



Schneider SW 2524-4024-4048, KiloVault Integration Guide

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Introduction

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

You can download the SW Owners' guide here: <https://tinyurl.com/SwUsersGuide>

In that guide, document number 975-0638-01-01 Rev H, you can find an SCP menu map for both Basic and Advanced Settings. A menu map is also reproduced in the Resources section of this document.

CAUTION: If you update the firmware on 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 SW

- As of this writing the SW 4048's minimum high battery voltage disconnect (Hi Batt Cut Out) is 58V, slightly higher than the high voltage disconnect we recommend for 48V systems.
- As of this writing, the Schneider Conext Gateway, InsightHome/Facility and InsightCloud application provide easier and greater control over the SW than is available through the Conext System Control Panel (SCP) or the Conext Combox. The Combox is being discontinued and there are no firmware updates planned for it and the SCP. The SCP provides minimal control over your system.
- The maximum battery capacity for the SW is 1000Ah.
- When using the SCP, the SW Advanced Settings are accessed by...
 - Selecting the SW 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 SW into Standby Mode before changing any basic or advanced settings.
 - Critical loads will lose power and disconnect from the grid or generator when the SW is put into standby mode. To avoid this, place your system into Bypass before putting the SW into Standby mode.
- Put the SW into Operating Mode after changing the settings to save the changes.
 - If you put your system into Bypass, please remember to take it out of Bypass.

1800 & 3600 HLX/CHLX

Basic Settings

Setting Name	1800 Setting		3600 Setting	
	24V	48V	24V	48V
Battery Type	This will be overridden in Advanced Settings			
Battery Capacity	150Ah per Parallel String		300Ah per Parallel String	
Max Charge Rate	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amps, the sum is 100A (per HLX in parallel)	Set to a percentage of 45A (the 4048 max) so that when added to the solar charge controller amps, the sum is 100A (per HLX in parallel)	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amps, the sum is 100A (per HLX in parallel)	Set to a percentage of 45A (the 4048 max) so that when added to the solar charge controller amps, the sum is 100A (per HLX in parallel)
Charge Cycle	2 Stage No Float			
Recharge Volts (80% DoD)	25.5V	51V	25.5V	51V
Low Battery Cutout	24V	48V	24V	48V

Advanced Settings

Setting Name	1800 Setting		3600 Setting	
	24V	48V	24V	48V
Inverter/Low Batt Cut Out	24V	48.0V	24V	48V
Inverter/LBCO Delay	5 seconds			
Inverter/LBCO Hysteresis	0.5V			
Inverter/High Batt Cut Out	28.8V	57.6V	28.8V	57.6V
Charger/Batt Capacity	150Ah per battery in parallel		300Ah per battery in parallel	
Charger/Max Chg Rate	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amps, the sum is 100A (per parallel string)	Set to a percentage of 45A (the 4048 max) so that when added to the solar charge controller amps, the sum is 100A (per parallel string)	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amps, the sum is 100A (per parallel string)	Set to a percentage of 45A (the 4048 max) so that when added to the solar charge controller amps, the sum is 100A (per parallel string)
Charger/Charge Cycle	2-Stage			
Charger/Default Batt Temp	Warm (the default)			
Charger/Recharge Volts (80% DoD)	25.5V	51.0V	25.5V	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	28.2V	56.4V	28.2V	56.4V
Charger/Custom/Bulk Termination	27.8V (.4V below Bulk)	55.6V (.8V below Bulk)	27.8V	55.6V
Charger/Custom/Absorb Voltage	28.2V	56.4V	28.2V	56.4V
Charger/Custom/Float Voltage	N/A			
Charger/Custom/Batt Temp Comp	0 mV/°C			

HAB 7.5kWh

Please note: the KiloVault HAB 7.5kWh battery can only be used in 48V systems, so all settings are for the Conext 4048.

Basic Settings

Setting Name	Setting Value
Battery Type	AGM (This will be overridden in Advanced Settings)
Battery Capacity	150Ah per HAB in parallel
Maximum Charge Rate	Set to a percentage of 45A (the 4048 max) so that when added to the solar charge controller amperage, the sum is 120A (per HAB in parallel)
Charge Cycle	2-Stage
Recharge Volts	51.4V
Low Battery Cut Out	48.2V

Advanced Settings

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 45A (the 4048 max) so that when added to the solar charge controller amperage, the sum is 120A (per HAB in parallel)
Charger/Charge Cycle	2 Stage No Float
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 0.8V below Bulk)
Charger/Custom/Absorb Voltage	56.2V
Charger/Custom/Float Voltage	N/A
Charger/Custom/Batt Temp Comp	0 mV / °C

