EG4 ELECTRONICS

EG4 MONITOR CENTER

WEEKLY SETTINGS GUIDE

PURPOSE

This document outlines the “Weekly Settings” feature for EG4® hybrid inverter models and explains how to configure these settings, which can be set by the user based on time and days of the week using the EG4 Monitor Center.

OVERVIEW

At EG4, we are committed to continuously improving our products and better serving our customers. As part of that commitment, we are excited to introduce the new Weekly Settings feature in the EG4 Monitoring Center. This feature provides users with greater control over their energy systems by allowing customized settings for each day of the week based on time of day. As energy needs shift over time, the system can now adapt accordingly offering more flexibility, efficiency, and peace of mind.

WHY IT MATTERS

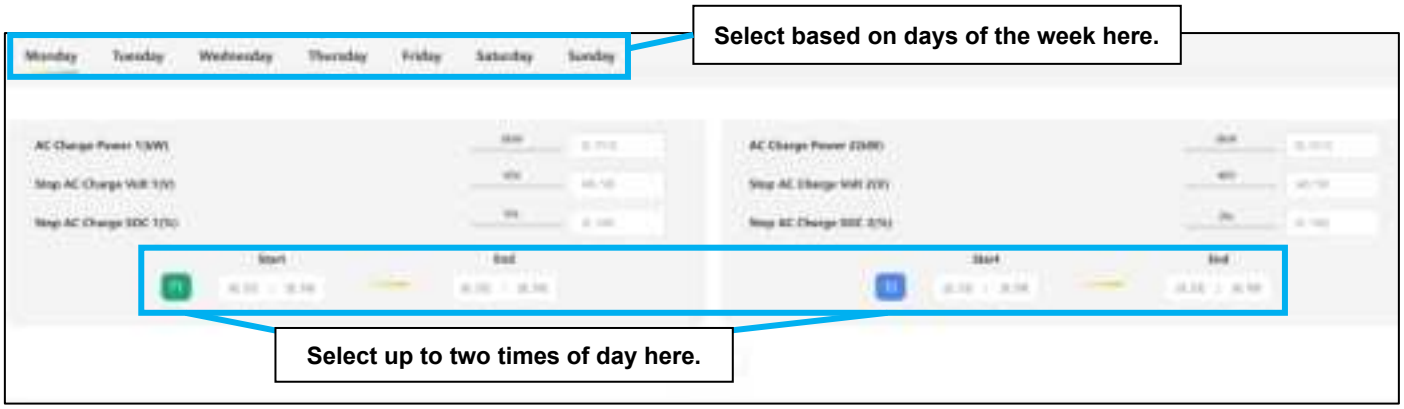
Prior to the release of the Weekly Setting feature, users could configure working modes based on time and other parameters such as SOC. However, simply accessing the working modes available under the maintenance tab does not allow for customized times based on days of the week. In other words, settings according to time prior to this feature would cause that time frame to repeat every day. Weekly Setting allows users to now customize their configuration based on time, per day, per available working modes, giving those users more freedom and control over their system than ever before!

1. INTRODUCTION

By utilizing the new "Weekly Settings" feature, the user can configure the inverter to run in different working modes at different time periods every day, with one week as a cycle.

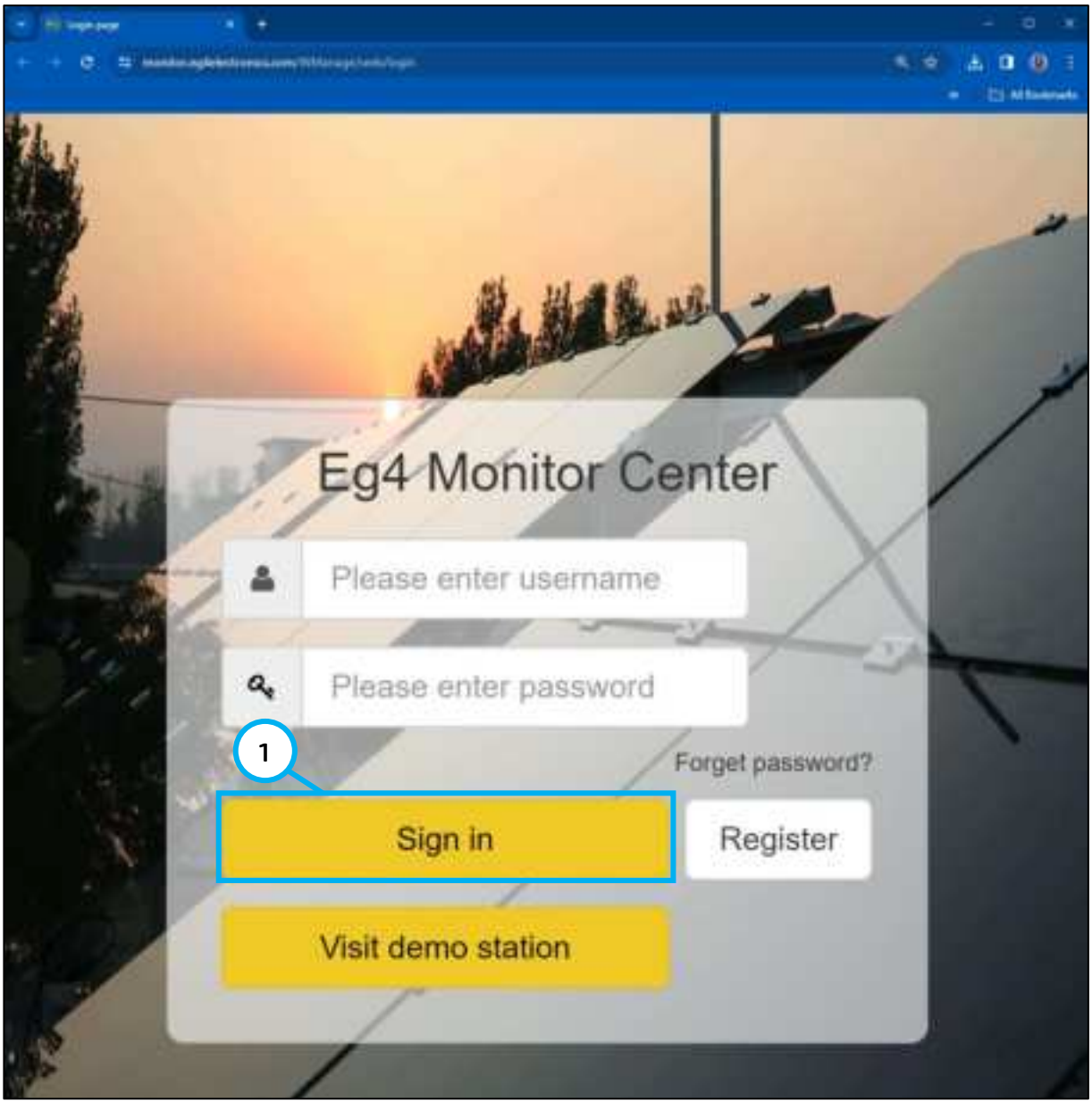
NOTE:

