

Smart choice for power

Xantrex XW Hybrid Inverter/Charger

The NEXT generation inverter/charger for renewable energy systems and backup power applications



Xantrex brings the next generation of inverter/charger to market, with the XW Hybrid Inverter/Charger, the heart of the XW System. The XW Hybrid Inverter/Charger (XW) is a true sine wave, 120/240-volt AC, split-phase, inverter/charger that incorporates a DC to AC inverter, a battery charger, and an AC auto-transfer switch. It is the foundation for battery-based residential and commercial applications up to 18 kilowatts (kW). Capable of being grid-interactive or grid-independent, the XW can operate with generators and renewable energy sources to provide full-time or backup power.

Designed with consultation and input from industry experts, dealers, and installers, the XW sets a new standard for battery-based inverter/chargers. Integrating the best features available in the market, innovative new features by Xantrex and balance-of-systems components, the XW Hybrid Inverter/Charger's design makes installation quicker and easier. The XW offers high efficiency and unprecedented surge capacity to maximize the owner's return on investment. No other inverter/charger looks or performs like the XW.

XW Series Inverter / Charger Features:

- ▶ True sine wave output
- ▶ 120/240 volt AC split-phase operation
- ▶ Dual AC inputs
- ▶ Integrated design to minimize external balance-of-system components
- ▶ XanBus™-enabled network communication
- ▶ Certified to UL1741 and CSA for utility-interactive applications
- ▶ Unprecedented surge capacity
- ▶ Efficient, power factor corrected, high-current, multistage battery charging

Optional Accessories:

Item	Part Number
▶ XW Power Distribution Panel	865-1015
▶ XW Connection Kit for Second Inverter	865-1020
▶ XW Conduit Box	865-1025
▶ XW Solar Charge Controller	865-1030
▶ XW System Control Panel	865-1050
▶ XW Automatic Generator Start	865-1060

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For more information on the XW Series System please visit www.xantrex.com/xw

XW Series Hybrid Inverter/Charger

Electrical Specifications			
Model	XW6048-120/240-60	XW4548-120/240-60	XW4024-120/240-60
Continuous output power	6,000 W	4500 W	4000 W
Surge rating (10 seconds)	12,000 W	9000 W	8000 W
Surge current	L-N: 105 Arms (7 sec) L-L: 40 Arms (20 sec)	L-L: 52.5 Arms (7 sec) L-N: 70 Arms (20 sec)	L-N: 75 Arms (20 sec) L-L: 35 Arms (20 sec)
Waveform	True sine wave	True sine wave	True sine wave
Low-load efficiency	95%	95%	95%
Idle consumption - search mode	< 8 W	< 8 W	< 8 W
AC connections	AC1 (Grid), AC2 (Generator)	AC1 (Grid), AC2 (Generator)	AC1 (Grid), AC2 (Generator)
AC voltage	120/240 Vac split-phase	120/240 Vac split-phase	120/240 Vac split-phase
AC input breaker	60 A two-pole	60 A two-pole	60 A two-pole
Utility interactive	Yes	Yes	Yes
CEC weighted efficiency	92.5%	93%	91%
CEC power rating	5752 W	4500 W	4000 W
AC input voltage range (bypass/charge mode)	L-N: 80 - 150 Vac (120 V nominal); L-L: 160 - 270 Vac (240 V nominal)		
AC input frequency range (bypass/charge mode)	55 - 65 Hz (default); 44 - 70 Hz (allowable)		
AC1 voltage range – Sell mode (automatically adjusts when entering Sell mode)*	L-N: 108 - 130 +/- 1.5 Vac; L-L: 214 - 260 +/- 3.0 Vac		
AC1 frequency range – Sell mode (automatically adjusts when entering Sell mode)*	59.4 - 60.4 +/- 0.05 Hz		
AC output voltage	L-N: 120 Vac +/- 3%; L-L: 240 Vac +/- 3%		
AC output frequency	60.0 +/- 0.1 Hz		
DC current at rated power	130 A	96 A	178 A
Total harmonic distortion	< 5%		
Automatic transfer relay	60 A		
Typical transfer time	8 ms		
DC input voltage (nominal)	50.4 Vdc	50.4 Vdc	25.2 Vdc
DC input voltage range	44 - 64 Vdc	44 - 64 Vdc	22 - 32 Vdc
Maximum continuous charge rate	100 A	85 A	150 A
Efficiency at maximum charge rate	89.4%	90.2%	85.8%
Power factor corrected charging	0.98	0.98	0.98
Emissions	FCC Class B	FCC Class B	FCC Class B
Multiple-unit configurations	Up to three parallel units in 120/240-volt split-phase configuration		
Auxiliary relay output	0-12 Vdc, maximum 250 mA DC		
Non-volatile memory	Yes	Yes	Yes
System network	Xanbus™ (publish-subscribe network, no need for hubs or special cards)		
Mechanical Specifications			
Mounting	Wall mount, backplate included		
Inverter dimensions (H x W x D)	23 x 16 x 9" (580 x 410 x 230 mm)		
Inverter weight	125 lb (57 kg)	115 lb (52 kg)	115 lb (52 kg)
Shipping dimensions	28 x 22 ¼ x 10 ½" (711 x 565 x 267 mm)		
Shipping weight	132 lb (60 kg)	122 lb (55 kg)	122 lb (55 kg)
Display panel	Status LEDs indicate AC In status, faults/warnings, equalize mode, battery level. Three-character display indicates output power or charge current, fault/warning codes. On/Off and equalize buttons		
Battery temperature sensor	Included	Included	Included
Standard warranty	Five years	Five years	Five years
Part number	865-1000	865-1005	865-1010
Environmental Specifications			
Enclosure type	NEMA Type 1 – Indoor (sensitive electronic components sealed inside enclosure)		
Operational temperature range	-13 to 158 °F (-25 to 70 °C)		
Accessories			
Remote display	Optional XW System Control Panel monitors and configures all devices connected to Xanbus™ Network		
Generator support	Optional XW Automatic Generator Start module connects to Xanbus™ Network. Automatically activates generator to recharge depleted battery bank or assist inverter with heavy loads		
Power distribution & panel conduit boxes	Optional balance-of-systems components for NEC compliant installations, includes pre-wired AC and DC circuit breakers, bus bars and multiple knockouts for conduit and additional breakers		
Regulatory Approvals			
UL 1741 1st Edition: 2005 Version CSA 107.1-01			

