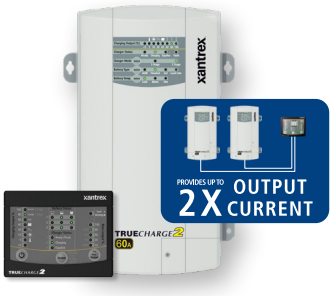
xantrex™
A MISSION CRITICAL ELECTRONICS BRAND

POWER SOLUTIONS FOR GLOBAL APPLICATIONS

CARAVANS/RVs
BOATS
TRUCKS
WORK VEHICLES
SPECIALTY VEHICLES
MILITARY VEHICLES

INVERTERS
INVERTER/CHARGERS
BATTERY CHARGERS
SOLAR

BATTERY CHARGERS



TRUE*CHARGE*™2

- Lightweight, ultra-compact, universal chargers
- Settings for flooded, gel, AGM or lead-calcium batteries, as well as custom profile for different battery types
- Drip-proof design characteristics enable the charger to be mounted in multiple orientations
- Meets CE/EMC, ABYC, UL1564 and UL1236 with marine supplement standards

12 Vdc Applications 10 A | 20 A | 40 A | 60 A | 80 A | 100 A | 120 A

24 Vdc Applications 10 A | 20 A | 30 A | 40 A | 50 A | 60 A

NOTE: 12V (80 A, 100 A, 120 A) and 24 Vdc (40 A, 50 A, 60 A) achieved through stacking.
* Doesn't apply to **TRUE***CHARGE2* 12 Vdc / 10 A charger.

Models	Part Number	Output Voltage	Power Output	Battery Banks	Remote Panel	Parallel Stacking
TRUE*CHARGE* 10	804-0100	12 Vdc	10 A	One	No	No
TRUE*CHARGE2* 10	804-1210			Two		
TRUE*CHARGE2* 20	804-1220-02		20 A	Three	Optional	Yes
TRUE*CHARGE2* 40	804-1240-02		40 A			
TRUE*CHARGE2* 60	804-1260-02		60 A			
TRUE*CHARGE2* 10	804-2410	24 Vdc	10 A			
TRUE*CHARGE2* 20	804-2420		20 A			
TRUE*CHARGE2* 30	804-2430		30 A			

Decription	Part Number	Product Compatibility
TRUE*CHARGE2* Remote Panel	808-8040-01	**TRUE***CHARGE2* (part # 804-1220-02, 804-1240-02, 804-1260-02, 804-2410, 804-2420, 804-2430)
Battery Temperature Sensor	808-0232-01	**TRUE***CHARGE2* (all applicable models)

TRUE*Charge2* Remote Panel allows you to monitor and control battery charger performance from a remote location, including features not accessible from the charger's onboard display & enables the parallel stacking feature of the **TRUE***Charge2* Battery Chargers

STANDALONE ACCESSORIES

Link*LITE* (84-2030-00) and Link*PRO* (84-2031-00) Battery Monitors

- Reads battery bank like a fuel gauge
- Selectively display voltage, charge and discharge current, consumed amp hours and remaining percentage of battery capacity
- LinkPRO displays time remaining and can measure up to 9,999 amp-hours
- LinkLITE can measure currents up to 999 amp-hours

Optional Accessories: Connection Kit for **Link**LITE & **Link**PRO (854-2021-01), Communication Kit for **Link**PRO (854-2019-01), Temperature Kit for **Link**PRO (854-2022-01)

Digital echo~charger (82-0123-01)

- 15 A maximum charge current
- Automatically adjusts for 12 V or 24 V battery banks (both battery banks must be the same DC voltage and battery type)
- Automatically switches on/off without affecting the in-house battery bank or over-charging
- Utilizes excess current from the primary charging source

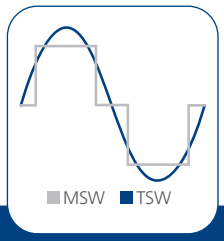
POWER INVERTERS

PROwatt SW

- Cost-effective, true sine-wave power solution
- Ignition lockout helps to minimize battery drain by disabling the inverter when the ignition is turned off
- Built-in digital display for DC input voltage and AC output power
- Optional Accessories: Remote On/Off Panel with 25' Cable (808-9001) and 50' Remote Cable (31-6262-00)