The Weekly Setting feature is only available on hybrid inverters with firmware version FAAB/EAAB-2122 or above. Make sure the inverter firmware is up to date before using the Weekly Settings feature.

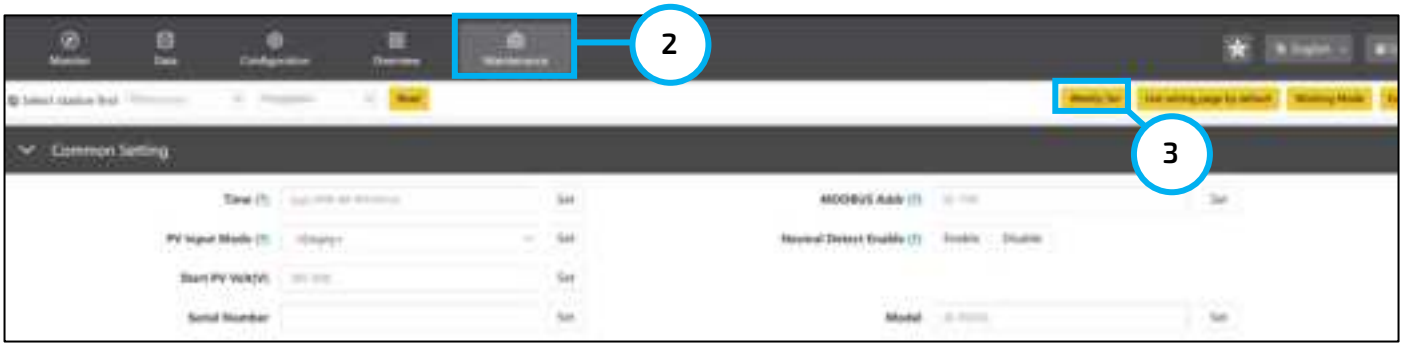


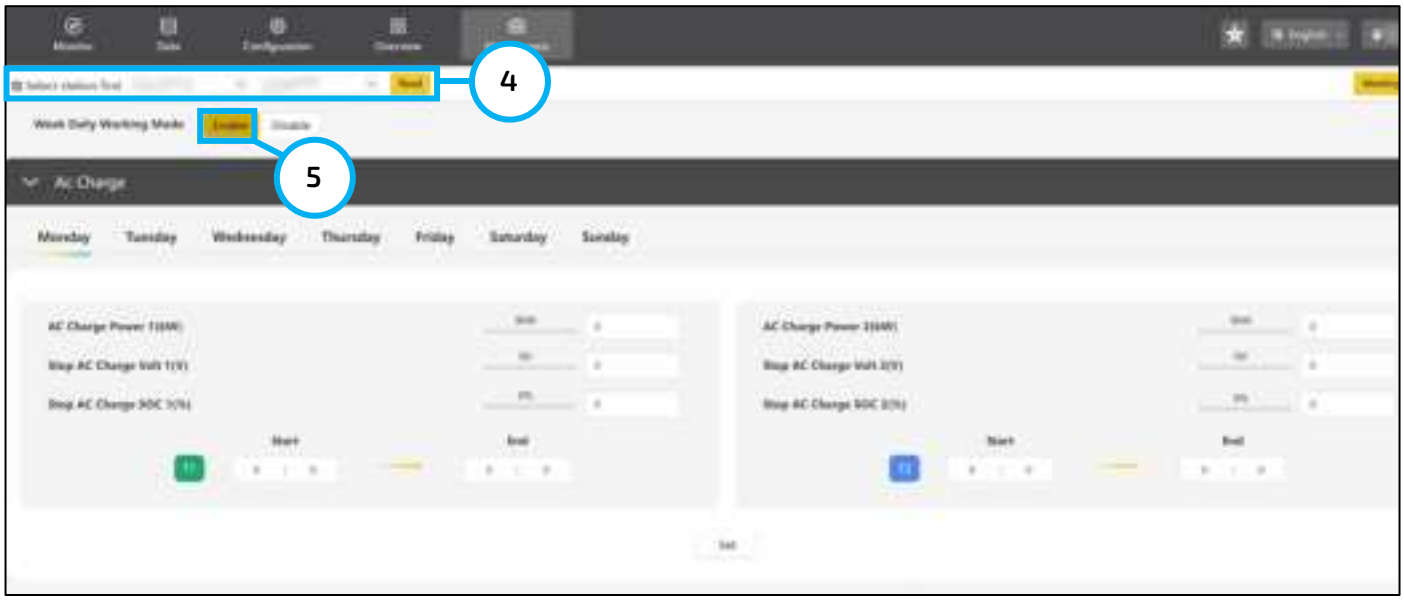
There are four working modes available for Weekly Set: AC Charge, PV Charge First, Force Discharge, and Peak Shaving. Users can set up to two time periods per day, per working mode. Weekly settings will take priority over other monitor center settings which are set up outside of the Weekly Settings feature. For instance, if users set up a specific working mode manually from the maintenance/working modes section and then set that same working mode for a specific day in Weekly Settings, the weekly set will take priority regardless of the settings configured in other areas of the Monitor Center.

