XW Power System - Installation Overview

**Important:** This overview is NOT intended to replace the XW Power System Installation Guide. BE SURE TO READ THE INSTALLATION GUIDE FOR PROPER INSTALLATION INSTRUCTIONS. Installation of this equipment should only be performed by skilled personnel such as qualified electricians and Certified Renewable Energy (RE) System Installers.

**Accessories**
- XW System Control Panel
- XW Automatic Generator Start
- Main AC Distribution Panel
- Utility Grid
- Grid (AC1)
- Generator (AC2)
- Fault / Warning
- Equalize
- Battery Charging
- Inverting
- Flashing = sell

**Equipment**
- 24 Vdc or 48 Vdc
- 120/240 Vac or 240 Vac only

All configurations must comply with local and national electrical code jurisdiction. Consult your local certified installer or local electrical authority to ensure compliance.

**Installation Overview**

1. Mount the inverter/charger and supporting components
   - Plan the safe location and wiring routes for all components involved.
   - Secure the mounting surface to support the weight of the equipment.
   - Use all wiring safely to handle the desired load current.
   - Install the XW Conduit Box and XW Power Distribution Panel if required.

2. Prepare the energy storage (battery) bank
   - Select battery type, size, and battery bank configuration (Series, Parallel, or Series-Parallel).
   - Connect appropriate DC components to the DC circuit.
   - See the Application Note: Battery Banks for Inverters System on the Xantrex website.

3. Install the renewable energy sources (if used)
   - Photovoltaic sources (Solar)
   - Hydro sources (except those not connected to the DC Disconnect and Inverter). Inverters without a DC Disconnect must be connected first.

4. Install the AC or DC generator (if used)
   - Install an AC generator for AC load backup or battery charging.
   - Install a DC generator for DC loads or battery charging.

5. Prepare the system grounds
   - Ensure there is only one system input/ground bond.
   - Ensure the system is properly grounded and has all appropriate system protection.
   - Ensure multiple ground rods if needed are bonded together.

6. Install any accessories needed
   - XW System Control Panel
   - XW Automatic Generator Start
   - Auxiliary Power Supply or RPO Switch
   - AC Sync Cables

7. Connect the Energy Storage bank to the inverter/charger
   - Connect the Negative Cable from the DC Disconnect to the DC Negative (E) terminal on the inverters.
   - Connect the Positive Cable from the DC Disconnect to the DC Positive (+) terminal on the inverters.

8. Connect the inverter/charger to the Inverter AC Distribution Panel and house loads
   - Connect the AC OUT (of the Inverter/Charger) to the Inverter AC Distribution Panel (if connected) and house loads.

9. If power is available from a local utility grid
   - Connect the input from the local utility grid.

10. Configure specific system parameters
    - Use the XW System Control Panel or the Xantrex computer-based XW Configuration Tool.
    - See the Xantrex Installation Guide for detailed instructions on configuring system parameters.
XW Series Power System

Single-Inverter System

**Xantrex Supplied Components:**
- XW Inverter/Charger includes:
  - Mounting Plate
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- XW System Control Panel (optional)
- Communication Cable (Category 5) (PT) 2.1m
- XW Conduit Box (optional) (not shown)
- XW Automatic Generator Start (optional)

**Customer Supplied Components:**
- Battery Bank (24 Vdc or 48 Vdc)
- Generator and/or Grid Connection
- Inverter AC Distribution Panel to Loads
- All wiring and cabling
- Communication Cable (Category 5) for XW System Control Panel and/or XW Automatic Generator Start (if used)
- All breakers for loads and peripheral disconnects (e.g., generator disconnect)

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XW Series Power System

Single-Inverter System with Renewable Energy (Solar)

