



Schneider XW Pro, KiloVault Integration Guide

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Introduction

This guide covers the recommended set-up and configuration of the Schneider Electric Conext XW Pro Solar Hybrid Inverter/Charger 120/240V using the Conext System Control Panel. We'll only be covering battery related settings. In case you are using the Schneider Conext Gateway, these same settings are available there as well.

You can download the XWPro Owner's guide here:

- https://solar.schneider-electric.com/download/xw-pro-iec-user-documentation/?ind=13254&filename=ML202003_Conext-XW-Pro-NA-Owners-Guide-990-91227A-01.pdf&wpdmdl=10331&refresh=609d81c0eb90b1620935104

You can download the XWPro Installation guide here:

- https://solar.schneider-electric.com/download/xw-pro-iec-user-documentation/?ind=media-10991&filename=ML202007_XW-PRO-NA-Installation-Guide990-91228A-01_rev-A.pdf&wpdmdl=10331&refresh=609d81c0eba181620935104

In that guide, document number 975-0801-01-02, you can find an SCP menu map for both Basic and Advanced Settings, Figure 22. The menu map is also reproduced on the last page of this document.

CAUTION: If you update the firmware in your Schneider Electric equipment, ALL the settings must be reverified. The programmed settings shown in the following tables must be applied based on desired Warranty/Cycle life. We recommend an 80% depth of discharge for our Lithium Iron Phosphate (LiFePO4 or LFP) batteries and a 50% depth of discharge for our PLC battery.

Notes on the XW

- As of this writing, the XW Pro's High Battery Cut Out (a.k.a. high voltage disconnect) cannot be set lower than 58V. This has been suggested to Schneider as a firmware update. No release date yet for the update.
- As of this writing, the Schneider Conext Gateway, InsightHome/Facility, and the InsightCloud app provide easier and greater control and monitoring of the XW Pro than is available through the Conext System Control Panel (SCP). There are no updates planned for the SCP.
 - An XWPro cannot be commissioned with the SCP. Too many settings are not available.
- When using the SCP, the XW Pro Advanced Settings are accessed by...
 - Selecting the XW Pro on the Select Device menu
 - Press and release the **Enter** and **Up Arrow** and **Down Arrow** simultaneously. It may take a few tries to do this.
 - After performing this keypress, **Advanced Settings** appears at the top of the XW Pro Setup menu.
 - If you press and release **Enter & Up Arrow & Down Arrow** simultaneously again then **Basic Settings** will appear at the *bottom* of the Setup Menu.
- Put the XW Plus into Standby Mode before changing any basic or advanced settings.
- Put the XW Plus into Operating Mode after changing the settings to save the changes.



1800 & 3600 HLX & CHLX

Basic Settings

Setting Name	1800 Setting	3600 Setting
Batt Type	Gel, but this will be overridden in Advanced Settings	
Batt Capacity	150Ah per HLX in Parallel	300Ah per HLX in Parallel
Max Chg Rate	Set to a percentage of 140A (the XW Pro's Max) so that when added to the solar charge controller amperage, the sum is 100A (per HLX in parallel)	
Charge Cycle	2 Stage No Float	
Recharge Volts (for 80% DoD)	51.0V	
Low Batt Cut Out	48.0V	

Advanced Settings

Setting Name	1800 Setting	3600 Setting
Inverter / Low Batt Cut Out	48.0V	
Inverter / LBCO Delay	5 seconds	
Inverter / LBCO Hysteresis	0.5V	
Inverter / High Batt Cut Out	57.6V	
Charger / Batt Capacity	150Ah per battery in parallel	300Ah per battery in parallel
Charger / Max Chg Rate	Set to a percentage of 140A so that when added to the solar charge controller amperage, the sum is 100A (per HLX in parallel)	
Charger / Charge Cycle	2-Stage	
Charger / Default Batt Temp	Warm (the default)	
Charger / Recharge Volts (for 80% DoD)	51.0V	
Charger / Absorb Time	2 minutes or less	
Charger / Batt Type	Custom	
Charger / Custom / Eqlz Support	Disabled	
Charger / Custom / Eqlz Voltage	N/A	
Charger / Custom / Bulk Voltage	56.4V	
Charger / Custom / Bulk Termination Voltage	55.6V (required to be at least .8V below Bulk)	
Charger / Custom / Absorb Voltage	56.4V	
Charger / Custom / Float Voltage	N/A	
Charger / Custom / Batt Temp Comp	0 mV / °C	