PROsine

- High performance, true sine wave inverter
- Ideal for handling both heavy duty and sensitive loads
- Available in Schuko or hardwire with transfer relay options
- Optional Accessories: Remote Interface Panel (808-1800)



Models	Part Number		Input Voltage	Max. Continuous Watts	Surge Rating	Transfer Switch	AC Output
	Schuko	AUS/NZ					
PROwatt SW 700i	806-1206-01	806-1206-02	12V	700 W	1400 W	No	Schuko/Australian
PROwatt SW 1400i	806-1210-01	806-1210-02		1400 W	2800 W		
PROwatt SW 2000i	806-1220-01	806-1220-02		2000 W	4000 W		
PROsine 1000i	806-1070	NA		1000 W	1500 W*		SCHUKO
PROsine 1000i	806-1074					Yes	Hardwire w/ transfer relay
PROsine 1800i	806-1870			1800 W	2900 W*	No	SCHUKO
PROsine 1800i	806-1874					Yes	Hardwire w/ transfer relay
PROsine 1000i	806-1080		24 V	1000 W	1500 W*	No	SCHUKO
PROsine 1000i	806-1084					Yes	Hardwire w/ transfer relay
PROsine 1800i	806-1880			1800 W	2900 W*	No	SCHUKO
PROsine 1800i	806-1883						Hardwire
PROsine 1800i	806-1884					Yes	Hardwire w/ transfer relay

Modified Sine Wave (MSW)
Produce AC power that is sufficient to run most electronics. Some applications such as laser printer, satellite receiver set, induction cooktop and digital clock may not run properly with modified sine wave power, or they may demand true sine wave.

True Sine Wave (TSW)
Produce AC power that is similar to power from the public utility grid system. True sine wave power operates even the most sensitive and sophisticated electronics.

*5 second extended surge.
NOTE for UK Customers: Please contact a Xantrex representative for information on potential custom solutions for PROwatt products.

XPower

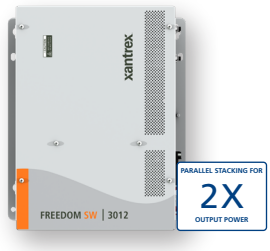
- Compact, portable power solution for recreational, mobile office equipment and other electronics
- Over temperature/over load and low/over voltage shutdown

Models	Part Number		Input Voltage	Max. Continuous Watts	Surge Rating	Transfer Switch	AC Output
	Schuko	AUS/NZ or UK					
XPower 150	851-0162R	Available subject to MOQ	12V	150 W	300 W	No	DC lighter plug
XPower 300	851-0312R			300 W	600 W		DC lighter plug, cable clamps
XPower 500	851-0512R			500 W	1000 W		Cable clamps, hardwire

NOTE for UK Customers: 150W version is 851-0161R (3 pin)

INVERTER/CHARGERS

HYBRID, LITHIUM ION COMPATIBLE



FREEDOM SW

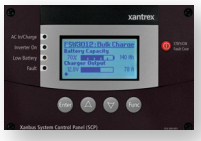
- Generator Assist Mode creates a hybrid power system enabling you to downsize the generator or supplement shore power
- Parallel stacking capability to double the inverter power output
- Built-in transfer switch automatically transfers between inverter power and incoming AC power
- Power factor corrected multi-stage charger for fast, efficient charging
- Temperature compensated charging for all climate conditions
- Conformal coated circuit boards to protect against humid environments
- Meets CE, E-mark (Europe), RCM (Australia)

Models	Part Number	Input Voltage	Continuous Power	Surge Rating	AC Output	Charger Output	Remote Panel
FREEDOM SW 2524	815-2524-02	24 V	2500 W	4000 W	Hardwire	65 A	Optional (On/Off, Advanced)
FREEDOM SW 3524	815-3524-02		3400 W	6800 W		90 A	

FREEDOM SW ACCESSORIES

Automatic Generator Start (809-0915)