1.1 ENABLING THE WEEKLY SET FEATURE



Step 1: Log in to the EG4® Monitor Center.
URL: https://monitor.eg4electronics.com/WManage/web/login





Step 2: Select “Maintenance”.

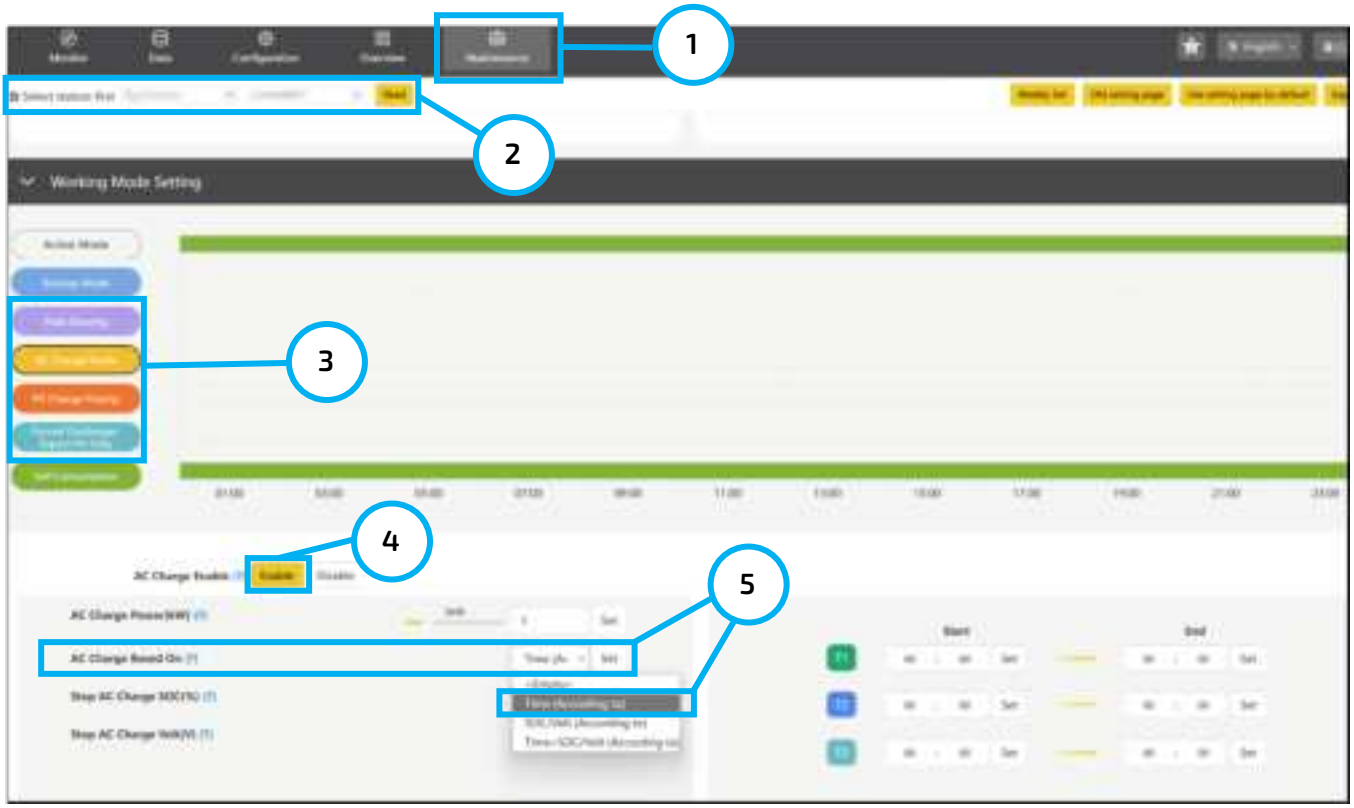
Step 3: Choose “Weekly Set” to enter the settings interface.

Step 4: Choose the correct station and select "Read" to refresh and view current settings.

Step 5: Select whether to “Enable” or “Disable” the feature.

1.2 CONFIGURING THE WEEKLY SETTINGS FEATURE

Before using “Weekly Set,” please note that the specific working mode needs to be enabled in the “Working Mode Setting” interface, as well as time-based configuration, as shown in the figure below. Please be aware that Weekly Setting can only be set by navigating back to the “Maintenance” tab.



Step 1: Navigate to the Maintenance Tab by selecting the corresponding tab at the top.

Step 2: Choose the correct station and select "Read" to refresh and view current settings.

Step 3: Select the desired working mode.

Step 4: Select “Enable” to allow the specific working mode to operate. Selecting “Disable” will prevent weekly set from operating properly with that working mode.