Xantrex Supplied Components:
- XW Inverter/Charger includes
  - Mounting Plate
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- XW Power Distribution Panel includes
  - Mounting Plate
  - XW Conduit Box
  - three 60A, 200/240 Vac, 2-pole, Square-D type QDL Din-Rail mounted AC breakers for inverter input, output, and bypass
  - AC Distribution Bars for simplified panel wiring
  - Bus Interface
  - one Ground Terminal Bus Bar
  - one AC Neutral Bus Bar
  - #6 AWG AC wiring for inverter connection to breakers
  - DC Positive bus bar
  - #6/0 AWG, DC Breaker with copper bus bar
  - one pair #4/0 AWG Battery Cables
- XW System Control Panel (optional) includes
  - Mounting Plate
  - Communication Cable (Category 5) (#18 250B)
  - Xantrex Network Terminator
- XW Solar Charge Controller includes
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- XW Automatic Gen Start (optional) includes
  - Wiring Harness
  - Xantrex Network Terminator

Customer Supplied Components:
- Battery Bank: 64 12V or 48 24V
- Generator and/or Grid Connection
- Solar Panels and associated cabling
- DC Combiner Boxes (may or may not be required)
- Inverter AC Distribution Panel to Loads
- Wiring and cabling to and from the system
- Communication Cable (Category 5) for
  - XW System Control Panel
  - XW Automatic Generator Start (if used)
- All breakers for loads and peripheral disconnects (e.g., generator disconnect)

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XW Series Power System

Single-Inverter System with Renewable Energy (Wind or Hydro with Diversion Load)

Xantrex Supplied Components:
- XW Inverter/Charger includes
  - Mounting Plate
  - Battery Temperature Sensor
  - Xanbus Network Terminator
- XW Power Distribution Panel includes
  - Mounting Plate
  - XW Conduit Box
  - three 60A, 120/240 Vac, 2-pole, Square D type CDU,
  - Din-Rail mounted AC breakers for inverter input,
  - Output, and Bypass
  - AC Distribution Bars for simplified panel wiring
  - Bypass Interlock
  - one Ground Terminal Bus Bar
  - one AC Neutral Bus Bar
  - #6 AWG AC wiring for inverter connection to breakers
  - DC Negative bus bar
  - #4/0 AWG DC breaker with copper bus bar
  - one pair #4/0 AWG Battery Cables
- C Series Charge Controller for Diversion Load Control
- XW System Control Panel (optional) includes
  - Mounting Bracket
  - Communication Cable (Category 5) (170 ft. or less)
  - Xanbus Network Terminator
- XW Automatic Generator Start (optional) includes
  - Wiring Harness
  - Xanbus Network Terminator

Customer Supplied Components:
- Battery Bank (24 Vdc or 48 Vdc)
- Generator and/or Grid Connection
- Wind or Hydro Turbines and associated cabling
- Diversion Load and associated wiring
- Inverter AC Distribution Panel to Loads
- Wiring and cabling to and from the system
- Communication Cable (Category 5) for
  - XW System Control Panel and/or
  - XW Automatic Generator Start (if used)
- All breakers for loads and peripheral disconnects
  (e.g., generator disconnect)

IMPORTANT: All configurations must comply with local and national electrical code jurisdiction. Consult your local certified installer or local electrical authority to ensure compliance.
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Note 1: If no Grid is available, the generator can be connected to the AC breakers in the XW Power Distribution Panel, instead of to a separate AC breaker.
Dual-Inverter System with Renewable Energy (Solar)

