery chargers. The T240 can also be used as an isolating transformer.

▶ For use with multiple systems



Conduit Boxes

SWCB & PSCB

SW Conduit Box & Power Station Conduit Box

This conduit box fits on the DC end of the inverter and makes wiring to NEC specifications easy. Knockouts are provided for 1/2", 3/4", and 2" sizes.

▶ For use with SW and PS Inverters



DRCB

DR Conduit Box

This conduit box fits on the DC end of the inverter and makes wiring to NEC specifications easy. Knockouts are provided for 1/2", 3/4", 2", and 2 1/2" sizes.

▶ For use with DR Inverters



Breakers & Disconnects

PVGFP

Ground Fault Breakers

PVGFP breakers disconnect the solar array if a ground fault occurs in the wiring. These breakers can be ordered in one through four pole configurations. The PVGFP works with 12, 24, and 48 VDC systems with or without batteries.

▶ For use with multiple systems



DC Disconnects and DC Breakers

Xantrex makes DC input safety a simple matter with our complete line of DC disconnects and breakers. The high amperage DC breaker is housed within a powder coated enclosure with conduit knockouts for SW and DR Series inverter connection. Our DC disconnects are simple to install and meet all electrical code requirements for appropriate circuit protection.

DC Disconnects are expandable, allowing an additional 175 or 250 amp inverter breaker to be installed for dual inverter installations. DC input/output breakers for PV, charge controllers, or DC loads can also be field installed into our DC Disconnects. The TM500A shunt can also be installed in a DC175 or DC250.

▶ For use with multiple systems



Disconnect and Breaker Options

- ▶ DC250: 250 amp breaker with enclosure
- ▶ DC175: 175 amp breaker with enclosure
- ▶ GJ250: Additional 250 amp breaker (field installable)
- ▶ GJ175: Additional 175 amp breaker (field installable)
- ▶ DCBB: Negative/ground bonding block. Connects up to two #4/0 AWG negative cables and grounding system.
- ▶ CD60DC: 60 amp circuit breaker for solar array input disconnect. Mounts on the side of the DC250 or DC175.
- ▶ CD15: 15 amp circuit breaker for small DC loads. Mounts on the side of the DC250 or DC175.
- ▶ CD20: 20 amp circuit breaker for small DC loads. Mounts on the side of the DC250 or DC175.

Combiner Boxes & Fuses

▶ Accessories

TCB6 Combiner Box

The TCB6 combiner box makes installing inverters and renewable energy equipment simple and code compliant. These devices meet the UL requirement for series fusing of PV modules when connected in parallel to form larger arrays. The combiner box will accommodate six PV input circuits fused at up to 20 amps per circuit. The maximum continuous current rating of the TCB is 100 amps at 12, 24, or 48 VDC. Fuses are available in 5, 6, 8, 10, and 15 amp sizes.

▶ For use with multiple systems



TFB Fuse Block

The Xantrex Fuse Block has a DC rated class T fuse in a protective holder with slide-off cover and is available in 110, 200, 300, and 400 amps. We make two types of this useful accessory—one with a wire clamp to accept bare copper wire, and another with a post type terminal to accept cables with ring terminals.

▶ For use with multiple systems



Battery Charging & Monitoring

Truecharge Battery Chargers

Truecharge multistage battery chargers are microprocessor controlled for fast and accurate charging of your batteries. A wide AC input voltage range enables proper delivery of a full three-stage charge, and features, such as adjustable temperature compensation and independent settings for flooded, gel, and AGM batteries, prevent battery damage due to overcharging.

▶ For use with multiple systems



Battery Temperature Sensor

The BTS mounts on your battery and measures its temperature. It sends precise information to the inverter/charger or charge controller, which automatically adjusts charging voltage to ensure full battery charge, regardless of the ambient temperature of your battery installation. The BTS is standard on SW and PS Inverters.

▶ For use with DR and UX Inverters and C Series Charge Controllers



Battery Cables

We make it easy to ensure that your system has the right cabling by offering a complete line of UL Listed, flexible battery cables. With twelve cable sizing options, check with your Xantrex product reseller to determine which cable sizes are right for your system.

▶ For use with multiple systems



Product Specifications

SW Inverter/Chargers

Model	SW4024	SW4048	SW5548
Continuous Power	4000 VA	4000 VA	5500 VA
AC Input Voltage Range	80 - 149 VAC	80 - 149 VAC	80 - 149 VAC
Efficiency (Peak)	94%	95%	96%
Output Voltage	120 VAC ± 3%	120 VAC ± 3%	120 VAC ± 3%
Frequency	60 Hz	60 Hz	60 Hz
Continuous Output	33 amp AC	33 amps AC	46 amps AC
Surge Capability (100 mSec)	78 amps AC	78 amps AC	78 amps AC
Automatic Transfer Relay	60 amps	60 amps	60 amps
DC Input Voltage Range	22 - 33 VDC	44 - 66 VDC	44 - 66 VDC
Idle Consumption	< 16 watts	< 16 watts	< 20 watts
Max. Continuous Charge Rate	110 amps DC	60 amps DC	70 amps DC
Unit Weight	105 lb (48 kg)	105 lb (48 kg)	136 lb (63 kg)
Waveform	Sine wave	Sine wave	Sine wave
Listings	All models CSA Listed to UL1741		