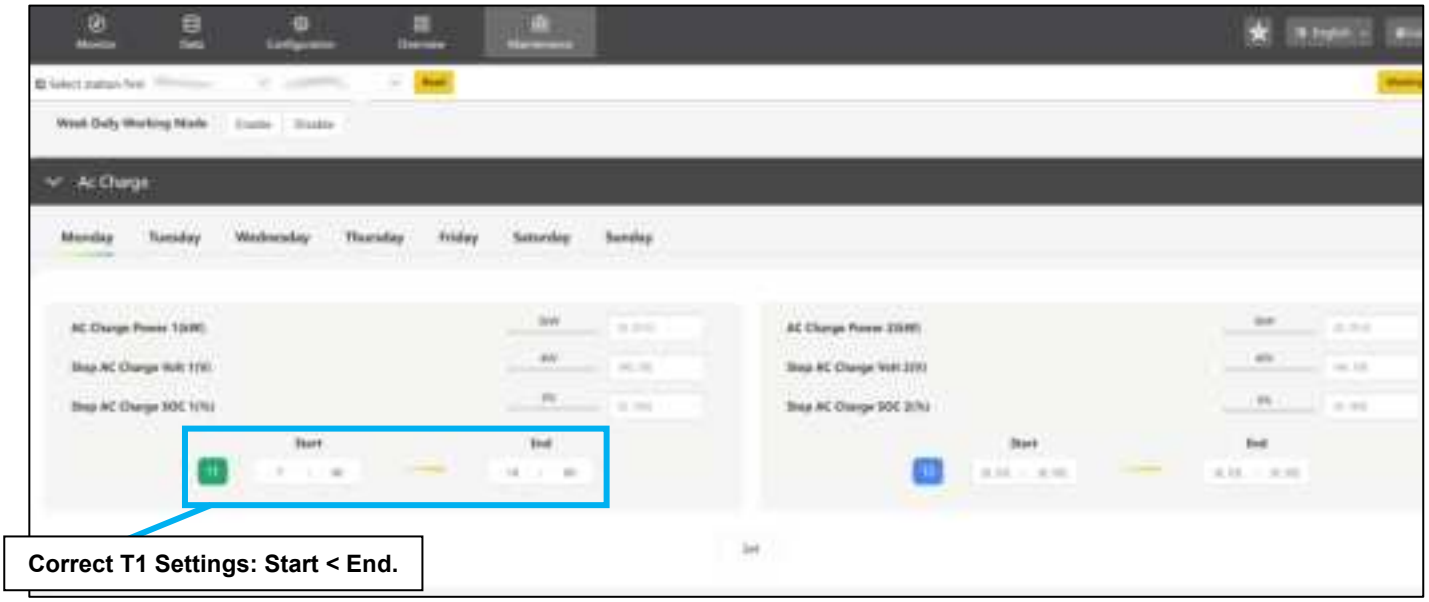
Step 5: Select the dropdown menu and choose “Time (According to)” to enable time-based configuration.

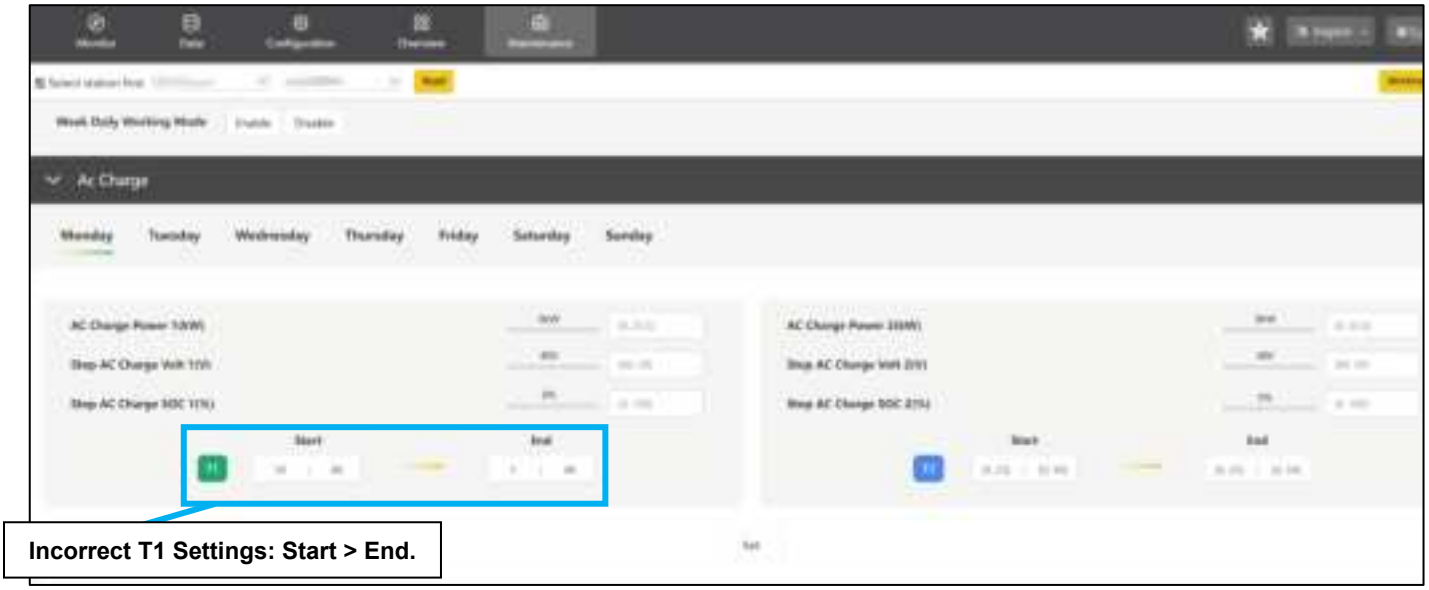
NOTE:

Please note that “Time (According to)” must bet set in the Working Modes section, as Weekly Settings should not be configured using “SOC/Volt (According)”, nor a combination of “Time+SOC/Volt (According).” Weekly Set is a time-based feature.