Solar Charge Controller XW-MPPT60-150



The Xantrex XW Solar Charge Controller (XW SCC) is a photovoltaic (PV) charge controller that tracks the electrical maximum power point of a PV array to deliver the maximum available current for charging batteries. When charging, the XW SCC regulates battery voltage and output current based on the amount of energy available from the PV array and state-of-charge of the battery.

The XW SCC can be used with 12, 24, 36, 48, and 60-volt DC battery systems and is able to charge a lower nominal-voltage battery from a higher nominal-voltage array. For example, the XW SCC can charge a 12-volt battery from a 36-volt array. This provides flexibility for installers to use longer wiring runs without compromising efficiency. The XW Solar Charge Controller can be installed (in single or multi-unit configurations) with Xantrex XW Hybrid Inverter/Charger(s) or can be used in other solar energy systems where a solar charge controller is needed.

The XW SCC incorporates a dynamic Maximum Power Point Tracking (MPPT) algorithm designed to maximize energy harvest from the PV array. The MPPT constantly adjusts the operating points of the array to ensure it stays on the maximum power point. It does not stop energy harvest to sweep the array like some other competing products. This feature is beneficial all sunlight conditions, especially in areas with fast moving cloud cover and quickly changing solar conditions.

Standard features of the Solar Charge Controller include:

- ▶ Maximum Power Point Tracking (MPPT) delivers maximum available power from PV array to battery bank
- ▶ Integrated PV ground-fault protection
- ▶ Ultra-reliable, convection-cooled design does not require a cooling fan – large, aluminum, die-cast heat-sink allows full output current up to 45°C without thermal derating
- ▶ Selectable two or three-stage charging algorithms with manual equalization to maximize system performance and improve battery life
- ▶ Configurable auxiliary output
- ▶ Two-line, 16-character liquid crystal display (LCD) and four buttons for configuration and system monitoring
- ▶ Input over-voltage and under-voltage protection, output over-current protection, and backfeed (reverse current) protection (warning and fault messages appear on LCD when unit shuts down as a protective measure)
- ▶ Over-temperature protection and power derating when output power and ambient temperature are high
- ▶ Battery Temperature Sensor (BTS) included – automatically provides temperature-compensated battery charging
- ▶ Xanbus™-enabled network communications protocol (developed by Xantrex)
- ▶ Communicates settings and activity to other Xanbus™-enabled devices, such as the XW Hybrid Inverter/Charger, the XW System Control Panel (XW SCP), XW Automatic Generator Start (XW AGS), and other XW Solar Charge Controllers.
- ▶ Five-year warranty