PS Inverter/Chargers

Model	PS2512	PS2524
Continuous Power	2500 VA	2500 VA
AC Input Voltage Range	108 - 132 VAC	108 - 132 VAC
Efficiency (Peak)	90%	92%
Output Voltage	120 VAC ± 3%	120 VAC ± 3%
Frequency	60 Hz	60 Hz
Continuous Output	21 amps AC	21 amps AC
Surge Capability (100 mSec)	35 amps AC	75 amps AC
Automatic Transfer Relay	50 amps	50 amps
DC Input Voltage Range	11.8 - 16.5 VDC	22 - 33 VDC
Idle Consumption	< 20 watts	< 20 watts
Max. Continuous Charge Rate	130 amps DC	65 amps DC
Unit Weight	80 lb (36.4 kg)	80 lb (36.4 kg)
Waveform	Sine wave	Sine wave
Listings	All models UL Listed to UL1741 and cUL 107.1-95 and CE Compliant	

Prosine Inverter/Chargers

Model	2.0	Larger models available
Continuous Power	2000 VA	
AC Input Voltage Range	90 - 135 VAC	
Efficiency (Peak)	89%	
Output Voltage	117 VAC ± 3%	
Frequency	60 Hz	
Continuous Output	17 amps AC	
Surge Capability (5 Sec)	50 amps AC	
Automatic Transfer Relay	30 amps	
DC Input Voltage Range	10 - 16 VDC	
Idle Consumption	< 2 watts	
Max. Continuous Charge Rate	100 amps DC	
Unit Weight	24 lb (11 kg)	
Waveform	Sine wave	
Listings	All models CSA Listed to CSA 107.1, UL 458 Marine, and UL 1741	

Product Specifications

DR Inverter/Chargers

Model	DR1512	DR2412	DR1524	DR2424	DR3624
Continuous Power	1500 VA	2400 VA	1500 VA	2400 VA	3600 VA
AC Input Voltage Range	90-140 VAC	90-140 VAC	90-140 VAC	90-140 VAC	90-140 VAC
Efficiency (Peak)	94%	94%	94%	95%	95%
Output Voltage (RMS)	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Frequency (Nominal)	60 Hz	60 Hz	60 Hz	60 Hz	60 Hz
Continuous Output	12.5 amps AC	20 amps AC	12.5 amps AC	20 amps AC	30 amps AC
Surge Capability (100 mSec)	27 amps AC	55 amps AC	29 amps AC	58 amps AC	72 amps AC
Automatic Transfer Relay	30 amps	30 amps	30 amps	30 amps	30 amps
DC Input Voltage Range	10.8-15.5 VDC	10.8-15.5 VDC	21.6-31 VDC	21.6-31 VDC	21.6-31 VDC
Idle Consumption	< 9 watts	< 12 watts	< 9 watts	< 12 watts	< 13 watts
Max. Continuous Charge Rate	70 amps DC	120 amps DC	35 amps DC	70 amps DC	70 amps DC
Unit Weight	35 lb (16 kg)	45 lb (21 kg)	35 lb (16 kg)	40 lb (19 kg)	45 lb (21 kg)
Waveform	Modified sine wave	Modified sine wave	Modified sine wave	Modified sine wave	Modified sine wave
Listings	All models ETL Listed to UL 1741 and CSA 22.2 No. 107.1-M1 Standards				

UX Inverter/Chargers

Model	UX612(SB)	UX1112(SB)	UX1512(SB)
Continuous Power	400 VA	600 VA	800 VA
AC Input Voltage Range	108 - 132 VAC	108 - 132 VAC	108 - 132 VAC
Efficiency (Peak)	92%	92%	92%
Output Voltage	120 VAC ± 5%	120 VAC ± 5%	120 VAC ± 5%
Frequency	60 Hz	60 Hz	60 Hz
Surge Capability (100 mSec)	22 amps	22 amps	25 amps
Automatic Transfer Relay	30 amps	30 amps	30 amps
DC Input Voltage Range	10 - 16 VDC	10 - 16 VDC	10 - 16 VDC
Idle Consumption	5 watts	5.5 watts	7 watts
Max. Continuous Charge Rate	25 amps DC	50 amps DC	65 amps DC
Unit Weight	26 lb (11.8 kg)	30 lb (13.6 kg)	33 lb (15 kg)
Waveform	Modified sine wave		
Listings	All models UL Listed to UL 1741 1st Edition		