- Compatible with popular generators
- Customizable – a user can define wheter the generator should be activated by low battery voltage, battery state of charge, thermostat operation, or load size on the inverter
- A quiet time setting prevents the generator from starting at inconvenient times like at night
- LED lights display the status of the AGS, while all user defined settings are programmed through the System Control Panel



System Control Panel (809-0921)

- Provides basic control for other devices connected to the network reducing the complexity of separate control panels for each device
- Built-in flash memory makes the SCP's software upgradeable to take advantage of new features and system enhancements

FREEDOM SW ComBox (809-0918)

- Shows graphical respresentation of energy flow between utility power, generator power, FREEDOM SW inverter/charger, house battery and AC loads
- Enables remote diagnosis and troubleshooting via advanced access features
- Logs info on battery charge (Wh), load consumption (Wh), utility grid input (Wh) and generator input (Wh)

FREEDOM SW Network Cable Adapter (808-9010)

- Enables upgrade to new FREEDOM SW using the existing inverter/charger remote telephone type cable
- Replace Magnum, FREEDOM Marine and almost any older make/model without changing the old phone cable; saves on time and labor

Additional Accessories:

GFCI Option (808-9003)
25' Network Cable (809-0940)
75' Network Cable (809-0942)
Remote Panel (808-9002)
Cable for Series Stacking (808-9005)
Sequence Power Manager (809-0913)
FREEDOM SW Remote Panel Mounting Bracket (XAN-BRFSW)

INVERTER/CHARGERS

LITHIUM ION COMPATIBLE

FREEDOM XC 2000 230V

- Full output in invert or charge mode from -4°F to 104°F. Operates up to 140°F
- Ability to operate under weak shore or generator power
- Dead battery charging down to 0 V
- Extended surge, power share, equalization, power factor correction
- Configurable low battery voltage shutdown
- Built-in 30 A Automatic Transfer Switch
- Configurable charge algorithm

Part Number	Input Voltage	Continuous Power	Surge Rating	AC Output	Charger Output	Remote Panel
817-2080-12	24 V	2000 W	4000 W	Hardwire	80 A	Optional (On/Off, Advanced)

Bluetooth Remote Panel with 25' Cable (808-0817-02)

Enables you to control & monitor the inverter from a convenient location and read important information such as AC IN/OUT voltage/current, battery voltage/current, percentage status bar for inverter AC output and fault & error codes. Download and connect to the Xantrex app, available on Android and iOS.

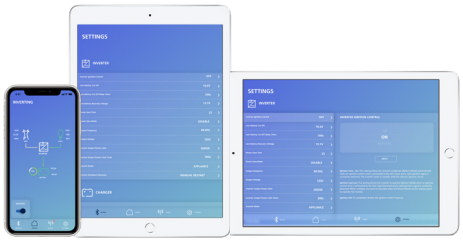
FREEDOM X Remote Panel with 25' Cable (808-0817-01) also available allowing for all the same functionality, but without the option to connect via blueooth.