Notes



HAB 7.5kWh

Basic Settings

Setting Name	Setting Value
Batt Type	Gel, but will be overridden by Advanced Settings
Batt Capacity	150Ah per HAB in parallel
Max Chg Rate	Set to a percentage of 140A so that when added to the solar charge controller amperage, the sum is 120A (per HAB in parallel)
Charge Cycle	2 Stage
Recharge Volts for 80% DoD	51.4V
Low Batt Cut Out	48.2V

Advanced Settings¹

Setting Name	Setting Value
Inverter / Low Batt Cut Out	48V
Inverter / LBCO Delay	3 seconds
Inverter / LBCO Hysteresis	2V
Inverter / High Batt Cut Out	57V
Charger / Battery Type	Custom
Charger / Batt Capacity	150Ah per HAB in parallel
Charger / Max Charge Rate	Set to a percentage of 140A so that when added to the solar charge controller amperage, the sum is 120A (per HAB in parallel)
Charger / Charge Cycle	2 Stage
Charger / Default Batt Temp	Warm
Charger / Recharge Volts for 80% DoD	51.4V
Charger / Absorb Time	2 minutes or less
Charger / Custom / EqLz Support	Disabled
Charger / Custom / EqLz Voltage	N/A
Charger / Custom / Bulk Voltage	56.2V
Charger / Custom / Bulk Termination Voltage	55.4V (required to be at least .8V below Bulk)
Charger / Custom / Absorb Voltage	56.2V
Charger / Custom / Float Voltage	N/A (If necessary, 52.8V)
Charger / Custom / Batt Temp Comp	0 mV / °C

1 If you are using a battery monitor with a midpoint sensor with your HAB, tie-wrap or otherwise secure the sensor leads out of the way and insulate the lead ends with electrical tape, heat shrink or any other method. Since midpoint sensors are only used on strings of batteries in series, and HABs must never be wired in series, midpoint sensors are simply not used.



Notes

2100 PLC

Basic Settings

Setting Name	Setting Value
Battery Type	AGM (overridden by custom settings)
Battery Capacity	180Ah per 2100 PLC in parallel
Max Charge Rate	Set to a percentage of 140A so that when added to the solar charge controller amperage, the sum is 100A (per PLC in parallel)
Charge Cycle	3 stage without a solar charge controller 2 stage with a solar charge controller
Recharge Volts for 50% DoD	48.4V
Low Battery Cutout	48V