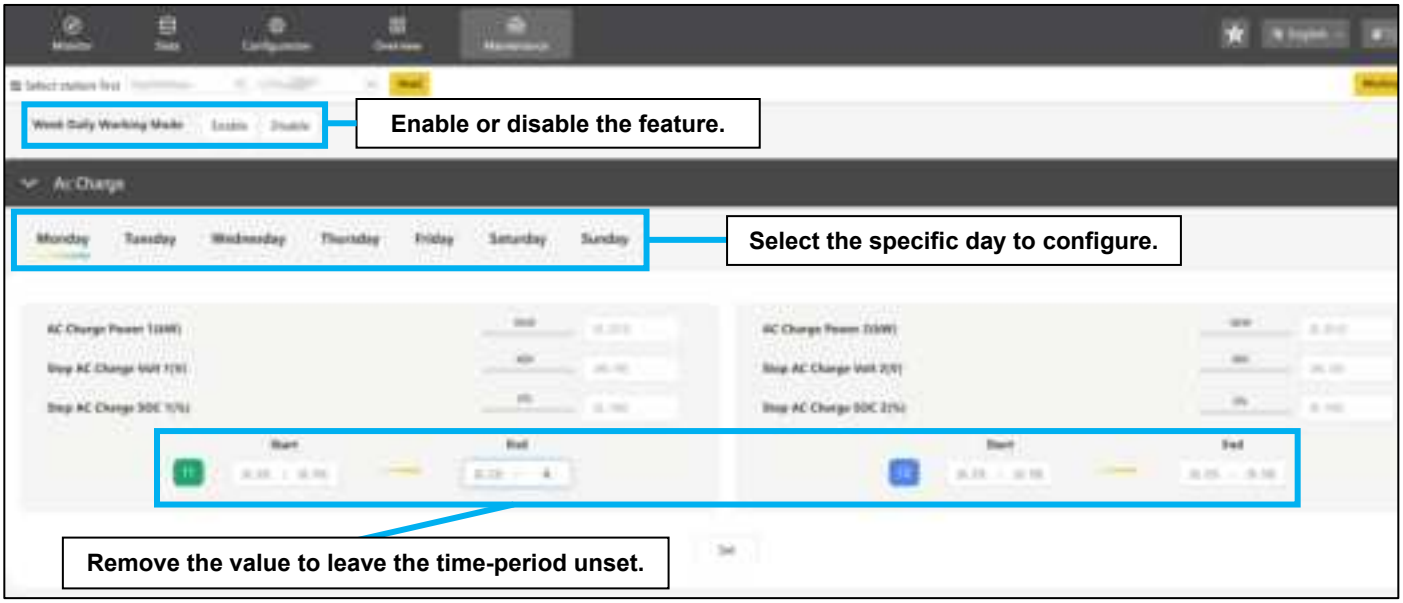
WEEKLY SETTINGS EXPLAINED:

- From the “Weekly Set” menu, the “Start” time must be less than the “End” time, and only the selected day’s value can be set.





- There are up to two time periods per working mode that are configurable.
- If two time periods are set to overlap, time period 1 (shown as “T1” in the figure below) will take priority over time period 2 (shown as “T2” in the figure below).
- The working mode may remain unset for an entire day by removing the time value for that specific day.



When the weekly setting is enabled, the priorities for the functions are:

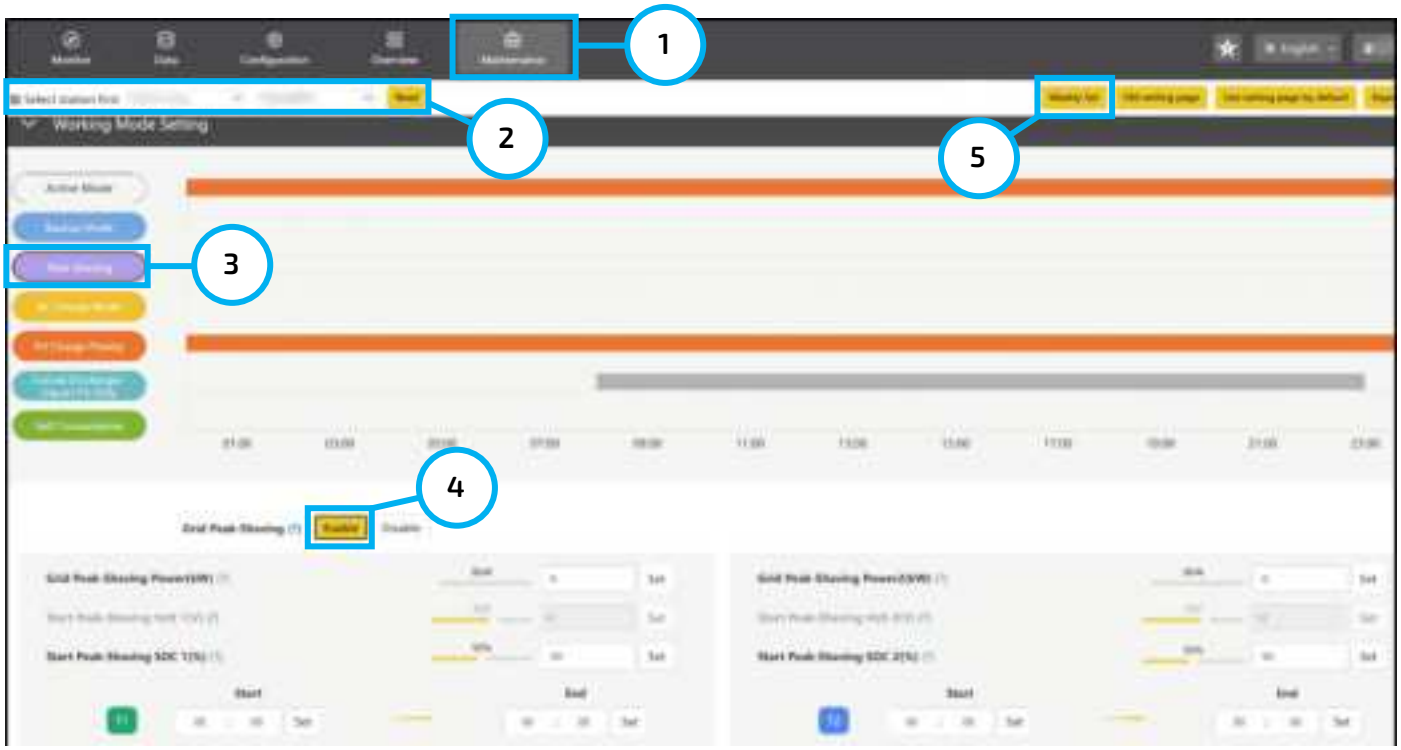
Weekly Peak Shaving > Backup Mode > Weekly AC Charge > Weekly PV Priority > Weekly Force Discharge.