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XW Solar Charge Controller

Electrical Specifications

Nominal battery voltage	12, 24, 36, 48, 60 Vdc
Maximum PV array voltage (operating)	140 Vdc
Maximum PV array open circuit voltage	150 Vdc
Array short-circuit current	60 Adc maximum
Maximum and minimum wire size in conduit	#6 AWG to #14 AWG
Total power consumption while operating	2.5 W (tare)
Charger regulation method:	Three-stage (bulk, absorption, float)
	Two-stage (bulk, absorption)

Mechanical Specifications

Dimensions (H x W x D)	14 1/2 x 5 3/4 x 5 1/2" (368 x 146 x 138 mm)
Weight (Controller only)	10.75 lb (4.8 kg)
Weight (shipping)	17.6 lb (8 kg)
Shipping dimensions (H x W x D)	19 x 9 x 9 3/4" (483 x 229 x 350 mm)
Mounting	Vertical wall mount
Standard warranty	Five years
Part number	865-1030

Environmental Specifications

Enclosure type	Indoor, ventilated, sheet metal chassis with 7/8" and 1" (22.22 mm and 27.76 mm) knockouts and aluminum heat-sink
Operating temperature range (full power)	-4 to 113 °F (-20 to +45 °C)
Storage temperature	-40 to 185 °F (-40 to +85 °C)
Altitude limit (operating)	Sea level to 15,000 feet (4572 m) @ 15 °C

Optional Accessories

XW System Control Panel	865-1050
XW Automatic Generator Start	865-1060
Network cables:	
3 feet (0.9 m)	809-0935
5 feet (1.5 m)	809-0936
7 feet (2.0 m)	809-0937
10 feet (3.0 m)	809-0938
14 feet (4.3 m)	809-0939
25 feet (7.6 m)	809-0940
50 feet (15.2 m)	809-0941
75 feet (22.9 m)	809-0942
Network terminators:	
	Male (two per pack): 809-0901
	Female (two per pack): 809-0905

Regulatory Approvals

Certified to UL 1741 1st Edition and to CSA 107.1-01 and carries the c(CSA)us mark

Specifications subject to change without notice.

For more information on the XW Series System please visit www.xantrex.com/xw

Smart choice for power

XW Automatic Generator Start

Add even more intelligence to your XW System



The Xantrex XW Auto Generator Start (XW AGS) will automatically activate 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. The XW AGS adds intelligence to generator management, thereby eliminating time spent monitoring batteries and inverter loads. It does this by continuously monitoring the battery voltage, state-of-charge, or the inverter charge mode, starting and stopping the generator when the battery needs additional charging. The XW AGS will also start the generator to assist the system's inverter/charger(s) when output power demands are high.

The XW AGS can be customized to suit each user's preferences. The user can define whether the generator should be activated by low-battery voltage, state-of-charge, thermostat operation, or load on the inverter(s). A quiet-time setting prevents the generator from starting at inconvenient times. LED lights display the status of the XW AGS, while all user-defined settings are programmed through the XW system control panel (XW SCP).

Operational Features:

- ▶ Compatibility – the XW AGS connects to other Xanbus™-enabled XW System devices without requiring additional hubs, control cards, or other device-specific control panels
- ▶ Works with AC or DC generators with either two-wire or three-wire start controls
- ▶ Configurability – comprehensive customizable triggers based on low-battery voltage, change in charging state, high inverter load, thermostat signals, planned exercise periods, max run-time, and quiet-time settings
- ▶ Non-volatile memory – preserves XW AGS settings even if the network power is interrupted or network communication is disrupted

Note: The XW AGS requires an XW System Control Panel (XW SCP) for configuration and monitoring.

Features:

- ▶ LED display showing at-a-glance status
- ▶ 20-contact generator connector and three built-in relays support 13 preset generator configurations
- ▶ Built-in emergency shutdown
- ▶ Xanbus™-enabled

Interfaces with:

XW Hybrid Inverter/Chargers, XW Solar Charge Controllers, and XW System Control Panel

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XW Automatic Generator Start

Electrical Specifications

Nominal input network voltage	15 Vdc
Maximum operating current	200 mA
Communication physical layer	Two, CAN
Relay contact voltage rating	12 Vdc, 30 Vdc max
Maximum relay contact current	5 Adc
Communication protocol	Xanbus™
Maximum cable length	130' (40 m)