Prosine Inverters

Model	1000	1800
Continuous Power	1000 VA	1800 VA
AC Input Voltage Range	90 - 135 VAC	90 - 135 VAC
Efficiency (Peak)	89%	90%
Output Voltage	120 VAC ± 3%	120 VAC ± 3%
Frequency	60 Hz	60 Hz
Continuous Output	25 amps AC	45 amps AC
Surge Capability (5 Sec)	12.5 amps AC	24.2 amps AC
Automatic Transfer Relay	15 amps	15 amps
DC Input Voltage Range	10 - 16 VDC/20 - 32 VDC	10 - 16 VDC/20 - 32 VDC
Idle Consumption	< 2 watts	< 2 watts
Max. Continuous Charge Rate	NA	NA
Unit Weight	14.5 lb (6.5 kg)	16.5 lb (7.5 kg)
Waveform	Sine wave	Sine wave
Listings	All models CSA Listed to CSA 107.1, UL 458, and UL 1741	

Glossary of Terms

Alternating Current (AC)

The type of electricity supplied by the utility company. The unique characteristic of this form of electricity is that it reverses direction at regular intervals. For example, 120 VAC 60 Hz power reverses flow 60 times a second, hence the rating 60 Hz (cycles).

Amp

A measurement of the flow of electrical current.

Amp Hour

One amp of electrical current flowing for one hour. Expresses the relationship between current (amps) and time. (OHMS law $A = V/R$)

Array

A group of solar electric modules wired together.

Current

The rate of flow of electrical charge. The flow of amps is often expressed as current.

Direct Current (DC)

The type of electricity stored in batteries and generated by solar electric devices. Current flows in a single direction.

Electrolyte

A conductive medium in which the flow of electricity takes place; this is the liquid found inside storage batteries.

Grid

When used in reference to utility power, it refers to a system of electrical transmission and distribution lines.

Ground Fault Protection (GFP)

A circuit protection device that prevents the flow of electrical current to earth if a short circuit is present. Usually required in wet locations, e.g. for outdoor, kitchen, and bathroom circuits.

Hertz (Hz)

The frequency, or number of times per second, that the flow of AC electricity reverses itself. Also referred to as cycles (see alternating current).

High Battery Voltage Protection

A control circuit that disconnects charge current flowing to battery(s) when voltage reaches a dangerously high threshold. Prevents damage created by excess gassing (or boiling) of electrolyte.

Idle Current

The amount of electrical power required to keep an inverter ready to produce electricity on demand.

Inrush Current

The peak power that an appliance or tool will draw at the instant that it starts up.

Kilowatt (kW)

One thousand watts of electricity. Ten 100-watt light bulbs use one kW of electrical power.

Kilowatt hour (kW/h)

One kW of electrical power used for one hour. Most grid connected electrical meters measure kWh for billing purposes.

Line Loss

A voltage drop caused by resistance in wire during transmission of electrical power over distance.

Load

Any device that consumes electricity in order to operate. Appliances, tools, and lights are examples of electrical loads.

Low Battery Protection

A control circuit that stops the flow of electricity from batteries to loads when battery voltage drops to dangerously low levels.

Modified Sine Wave

Also called a modified square wave, this type of waveform emulates a sine wave using a series of small steps to create a curve.

National Electric Code (NEC)

The electrical wiring and installation standards used in the United States.

Off Grid

An electrical system that is not connected to a utility distribution grid.

Overload/Overcurrent Protection

A control circuit designed to protect an inverter or similar device from loads exceeding its output capacity. (A fuse, for example, is an overcurrent protection device.)

Parallel Wiring

Batteries or PV modules, wired together to increase ampacity, while voltage remains constant. Two 100 Ah 12 VDC batteries wired in parallel will form a 200 Ah 12 VDC battery bank.

Photovoltaic (PV) Array

Commonly referred to as solar panels, the PV array collects energy from the sun and converts it into DC energy.

Sine Wave

The type of waveform produced by the utility or a generator. Sensitive electrical equipment require sine wave power to run.

Series Wiring

Batteries or PV modules, wired together to increase voltage, while ampacity remains constant. Two 100 Ah 12 VDC batteries wired in series form a 100 Ah 24 VDC battery bank.

Surge Capacity

The amount of current an inverter can deliver for short periods of time. Most electric motors draw up to three times their rated current when starting. An inverter will surge to meet these motor-starting requirements.

Transfer Switch

A switch designed to transfer electricity being supplied to loads from one source of power to another.

Volts (V)

A unit of measure of the pressure in an electrical circuit. If compared to water pressure, a high pressure hose would be considered high voltage, while a slow-moving stream could be compared to low voltage.

Watt(s) (W)

A unit of measurement of the amount of electrical power required or consumed by a tool or appliance. Watts = Volts x Amps

Watt Hour (Wh)

Electrical energy consumption or capacity measured in terms of time. One watt hour of electricity is equal to one watt of power being consumed for one hour.

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