Weekly Peak Shaving takes priority over the other three working modes that are configurable in the Weekly Set feature. Likewise, Weekly Force Discharge is out prioritized by the other three working modes.

2. WORKING MODE SETTINGS

The following scenarios describe each working mode associated with Weekly Settings, the steps needed to configure each, and a brief description of how each settings correlate.

2.1 PEAK SHAVING



Peak Shaving: The user can define a timeframe of when the system will compensate for the power pulled from the grid for loads during peak demand times to avoid higher electricity rates.

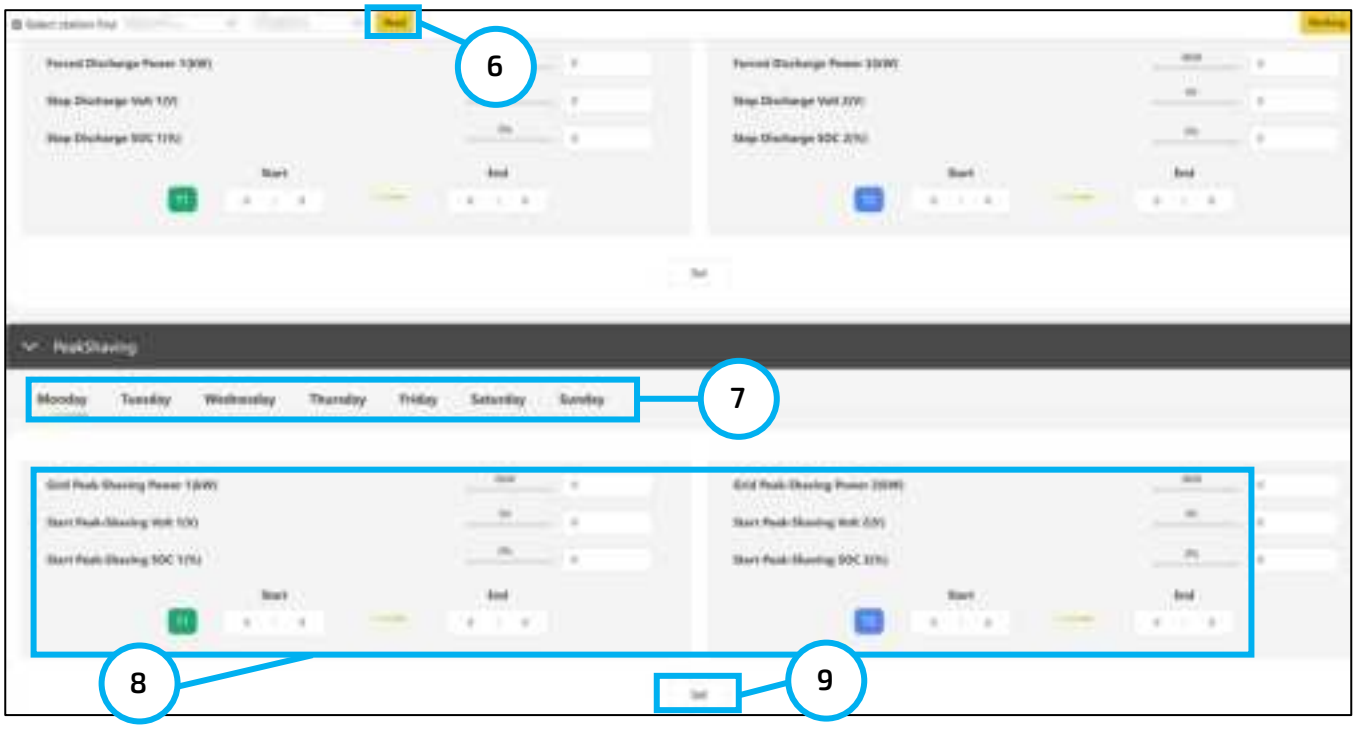
Step 1: Select the “Maintenance” tab and navigate to the Working Mode Settings.

Step 2: Choose the correct station and select "Read" to refresh and view current settings.

Step 3: Select “Peak Shaving”.

Step 4: Choose "Enable" to activate the feature.

Step 5: Navigate to the Weekly Set menu by selecting the “Weekly Set” button.



Step 6: Select “Read” to refresh and view current settings.

Step 7: Select the specific day of the week to configure.

Step 8: Set the specific working mode settings based on desired configuration.

Step 9: Select “Set” to complete the weekly set for that day for the chosen working mode.

NOTE:

The functions will not engage until the "Set" button is selected.

PEAK SHAVING SETTINGS EXPLAINED:

Grid Peak-Shaving Power (kW): Set the maximum amount of power that will be drawn from the grid. The input value should be ≤ 25.5kW

Start Peak-Shaving Volt (V): Set the starting point of peak-shaving when using voltage setpoints for batteries. The input value must be ≥ 40V and ≤ 59V and input value must be > On-Grid Cut-Off Volt(V).