2100 PLC

Basic Settings

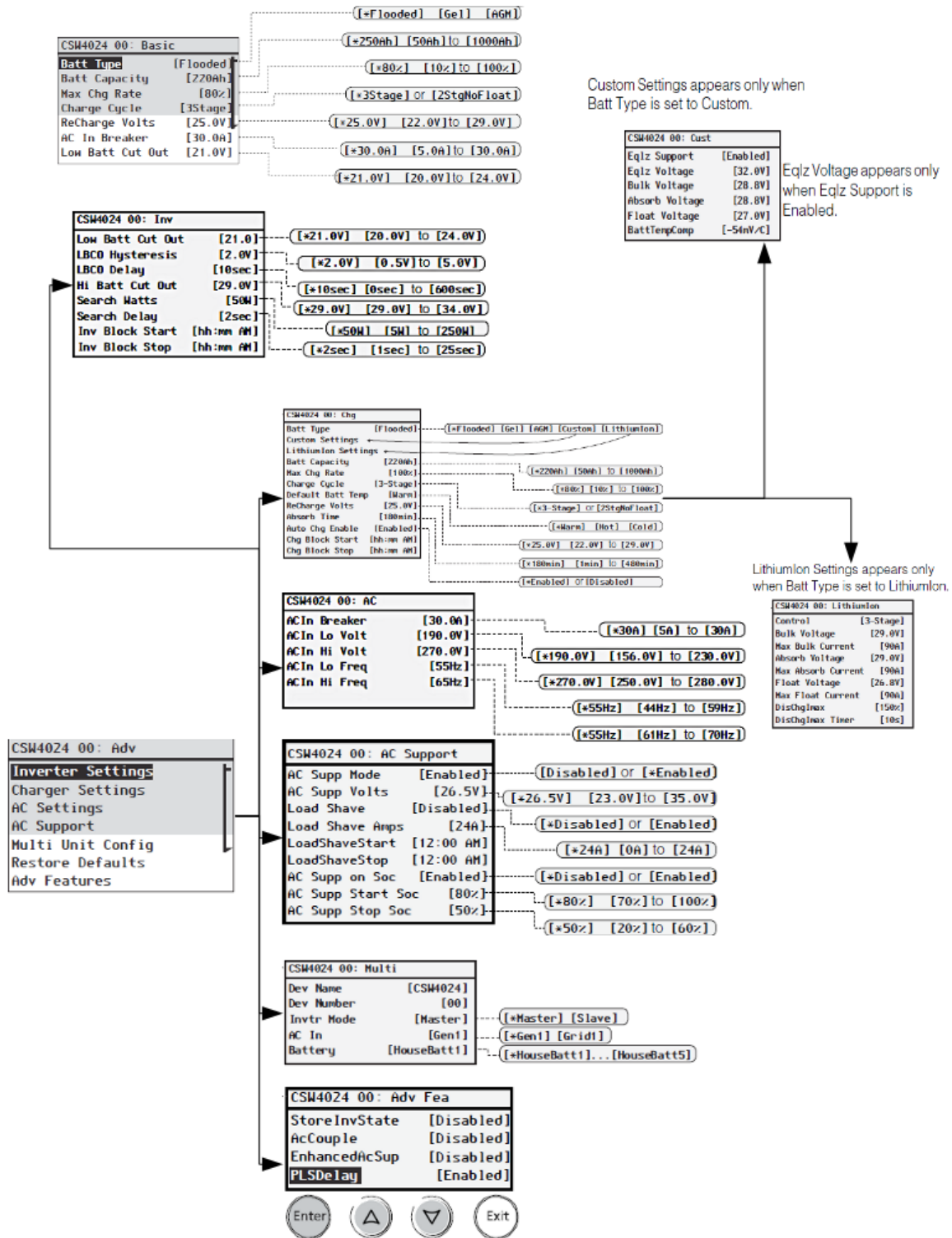
Setting Name	24V	48V
Battery Type	AGM (will be overridden in Advanced Settings)	
Battery Capacity	180Ah per 2100 PLC in Parallel	
Max Charge Rate	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amperage, the sum is 100A (per PLC in parallel)	Set to a percentage of 45A (the 4048 max) 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	24.6V	49.2V
Low Battery Cutout	24V	48V

Advanced Settings

Setting Name	24V	48V
Inverter/Low Batt Cut Out	24V	48.0V
Inverter/LBCO Delay	10 seconds	
Inverter/LBCO Hysteresis	2V	
Inverter/High Batt Cut Out	30V	60V
Charger/Batt Type	Custom	
Charger/Batt Capacity	180Ah per 2100 PLC in Parallel	
Charger/Max Chg Rate	Set to a percentage of 90A (the 4024 max) so that when added to the solar charge controller amperage, the sum is 100A (per PLC in parallel)	Set to a percentage of 45A (the 4048 max) 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 (for 50% DoD)	24.6V	49.2V
Charger/Absorb Time	8 Hours	
Charger/Custom/Eqlz Support	Enabled	
Charger/Custom/Eqlz Voltage	28.4V (14.2V * 2)	56.4V (14.1V * 4)
Charger/Custom/Bulk Voltage	28.4V (14.2V * 2)	56.4V (14.1V * 4)
Charger/Custom/Bulk Termination Voltage	28V (required to be at least .4V below Bulk)	55.6V (required to be at least .8V below Bulk)
Charger/Custom/Absorb Voltage	28.4V (14.2V * 2)	56.4V (14.1V * 4)
Charger/Custom/Float Voltage	27.2V (13.6V*2)	54.4V (13.6V * 4)
Charger/Custom/Batt Temp Comp	-3mV / °C	