Advanced Settings

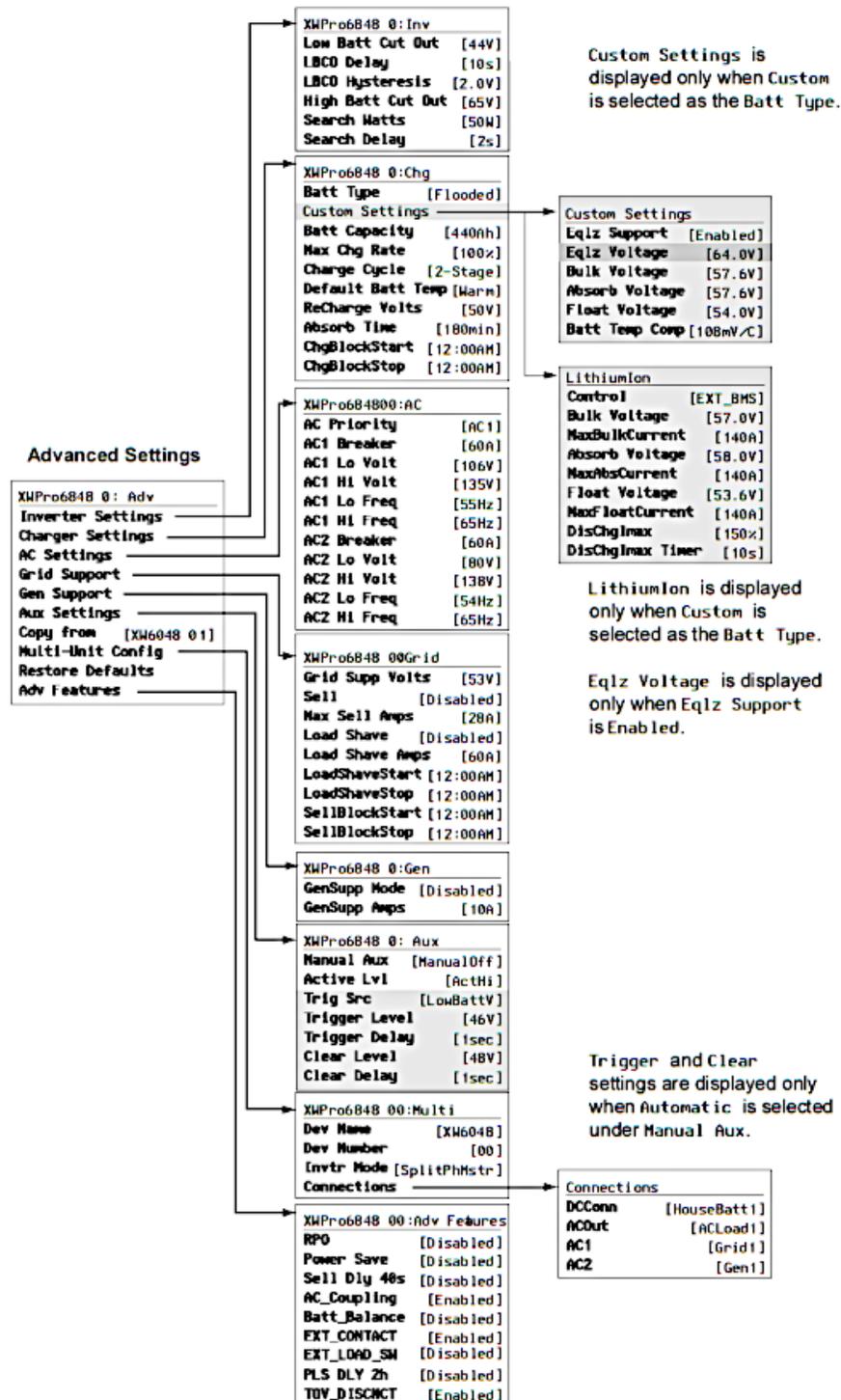
Setting Name	Setting Value
Inverter / Low Battery Cut Out	48V
Inverter / Low Battery Cut Out Delay	10 seconds
Inverter / Low Battery Cut Out Hysteresis	2V
Inverter / High Battery Cut Out	60V
Charger / Batt Type	Custom
Charger / Batt Capacity	180 Ah
Charger / Max Chg Rate	Set to a percentage of 140A so that when added to the solar charge controller amperage, the sum is 100A (per PLC in parallel)
Charger / Charge Cycle	3 Stage without a solar charge controller 2 stage with a solar charge controller
Charger / Default Batt Temp	Warm (the default)
Charger / Recharge Volts	48.4V
Charger / Absorb Time	8 Hours
Charger / Custom / Eqlz Support	Enabled
Charger / Custom / Eqlz Voltage	56.4V (14.1V * 4)
Charger / Custom / Bulk Voltage	56.4V (14.1V * 4)
Charger / Custom / Bulk Termination Voltage	55.6V (required to be at least .8V below Bulk)
Charger / Custom / Absorb Voltage	56.4V (14.1V * 4)
Charger / Custom / Float Voltage	54.4V (13.6V * 4)
Charger / Custom / Batt Temp Comp	-3mV/ °C