Mechanical Specifications

Dimensions (H x W x D)	3.75 x 5.75 x 1.5" (95.5 x 146 x 37 mm)
Weight	0.5 lb (0.225 kg)
Shipping weight	1.70 lb (0.77 kg)
Dimensions (shipping)	10.5 x 8.5 x 2.5" (267 x 216 x 64 mm)
Connectors	Two Xanbus™ RJ45-8 pins One 20-contact pluggable connector (Tyco Mate 'n' Lok two connector) - Wiring harness included
Mounting	Wall mount, 4 x #6 screws included
Standard warranty	Five years
Part number	856-1060

Environmental Specifications

Enclosure type	Indoor
Operating temperature range	-4 to 122°F (-20 to 50°C)
Storage temperature	-40 to 185°F (-40 to 85 °C)

Optional Accessories

Network cables:	
3 feet (0.9 m)	809-0935
5 feet (1.5 m)	809-0936
7 feet (2.0 m)	809-0937
10 feet (3.0 m)	809-0938
14 feet (4.3 m)	809-0939
25 feet (7.6 m)	809-0940
50 feet (15.2 m)	809-0941
75 feet (22.9 m)	809-0942
Network terminators:	
	Male (two per pack): 809-0901
	Female (two per pack): 809-0905

Regulatory Approvals

Safety	CSA certified to CSA 107.1-01 and UL 458 4th Ed. including the Marine Supplement
EMC	FCC Part 15B Class B Industry Canada, ICES-0003 Class B

Specifications subject to change without notice.

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XW Power Distribution Panel XW Connection Kit XW Conduit Box



XW Power Distribution Panel (Part number: 865-1015)

The XW Power Distribution Panel (XW PDP) is factory-wired and labeled to support a code-compliant single-inverter installation. It has plenty of room to add wiring and breakers to expand the XW System with up to three inverters, four charge controllers, or other equipment to support 120/240-volt, three-wire, single-phase systems. With a field-reversible door and multiple conduit knockout locations, the PDP can be configured to mount on either side of the inverter/charger.

The XW Power Distribution Panel (XW PDP) is designed to save significant time and money during installation, taking less than 25 percent of the time to install, when compared to competing solutions. A mounting plate and XW Conduit Box is supplied with each XW PDP.

Product Compatibility

The distribution panel and conduit box interface with the following products:

- ▶ XW Connection Kit (for second XW Hybrid Inverter/Charger) and XW Conduit Box
- ▶ XW4024, XW4548, and XW6048 Inverter/Chargers
- ▶ XW Solar Charge Controllers (requires customer-supplied breakers and wiring)
- ▶ C-Series Charge Controllers (requires customer-supplied breakers and wiring)

XW PDP dimensions (H x W x D): 30 x 16 x 8.25" (761 x 406 x 210 mm)

Shipping dimensions (H x W x D): 48 x 21 x 13.5" (1220 x 533 x 343 mm)

Shipping weight: 67.2 lb (30.5 kg)

XW PDP ships with:

Power Distribution Panel enclosure with a field-reversible panel door, pre-wired with:

- ▶ Three 60 A, 120/240 Vac, two-pole, Square-D, Type QOU, DIN-rail mounted AC breakers for AC input, Bypass, and AC Load
- ▶ One GJ250A 160 Vdc, 3/8" stud DC breaker
- ▶ One ground terminal bus bar
- ▶ One neutral terminal bus bar
- ▶ One battery negative terminal bus bar
- ▶ One pair #4/0 AWG Arctic Ultraflex Blue™ Battery Cables (factory installed and labeled, ready to connect)
- ▶ #6 AWG Arctic Ultraflex Blue™ AC wiring (factory installed and labeled, ready to connect)
- ▶ Room to expand - Five additional AC breaker positions for two-pole, 60 A Square D, Type QOU breakers; 10 additional DC breaker positions (eight for charge controller breakers and two for large GJ inverter breakers)
- ▶ Mounting Plate
- ▶ XW Conduit Box

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XW Connection Kit for a second XW Hybrid Inverter/Charger (Part number: 865-1020)

The XW Connection Kit for a second inverter (part number 865-1020) is the extension kit required for connecting a second or third XW Inverter/Charger in the XW Power Distribution Panel. It includes:

- ▶ XW Conduit Box
- ▶ Three 60 A, 120/240 Vac, two-pole, Square-D, Type QOU, Din-Rail mountable, AC breakers
- ▶ Custom designed bypass interlock plate
- ▶ #6 AWG AC wiring to connect the inverter to the AC breakers
- ▶ Four power distribution bus bars (replaces factory-installed bars)
- ▶ One GJ250A 160 Vdc, 3/8" stud DC breaker
- ▶ One bus bar for DC positive
- ▶ One pair #4/0 AWG battery cables
- ▶ AC Sync and Xanbus™ cables

Shipping dimensions (H x W x D): 17.5 x 13 x 12" (445 x 330 x 305 mm)

Shipping weight: Weight 23.1 lb (10.5 kg)



XW Conduit Box (Part number: 865-1025)

The XW Conduit Box mounts directly to the bottom of an inverter/charger to safely protect end-users from inadvertent contact with wiring or connections. It comes bundled with the XW Power Distribution Panel and the XW Connection Kit; however, it is also available separately for systems larger than two inverters, or to retrofit inverters into existing systems which may already have AC/DC disconnects.

The Conduit Box is easily secured with two screws provided on the bottom of the inverter. The bottom flange of the conduit box can then be attached (fasteners not provided) to the wall to complete the installation. The front panel of the conduit box can be removed by removing the two screws on the front, allowing ample space to make all necessary wire connections.

In multi-unit installations, the sides of adjacent conduit boxes can be removed to create an effective raceway with lots of volume to run AC and DC inverter cabling. The conduit box also includes multiple cable strap points, allowing the final installation to look clean and professional.

In addition, an internal sheet metal barrier is included to keep communications wires separate from AC and DC power wires.

Conduit Box dimensions (H x W x D): 8.5 x 16 x 8.25" (229 x 406 x 210 mm)

Shipping dimensions (H x W x D): 17.5 x 13 x 12" (445 x 330 x 305 mm)

Shipping weight: 10.0 lb (4.6 kg)

Specifications subject to change without notice.



For more information on the XW Series System please visit www.xantrex.com/xw

XW System Control Panel



The XW System Control Panel features a graphical, backlit LCD display that provides system configuration and diagnostic information for devices connected to the Xanbus™-enabled network. The XW SCP gives a single point of control to setup and monitor an entire system, which may consist of multiple XW Inverter/Chargers, XW Solar Charge Controllers and other components.

The XW System Control Panel can be flush-mounted or surface-mounted. Mounting brackets are provided for each.

Operational Features:

- ▶ Compatibility – connects to additional Xanbus™-enabled XW System devices without requiring additional hubs, control cards, or other device-specific control panels
- ▶ Internal clock – keeps time for the entire system
- ▶ Audible alarm – when enabled, alerts users when a fault condition arises
- ▶ Low power consumption – automatically turns off backlight after a period of inactivity
- ▶ Non-volatile memory – preserves System Control Panel settings if network power is interrupted or network communication is disrupted

Features:

- ▶ Graphical 128 x 64 pixel, backlit LCD screen
- ▶ Large, tactile keypad buttons
- ▶ Intuitive onscreen menu system (basic and advanced)
- ▶ Xanbus™-enabled

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XW System Control Panel

Electrical Specifications

Display	Dot matrix 128 x 64 LCD with white LED backlight
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Mechanical Specifications

Dimensions (H x W x D)	6 x 4 x 1 9/16" (152 x 103 x 40 mm)
Weight	0.46 lb (207 kg)
Mounting	Flush or surface mount, hardware included
Shipping weight	1.72 lb (0.78 kg)
Dimensions (shipping)	10.5 x 8.5 x 2.5" (267 x 216 x 64 mm)
Standard warranty	Five years
Part number	865-1050

Environmental Specifications

Operating temperature range (full power)	-4 to 122°F (-20 to 50°C)
Storage temperature	-40 to 185°F (-40 to 85 °C)

Regulatory Compliance

Safety	CSA certified to CSA 107.1-01 and UL 458 including Marine Supplement
EMC	FCC Part 15B Class B Industry Canada ICES-0003 Class B

Optional Accessories

Network cables:	
3 feet (0.9 m)	809-0935
5 feet (1.5 m)	809-0936
7 feet (2.0 m)	809-0937
10 feet (3.0 m)	809-0938
14 feet (4.3 m)	809-0939
25 feet (7.6 m)	809-0940
50 feet (15.2 m)	809-0941
75 feet (22.9 m)	809-0942
Network terminators:	
	Male (two per pack): 809-0901
	Female (two per pack): 809-0905

Specifications subject to change without notice.

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