FXC CONTROL APP

xantrex CONTROL

DOWNLOAD ON

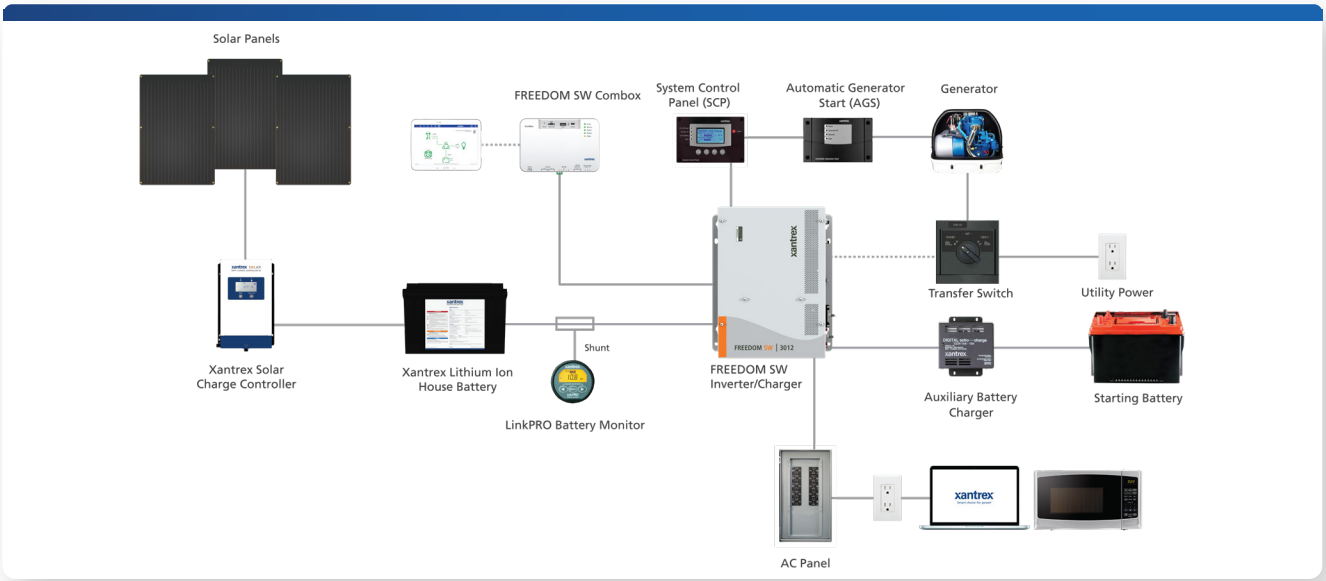
CONNECT WITH Bluetooth



- Easily monitor system status
- Monitor alerts
- Change settings conveniently
- Connect via bluetooth
- Available on Android and iOS

PRODUCT INSTALLATION

Xantrex products provide in-vehicle AC power to boats and RVs, work and utility vehicles, heavy duty trucks and emergency vehicles to operate tools, appliances, lights and other electronic equipment wherever they are needed.



DETERMINING YOUR BATTERY BANK REQUIREMENTS

The example below will help you to determine the battery bank capacity you need to operate common appliances using a standard 12 V battery system.

Appliance or product	Continous wattage	DC power consumed (watts / 10*)	Appliance run time	Amp hours consumed between charge cycles	Battery bank required (Ah / 0.50**)
Audio system	100 W	10 A	4 Hr	40 Ah	
Coffee maker	1200 W	120 A	1/2 Hr	60 Ah	
Microwave	1000 W	100 A	1/4 Hr	25 Ah	
	2300 W	230 A		125 Ah	250 Ah

The above scenario would result in a 12 V battery bank total system requirement of 250 amp-hours. The battery bank total amp-hours must exceed the total amp-hours required by the system for best performance & battery life
* Dividing watts by 10 allows for easy mathematics and typical system losses
** Deep cycle batteries should only be discharged no lower than 50% State-of-Charge (SoC)
Note for 24 V battery systems: 125 Ah in a 24 V battery system contains equivalent energy of 250 Ah in a 12 V battery system

TRUECHARGE™2 12 V MODELS

Battery Size / Application	Ahr	10 A	20 A	40 A	60 A	80 A	100 A	120 A
		804-1210	804-1220-02	804-1240-02	804-1260-02	*	*	*
Group 24	75	●	●	^				
Group 27	90	●	●	^	^			
Group 31	105	●	●	^	^			
4 D	160		●	●	^	^		
8 D	220			●	●	^	^	^
Dual 6 V golf cart	225			●	●	^	^	^
Triple group 27	270			●	●	^	^	^
Dual 8 D	440				●	●	●	^
Triple 8 D	660					●	●	●

* Output achieved by stacking two TRUECharge2 units in parallel. Note: 10 A / 12 V model is not equipped with parallel stacking feature
^ These charts are a general guideline, consult battery manufacturer specifications and your technician for appropiate sizing of battery charger to your battery bank/type. Mixing battery types is not recommended.