Notes

Resources

System Control Panel (SCP) XW Pro Menu Map (in case you don't have a Gateway or InsightHome/Facility)



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InsightCloud Navigation

These screenshots are from demonstration sites using random data on InsightCloud

- <https://www.insightcloud.se.com/>

To see this data for yourself and to practice using Insight 2, point your web browser to <https://www.insightcloud.se.com/>, create an account, and create a new site using;

- URN: urn:dev:opm:000054-Combox-587AC6N2XWCL1
- SERIAL NUMBER: SESA405035

This Schneider demo site simulates a dual XW single phase system with 4 Schneider Conext MPPT 80 charge controllers, a Conext Battery Monitor and a Conext Automatic Generator Start. Input any site name you wish, any date you want for the commissioning date and estimate the site, battery bank and inverter sizes using your preferred method. For this example, it was named Schneider Insight 2 Demo Site 2.

From the InsightCloud home page click the demo site you set up above.

The screenshot displays the InsightCloud dashboard. At the top, there are navigation tabs: HOME, MY DASHBOARD, PERFORMANCE, REPORTING, EVENTS, and CONFIGURATION. The CONFIGURATION tab is selected. Below the navigation, there are search and filter options. A table lists several sites with columns for SiteName, Connectivity, Last Data Refresh, Today Export to Grid (kWh), Today Solar Production (kWh), Batt. Voltage (V), Batt. SoC (%), Alarms / Warnings, Generator, Grid, Gateway Firmware Version, and Weather. The site 'Schneider Insight 2 Demo Site 2' is highlighted with a yellow circle. Below the table, there is a 'Power Gauge' section with four gauges: Solar Production (211.460 MWh), Grid Consumption (89.220 MWh), Load (120.340 MWh), and Generator Operation (9.530 MWh). The status '5 Sites Online' is shown in the top right of the Power Gauge section.

SiteName	Connectivity	Last Data Refresh	Today Export to Grid (kWh)	Today Solar Production (kWh)	Batt. Voltage (V)	Batt. SoC (%)	Alarms / Warnings	Generator	Grid	Gateway Firmware Version	Weather
altE Store Lab	Disconnected	-	-	-	-	-	-	-	-	-	-
Schneider Insight 2 Demo Site 1	Online	05/13/2021 08:41 PM	0	24.18	50	97	0 Alarm / 0 Warning	No Generator	OFF	-	
Schneider Insight 2 Demo Site 2	Online	05/13/2021 08:50 PM	29.1	101.83	50	97	0 Alarm / 0 Warning	Not running	ON	-	
Schneider Insight 2 Demo Site 3	Online	05/13/2021 08:50 PM	29.1	101.83	50	97	0 Alarm / 0 Warning	Not running	ON	-	
Schneider Insight 2 Demo Site 4	Online	05/13/2021 08:45 PM	147.05	347.58	50	97	0 Alarm / 0 Warning	Not running	ON	-	
Mataqamon Wilderness	Disconnected	-	-	-	-	-	-	-	-	-	-
Casita Vieques	Online	05/13/2021 04:45 PM	0.02	11.76	53.33	100	0 Alarm / 0 Warning	No Generator	OFF	v1.12	

Power Gauge 5 Sites Online

- 211.460 MWh Solar Production
- 89.220 MWh Grid Consumption
- 120.340 MWh Load
- 9.530 MWh Generator Operation

On the Site Overview page, click "Configuration" to select the demo site you set up earlier.