Resources

SCP SW Menu Map



InsightCloud SW Menu

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 InsightCloud, 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-587AC6N1CSWCL1
- SERIAL NUMBER: SESA405035

This Schneider demo site simulates a SW installation with a Schneider Conext MPPT 60 charge controller, 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 1.

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

The screenshot displays the InsightCloud dashboard interface. At the top, there are navigation tabs: HOME, MY DASHBOARD, PERFORMANCE, REPORTING, EVENTS, and CONFIGURATION. The user is logged in as Marlin May. The dashboard shows a table of 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 'Schneider Insight 2 Demo Site 1' row is highlighted with a yellow circle. Below the table is a 'Power Gauge' section with four gauges: Solar Production (10.250 MWh), Grid Consumption (25.750 MWh), Load (90.080 MWh), and Generator Operation (3.180 MWh). The bottom of the page shows the copyright information: Copyright 2021 Schneider Electric - Solar v - 1.00.9b53666.

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 07:17 PM	0	24.18	50	98	0 Alarm / 0 Warning	No Generator	OFF	-	☀️
Schneider Insight 2 Demo Site 2	Online	05/13/2021 07:22 PM	27.3	101.83	50	98	0 Alarm / 0 Warning	Not running	ON	-	☀️
Schneider Insight 2 Demo Site 3	Online	05/13/2021 07:22 PM	27.3	101.83	50	98	0 Alarm / 0 Warning	Not running	ON	-	☀️
Schneider Insight 2 Demo Site 4	Online	05/13/2021 07:22 PM	147.05	347.58	50	98	0 Alarm / 0 Warning	Not running	OFF	-	☀️
Matagamon Wilderness	Disconnected	-	-	-	-	-	-	-	-	-	-
Casita Vieques	Online	05/13/2021 03:15 PM	0.02	11.17	53.99	100	0 Alarm / 0 Warning	No Generator	OFF	v1.12	☀️

Power Gauge 5 Sites Online

- Solar Production: 10.250 MWh
- Grid Consumption: 25.750 MWh
- Load: 90.080 MWh
- Generator Operation: 3.180 MWh

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

The screenshot displays the Schneider Electric InsightCloud interface. At the top, the navigation bar includes 'HOME', 'MY DASHBOARD', 'PERFORMANCE', 'REPORTING', 'EVENTS', and 'CONFIGURATION'. The 'CONFIGURATION' tab is highlighted in yellow. Below the navigation bar, the site name 'Schneider Insight 2 Demo Site 1' is shown. The main content area features a power flow diagram for a site named 'Burnaby'. The diagram shows a central inverter unit with a battery icon below it. A solar panel icon is connected to the inverter, with a power flow of 3.7 kW. The inverter is also connected to a house icon, with a power flow of 3.7 kW. A battery icon is connected to the inverter, with a power flow of 3.7 kW and a charge level of 98%. The interface also shows weather information for Burnaby: 18°C, Few Clouds, and 68% humidity. The bottom of the page contains the copyright notice: 'Copyright 2021 Schneider Electric - Solar v - 1.00.9b53666'.

In the Device List, Click "Inverter Charger" to reveal the SW inverter. 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 displays the Schneider InsightCloud interface. At the top, there are navigation tabs: HOME, MY DASHBOARD, PERFORMANCE, REPORTING, EVENTS, and CONFIGURATION. Below these are sub-tabs: Sites And Devices, User Rights, Email Notifications, Financial Settings, and Firmware. The main content area shows a site selection dropdown for "Schneider Insight 2 Demo Site 1" with buttons for "Create site", "Duplicate", and "Delete". On the left, a "DEVICE LIST" sidebar shows a tree view with "Inverter Charger" selected and highlighted in yellow. The main panel shows "Inverter Charger - [1401] settings" with buttons for "Expand all", "Import Settings", "Export Settings", "Refresh", and "Apply Changes". A list of settings categories is displayed, each with a right-pointing arrow: CONTROL, ACSUPPORT, CHG, INV, DEV, BMS, AC1, BATT, ASSOC, and LPHD. At the bottom of the settings panel, there are buttons for "+ Expand all", "Refresh", and "Apply Changes".

Links

SW Installation Guide:

- <https://tinyurl.com/SwInstallationGuide>

SW Owner's Guide:

- <https://tinyurl.com/SwOwnersGuide>

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>