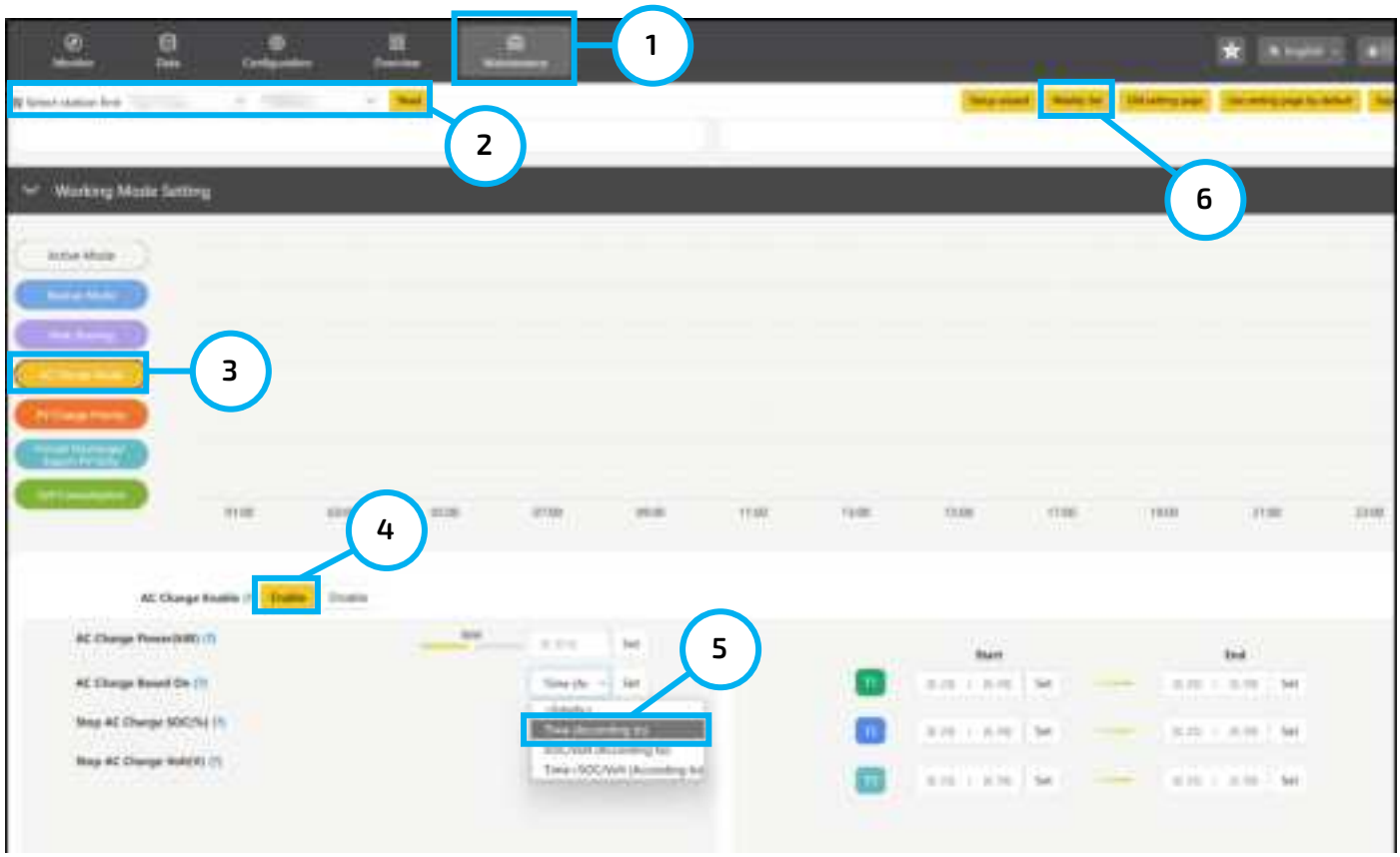
Start Peak-Shaving SOC (%): Set the starting point of peak-shaving when using SOC setpoints for batteries. The input value must be ≤ 100%, and input value ≤ On-Grid Cut-Off SOC(V).

Time (T1 and T2): Set the start/end time of peak-shaving depending on SOC/voltage as configured above. The Start time must be < the End time, and the range may be 00:00–23:59.

NOTE:

The charge/discharge power must be set according to the specifications on the nameplate on the side of the inverter.

2.2 AC CHARGE



AC Charge Mode: Allows the grid to both charge batteries and power loads.

Step 1: Select the “Maintenance” tab and navigate to the Working Mode Settings.

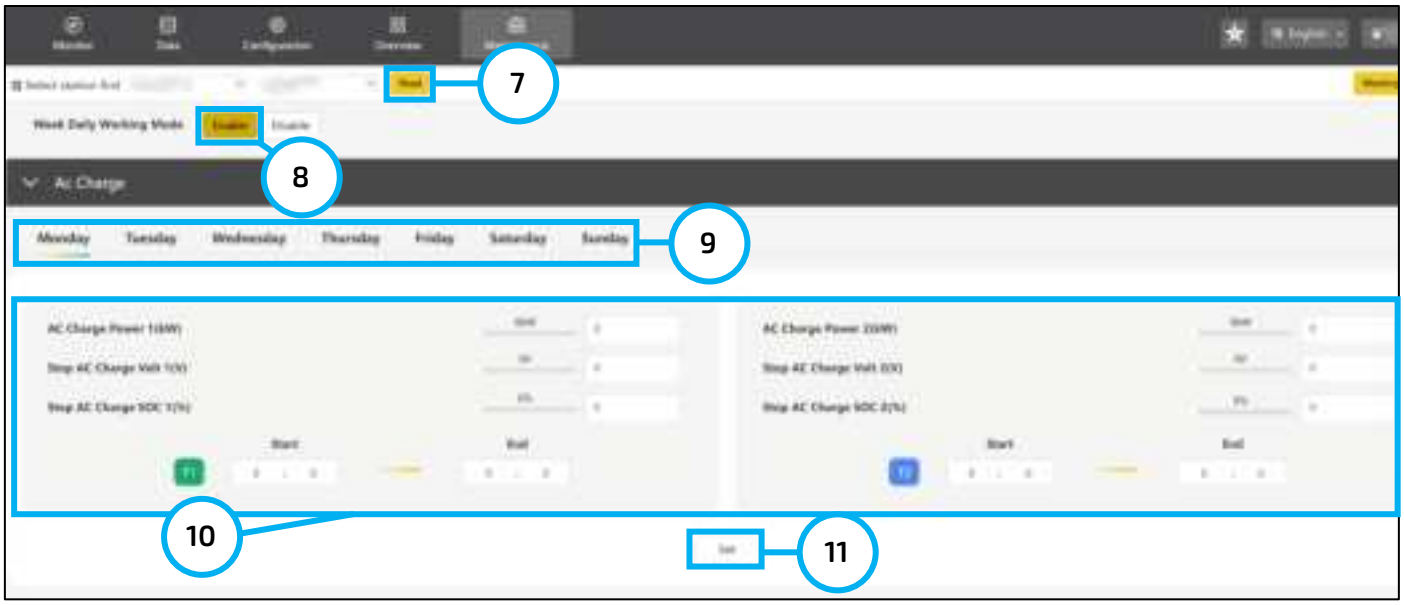
Step 2: Choose the correct station and select "Read" to refresh and view current settings.