**XW Series Power System**

- **XW Inverter/Charger** includes:
  - Mounting Plates
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- **XW Power Distribution Panel** includes:
  - Mounting Plates
  - **XW Conduit Box**
  - 1 x 100% IP66, 2 pola Square D Type DDU, DinRail mounted AC breakers for inverter input, output and bypass
  - AC Distribution Bars for simplified panel wiring
  - Bypass/RPO
  - One Ground Terminal Bus Bar
  - One AC Neutral Bus Bar
  - 2 x AWG AC wiring for inverter connection to breakers
  - DC Negative bus bar
  - Copper DC breaker with copper bus bar
  - One pair 8 AWG Battery Cables
- **XW Connection Kit for LMR includes**:
  - **XW Conduit Box** for second XW Inverter
  - 1 x 100% IP66, 2 pola Square D type DDU, DinRail mounted AC breakers for inverter input, output and bypass
  - AC Distribution Bars for simplified panel wiring
  - Bypass/RPO for dual inverters/chargers
  - 2 x AWG AC wiring for inverter connection to breakers
  - One 6000A DC breaker with copper bus bar
  - One pair 6 AWG Battery Cables for second inverter
- **XW Solar Charge Controller** includes:
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- **XW System Control Panel** includes:
  - Mounting Bracket
  - Communication Cable (Category 15 (TIA/EIA-568.3))
  - Xantrex Network Terminator
- **XW Automatic Generator Start (Optional) includes**:
  - Wiring harness
  - Xantrex Network Terminator

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Note 1: If no Grid is available, the generator can be connected to the AC breakers in the XW Power Distribution Panel, instead of to a separate AC breaker.
**XW Series Power System**

**Dual-Inverter System**
(Renewable Energy with Diversion Loads)

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**Accessories**
- XW System Control Panel
- XW Automatic Generator Start (optional)

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**XW Inverter/Charger**

- Grid (AC1)
- Gen (AC2)
- Fault / Warning
- Equalize
- Battery Charging
- Inverting
- Flashing = sell

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**Communication**
- DC In

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**Utility Grid**
- AC In
- AC Out

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**Renewable Energy (RE)**
- Wind or Hydro

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**Battery Bank**
- DC Charging and DC In

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**Xantrex Supplied Components:**
- XW Inverter/Charger includes
  - Mounting Plate
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- XW Power Distribution Panel includes
  - Mounting Plate
  - XW Conduit Box
  - Three 60-kA 120/208VAC, 2000A Square D type QOUL Din-Rail mounted AC breakers for inverter Input Outputs and Bypass
  - AC Distribution Bars for simplified panel wiring
  - Bypass Interlock
  - One Ground Terminal Bus Bar
  - One AC Neutral bus Bar
  - 60 AWG AC wiring for inverter connection to breakers
  - DC Negative bus Bar
  - GMP50 DC breaker with copper bus bar
  - one pair PP20AWG Battery Cables
- XW Connection Kit for Inverter includes
  - XW Conduit Box for second XW Inverter
  - Three 60-kA 120/208VAC, 2000A Square D type QOUL Din-Rail mounted AC breakers for inverter Input Outputs and Bypass
  - AC Distribution Bars for simplified panel wiring
  - Bypass Interlock for dual inverters and chargers
  - 60 AWG AC wiring for inverter connection to breakers
  - one GMP50 DC breaker with copper bus bar
  - Two Communication Cables (for Xantrex networking and AC Sync)
- one pair PP20AWG Battery Cables for second inverter
- XW System Control Panel includes
  - Mounting Bracket
  - Communication Cable (Category 5) (3 ft. 2.3 m)
  - Xantrex Network Terminator
- XW Solar Charge Controller includes
  - Battery Temperature Sensor
  - Xantrex Network Terminator
- XW Automatic Generator Start (optional) includes
  - Wiring Harness
  - Xantrex Network Terminator

**Customer Supplied Components:**
- Battery Bank (24Vdc or 48Vdc)
- Generator and/or Grid Connection
- Solar Panels and associated cabling
- DC Combiner Boxes (may or may not be required)
- Inverter AC Distribution Panel to Loads
- Wiring and cabling to and from the system
- Communication Cable (Category 5) for Inverter Stacking
- Communication Cable (Category 5) for XW System Control Panel and/or XW Automatic Generator Start (if used)
- All breakers for loads and peripheral disconnects

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Dual-Inverter System
(Renewable Energy with Diversion Loads)

IMPORTANT:
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If no Grid is available, the generator can be connected to the AC breakers in the XW Power Distribution Panel, instead of to a separate AC breaker.

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