TRUECHARGE™2 24 V MODELS

Battery Size / Application	Ahr	10 A	20 A	30 A	40 A	50 A	60 A
		804-2410	804-2420	804-2430	*	*	*
Dual group U1	35	●	^				
Dual group 24	75	●	●	^			
Dual group 27	90	●	●	^	^	^	^
Dual group 31	105	●	●	●	^	^	^
Dual 4 D	160		●	●	●	^	^
Dual 8 D	220			●	●	●	●
Four 6 V golf cart	225			●	●	●	●
Four 4 D	320				●	●	●
Four 8 D	440					●	●

* Output achieved by stacking two TRUECharge2 units in parallel
^ These charts are a general guideline, consult battery manufacturer specifications and your technician for appropiate sizing of battery charger to your battery bank/type. Mixing battery types is not recommended

xantrex™ SOLAR

Maintenance free, renewable solutions to maximize battery life & prolong power supply.

The Xantrex Solar kits feature a solar panel with PERC (Passivated Emitted and Rear Contact) and mono-crystalline cells, a special cell technology that increases module efficiency significantly over standard solar cells.

XANTREX SOLAR KITS

Rigid and flex panel options

All kits include a solar panel, 30A PWM charge controller, PV and battery cables and mounting hardware. Flex kits allow for easy to installations over curved surfaces.

EXPANSION KITS

Easily customize and extend your solar system using our expansion kits. All expansion kits include a solar panel, branch connectors and mounting hardware.

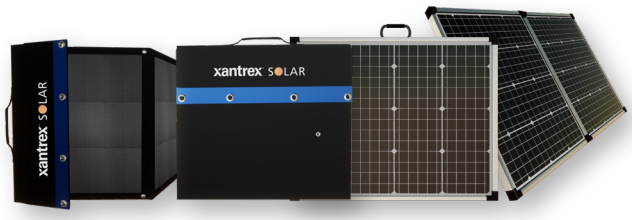
Panels use MC4-Type connections and are rated for IP65 or IP67.

XANTREX SOLAR PORTABLE KITS

Rigid and flex panel options

Simple, plug-n-play kits ideal for on-the-go battery charging and powering your DC loads. All kits include a foldable solar panel with tilting legs, 10A PWM charge controller, adapter battery cables and a carrying case.

These portable kits fold into an easy-to-store location and handy for applications where it may be impractical to have a permanently mounted solar panel.



SOLAR KITS

Part #	Description
780-0100-01	100W Solar Kit
780-0160-01	160W Solar Kit
781-0100-01	110W Solar Flex Kit

EXPANSION KITS

Part #	Description
780-0100-02	100W Solar Expansion Kit
780-0160-02	160W Solar Expansion Kit
781-0100-02	110W Solar Flex Expansion Kit

SOLAR PORTABLE KITS

Part #	Description
782-0100-01	100W Solar Portable Kit
783-0100-01	100W Solar Flex Portable Kit
782-0160-01	160W Solar Portable Kit

ACCESSORIES

Part #	Description
708-0030	PV Extension Cables (15’)
708-0040	PV Single Connector (1 Pair)
708-0050	PV Branch Connector (1 Pair)
708-0060	PV Connector Assembly Tool
708-0070	Mounting Hardware
708-0080	Remote Battery Temperature Sensor
708-0100	MC4-to-SAE PV Adapter Cable (2’)
708-0110	SAE-to-Cigarette Lighter Battery Adapter Cable (2’)
708-0120	SAE-to-Furrion Battery Adapter Cable

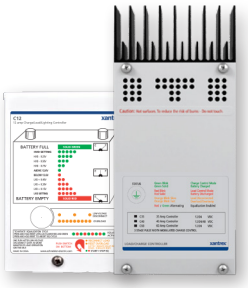
CHARGE CONTROLLERS

XANTREX SOLAR MPPT CHARGE CONTROLLER 30A

- 30A charging, all chemistries, including $LiFePO_4$
- Fan-less convection cooled, quiet, reliable
- 2 BANK! Manage your start battery separately
- Optional Temp Sensor and Optional Remote Display

XANTREX SOLAR PWM CHARGE CONTROLLER 30A

- Low-profile Flush mount charger
- Shows status, Watts, Amps Voltage
- Optional Temp Sensor



C SERIES PWM CHARGE CONTROLLERS

- Engineered for rugged use
- Conformal-coated boards and powder-coated enclosure
- Automatically disconnects from the battery at night

Part #	Description
709-3024-01	Charge Controller PWM 30
710-3024-01	Charge Controller MPPT 30
C12	12A (12Vdc)
C35	35A (12 & 24Vdc)
C40	40A (12, 24 & 48Vdc)
C60	60A (12 & 24Vdc)

HOW MANY SOLAR PANELS DO YOU NEED?