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InsightCloud

ALARMS
0



WARNINGS
0

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HOME MY DASHBOARD PERFORMANCE REPORTING EVENTS **CONFIGURATION**

View Site Overview

Schneider Insight 2 Demo Site 2

Power Flow

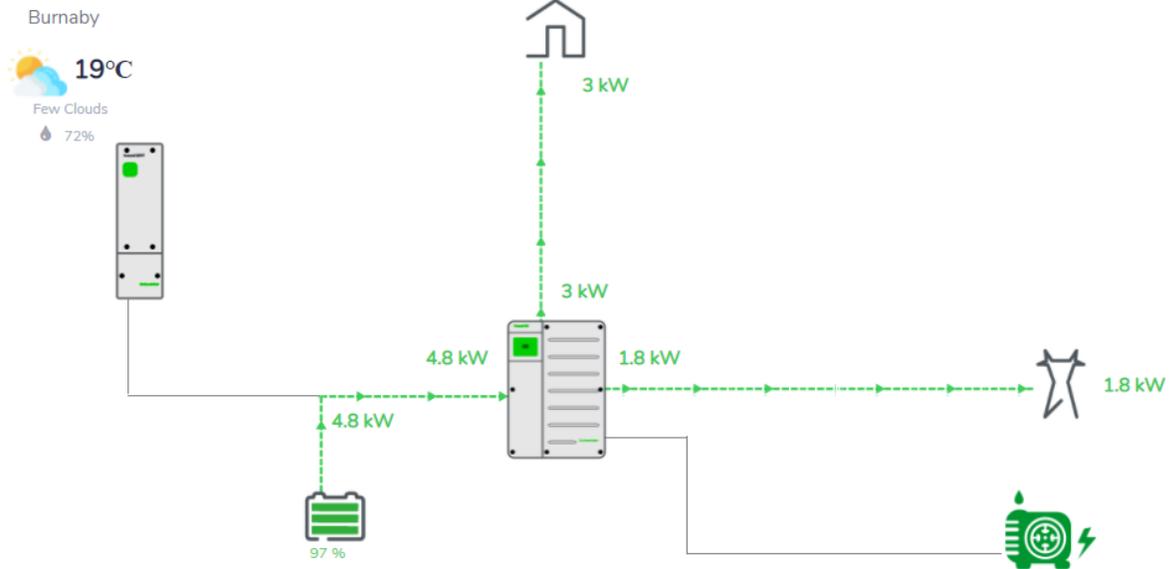
Energy Gauges

Advanced Site Analysis

Site Energy Comparison

Energy Source Comparison

Last Data Received : 2021-05-13 21:08:38



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In the Device List, Click "Inverter Charger" to reveal the XW inverters. Click on one of them to load the settings control panel. To see all of the settings categories, click the "- Collapse all" button. The settings mentioned above are all available here.

The screenshot shows the Schneider InsightCloud interface. At the top, there are navigation tabs: HOME, MY DASHBOARD, PERFORMANCE, REPORTING, EVENTS, and CONFIGURATION. The CONFIGURATION tab is active, and sub-tabs include Sites And Devices, User Rights, Email Notifications, Financial Settings, and Firmware. The main content area shows a site selection dropdown set to "Schneider Insight 2 Demo Site 2" with buttons for "Create site", "Duplicate", and "Delete".

On the left, the "DEVICE LIST" sidebar is visible. The "Inverter Charger" category is selected and highlighted with a yellow circle. Below it, the sub-categories [101] and [102] are listed, also highlighted with a yellow circle. Other categories include Battery, User Interface, Charge Controller, and Generator.

The main panel displays the "Inverter Charger - [101] settings" for the selected site. It includes a "+ Expand all" button and buttons for "Import Settings", "Export Settings", "Refresh", and "Apply Changes". The settings are organized into a list of expandable categories:

- CONTROL
- INVERTER
- CHARGER
- AC
- APC
- GRIDSUPPORT
- GRIDVSUPPORT
- GENSUPPORT
- AUXRELAY
- MULTIUNIT
- ASSOC
- ADVANCED
- DEV
- BMS

At the bottom of the settings panel, there is a "+ Expand all" button, a "Refresh" button, and an "Apply Changes" button.