It really depends on many factors – loads, battery capacity and available roof space. Also, whether you want solar to support your entire electrical system, or just make your battery last longer between cycles. Here's an example of power consumption with both DC and AC loads. AC loads are powered through an inverter.

LOADS	WATTS		QTY		HOURS USAGE/DAY		WATT HOURS		BATTERY BANK VOLTAGE		AMP-HOURS
LAPTOP	50	x	1	x	8	=	400	÷	12	=	33
PHONE CHARGER	5	x	1	x	6	=	30	÷	12	=	2.5
LED TV	70	x	1	x	3	=	210	÷	12	=	17.5
LIGHTS	10	x	4	x	8	=	320	÷	12	=	27
FRIDGE	45	x	1	x	24	=	1080	÷	12	=	90

LOAD TOTAL: 170

Note: This is a general guideline on how you may be able to build the right solar solution for your needs. This is just an example and not intended to be an accurate guide for every use case. Please always consult a professional, electrician or certified installer before making any decision on your solar needs. Xantrex does not recommend installing a solar system without consulting a professional.

In the example above, all loads consume about 170 amp-hours per day. Consider the calculation below:

A Xantrex 160 watt panel can produce about 8.34 amps per peak sun hour.*
Assuming peak sun hours as 5.5 hours, it will produce about 45.87 amp-hours per day.**

* panel output would vary depending on type of charge controller used
** peak sun hours depend on many factors including geography and season

5.5 hours of sunlight

× **8.34** amps = **45.87** amp hours a day =

160W solar panel

1 In this example, the total power consumption is 170 amp hours per day. Add 10% to account for losses and inefficiencies resulting from power conversion which brings the total requirement to 170 X 1.1 = 187.

2 Divide 187 by 45.87 to get the number of solar panels needed to support the entire system. In this case you need four 160W solar panels.

1 **170** amp hours a day × **1.1** (10% losses from power conversion) = **187** total power requirement

2 **187** amp hours a day ÷ **45.87** amp hours a day =

160W solar panels

If you plan to run a generator or plug in daily, but need the batteries to last longer throughout the day, you could decrease the number of panels to simply support the battery charge cycle.

DETERMINING THE SIZE OF THE BATTERY BANK

Using the table on the left, estimate how many hours you'll be using each device every day.

We now know that 170 amp hours of power will be needed to run ALL electronics and appliances in the table. Add 10% to account for losses and inefficiencies, which brings the total requirement to:

170 amp hours a day × **1.1** (10% losses from power conversion) = **187 Ah** total power requirement

TRADITIONAL BATTERY

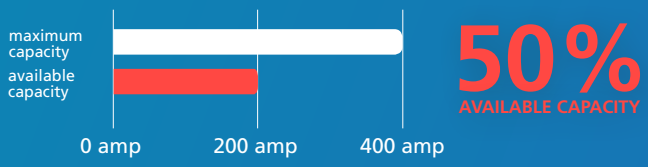
A traditional lead acid battery may be discharged to:

50%

In this example, the recommended battery bank size would be:

187 ÷ 0.5 = 374 Ah

It is ok to overcompensate and have a battery bank that is 400 Ah.



LITHIUM ION BATTERY

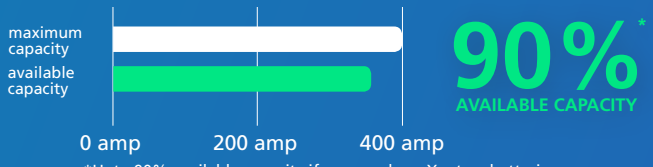
A lithium ion battery may be discharged to:

20% or **10%** for Xantrex UL 1973 listed batteries

In this example, the recommended battery bank size would be:

187 ÷ 0.8 = 234 Ah

You may consider installing two 125 Ah Xantrex Lithium Ion Batteries.