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InsightCloud XW Pro Menus

Inverter

InsightCloud

ALARMS 0 WARNINGS 0

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HOME MY DASHBOARD PERFORMANCE REPORTING EVENTS CONFIGURATION

Sites And Devices User Rights Email Notifications Financial Settings Firmware

Schneider Insight 2 Demo Site 2

Create site Duplicate Delete

DEVICE LIST

- Site
- Inverter Charger
 - [101]
 - [102]
- Battery
- User Interface
- Charge Controller
- Generator

Inverter Charger - [101] settings

Expand all Import Settings Export Settings Refresh Apply Changes

CONTROL

INVERTER

Low Battery Cut Out	44 V	Low Battery Cut Out Delay	10 s
High Battery Cut Out	65 V	Search Mode	Yes
Maximum Search Watts	55 W	Search Delay	2 s
XW Power Factor	1	Low Battery Cut Out Hysteresis	2 V
High SOC Cut Out	99 %	High SOC Cut Out Delay	60 s
Low Battery Cut Out SOC	25 %	Low Battery Cut Out SOC Delay	60 s

CHARGER

- AC
- APC
- GRIDSUPPORT
- GRIDSUPPORT
- GENSUPPORT

Expand all Refresh Apply Changes

Charger

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HOME MY DASHBOARD PERFORMANCE REPORTING EVENTS CONFIGURATION

Sites And Devices User Rights Email Notifications Financial Settings Firmware

Schneider Insight 2 Demo Site 2 Create site Duplicate Delete

DEVICE LIST
Site
Inverter Charger
[101]
[102]
Battery
User Interface
Charge Controller
Generator

Inverter Charger - [101] settings

[Expand all](#) Import Settings Export Settings Refresh Apply Changes

CHARGER

Battery Type	Gel	Battery Bank Capacity	44C Ah
Maximum Charge Rate	6 %	Maximum Bulk Charge Current	140 A
Maximum Absorption Charge Current	140 A	Maximum Float Charge Current	140 A
Charge Cycle	2 Stage	Default Battery Temperature	Warm
Recharge Voltage	50 V	Absorption Time	10E s
Charge Block Start	00:00	Charge Block Stop	00:00
Equalize Support	No	Equalize Now	No
Equalize Voltage Set Point	64 V	Bulk/Boost Voltage Set Point	56.8 V
Absorption Voltage Set Point	56.8 V	Float Voltage Set Point	55.2 V
Maximum Discharge Current	15C A	Maximum Discharge Time Interval	8 s
Bulk Termination Voltage	55.2 V	Bulk Termination Time	1 s
Recharge SOC	50 %	Recharge SOC Delay	60 s

[Expand all](#) Refresh Apply Changes

Links

- XWPro Installation Guide:
 - https://solar.schneider-electric.com/download/xw-pro-iec-user-documentation/?ind=media-10991&filename=ML202007_XW-PRO-NA-Installation-Guide990-91228A-01_rev-A.pdf&wpdmdl=10331&refresh=609d81c0eba181620935104
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- KiloVault HLX / CHLX Manual:
 - https://www.altestore.com/static/datafiles/Others/KiloVault_HLX_Series_Manual_V2.1.2_April022021.pdf
- KiloVault HAB Manual:
 - <https://www.altestore.com/static/datafiles/Others/KLV%20HAB%20Installation%20and%20User%20Manual%20Rev%202.06.pdf>
- KiloVault PLC Manual:
 - <https://www.altestore.com/static/datafiles/Others/KiloVault%20100%20PLC%20Installation%20and%20User%20Manual%20Rev%201.04.pdf>