*Upto 90% available capacity if you purchase Xantrex batteries

Note: This is a general guideline on how you may be able to build a battery bank for your needs. This battery bank example may not be accurate for every use case. Please always consult a professional, electrician or certified installer before making any decision on your battery or solar needs. Xantrex does not recommend installing a solar system without consulting a professional.

HOW MUCH POWER CAN SOLAR PRODUCE?

	SOLAR SIZE	AMPS*	AMP-HOURS/DAY**	MIN. BATTERY BANK SIZE***	WHAT YOU CAN EXPECT TO RUN
WEEKEND GETAWAY	110W	5.8A	32.0	80Ah	
	160W	8.34A	45.8	90Ah	
	220W	11.6A	63.8	110Ah	
3-4 DAYS GETAWAY	340W	16.68A	83.4	125Ah	
	440W	23.2A	127.6	200Ah	
	680W	33.36A	183.5	245Ah	
OFF-GRID STAY/ WEEKLONG GETAWAY	1320W	66.72A	367.0	440Ah	

* These are typical solar panel max. amp ratings based on Standard Test Conditions (STC). Deviations from STC will often result in a reduction from this max. amp rating.

** Assuming 5.5 peak sun hours in a day which varies greatly depending on location and geography.

*** Check with the battery manufacturer to identify the optimal C-rate your battery should be charged/discharged in order to maximize the life expectancy of the battery.

Note: For solar systems over 440W, it is recommended to use a MPPT charge controller that is appropriate for your system. Please always consult a professional, electrician or certified installer before making any decision on your solar needs. Xantrex does not recommend installing a solar system without consulting a professional.

EXPANSION KITS

Number of panels that can be wired 'only in parallel' per 30A PWM charge controller

100W Xantrex Solar Panels

80W Xantrex Solar Max Flex Panels

160W Xantrex Solar Panels

165W Xantrex Solar Max Flex Panels

110W Xantrex Solar Flex Panels

220W Xantrex Solar Max Flex Panels

Note: The above configurations apply when you use a 30A PWM charge controller and connect solar panels in parallel. It is highly recommended you always use the same type of panels and do not mix and match
(Connect panels with same power output & voltage in parallel).

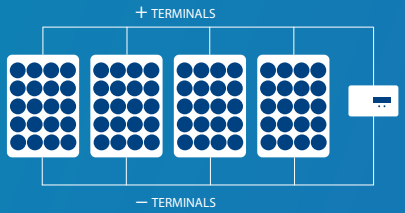
Number of panels that can be wired in series and parallel per 30A MPPT charge controller

Solar Panels	# of panels in series	# of strings in parallel	Total solar array wattage
100W Rigid	3	0	300W
100W Rigid	2	2	400W
160W Rigid	3	0	480W
110W Flex	4	0	440W
110W Flex	2	2	440W
80W Solar Max	4	0	320W
80W Solar Max	3	3	480W
165W Solar Max	3	0	495W
220 W Solar Max	2	0	440W

The maximum solar array wattage is 580W for 12V and 1170W for 24V for our 30A MPPT charge controller

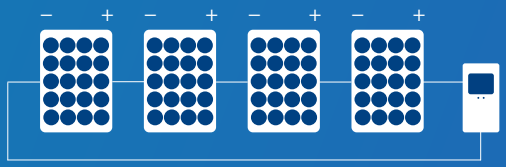
Easily customize and extend your solar system using our expansion kits. All expansion kits include a solar panel, branch connectors and mounting hardware.

PANELS IN PARALLEL



Ideal for PWM charge controllers, connect all the positive terminals of all the solar panels together and all of the negative terminals of all the solar panels together.

PANELS IN SERIES



Ideal for MPPT charge controllers, connect the positive terminal of the first solar panel to the negative terminal in the next solar panel.