Step 3: Select “AC Charge Mode”.

Step 4: Choose "Enable" to activate the feature.

Step 5: From the dropdown menu, select “Time (According to)” to allow time configuration.

Step 6: Navigate to the Weekly Set menu by selecting the “Weekly Set” button.



Step 7: Select “Read” to refresh and view current settings.

Step 8: Choose “Enable” or else the feature will not operate.

Step 9: Select the specific day of the week to be configured.

Step 10: Set the specific working mode settings based on desired configuration.

Step 11: Select “Set” to complete the weekly set for that day for the chosen working mode.

NOTE:

The functions will not engage until the "Set" button is selected.

AC CHARGE SETTINGS EXPLAINED

AC Charge Power (kW): Set the maximum power drawn from the grid to charge batteries.

The input value must be ≤ the rated maximum charging power.

Stop AC Charge Volt (V): Set the starting point of AC Charging when using voltage setpoints for batteries. The input value > the Start AC Charge Volt (V), and the input value must also be between 48V and 59V.

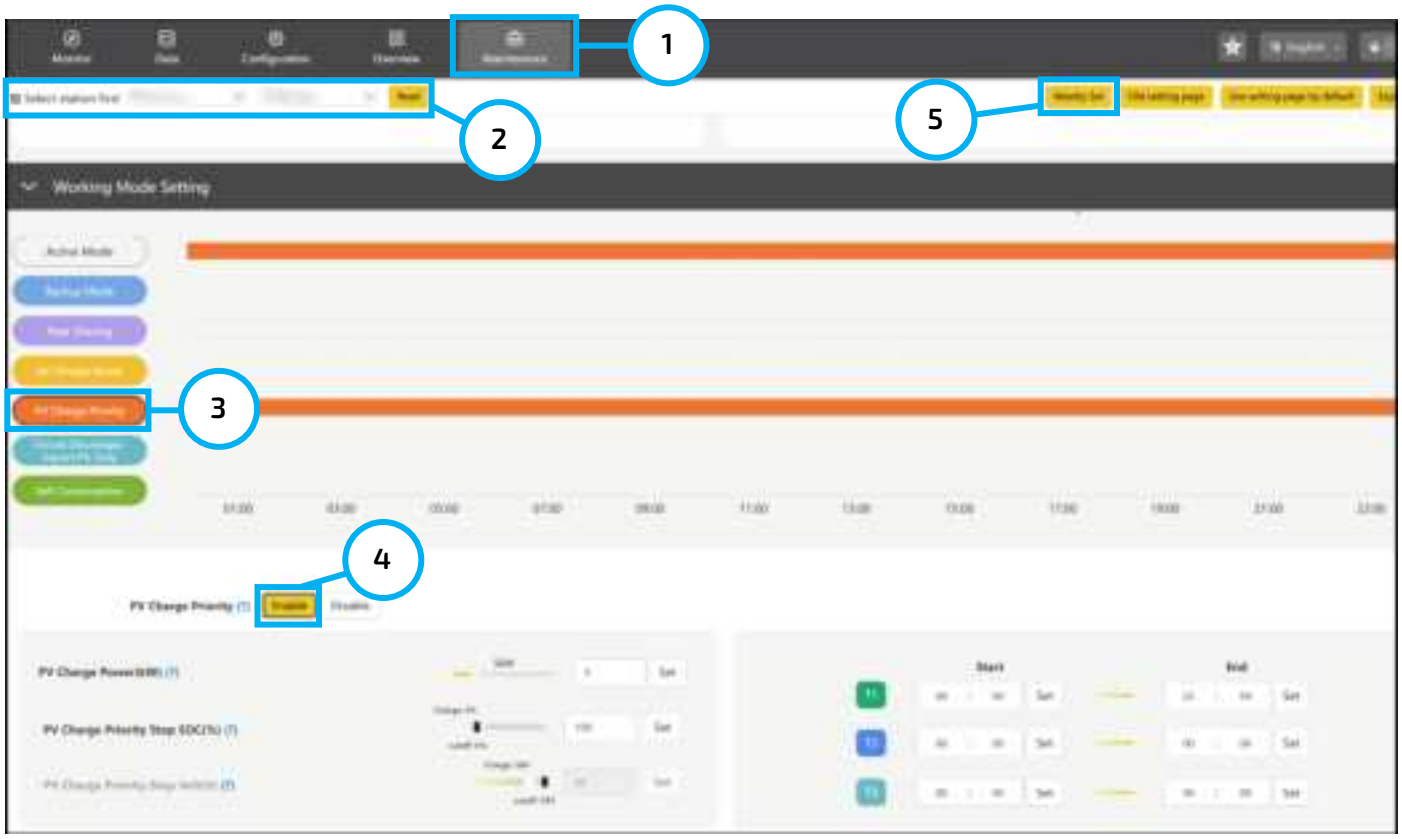
Stop AC Charge SOC (%): Set the starting point of AC Charging when using SOC setpoints for batteries. The input value must be > Start AC Charge SOC (%), and ≤ 100%.

Time (T1 and T2): Set the start/end time of AC Charge mode depending on SOC/voltage as configured above. The value of the Start time must be < the End time, and the range may be 00:00–23:59.

NOTE:

The charge/discharge power must be set according to the specifications on the nameplate on the side of the inverter.

2.3 PV CHARGE PRIORITY



PV Charge Priority: Prioritizes PV power to charge batteries first. The order of priority for solar power usage will be Battery > Load > Grid. During the “PV Charge Priority” period, loads are first supplied power from the grid. If there is excess solar power after charging batteries, the excess solar will power the loads along with grid power.

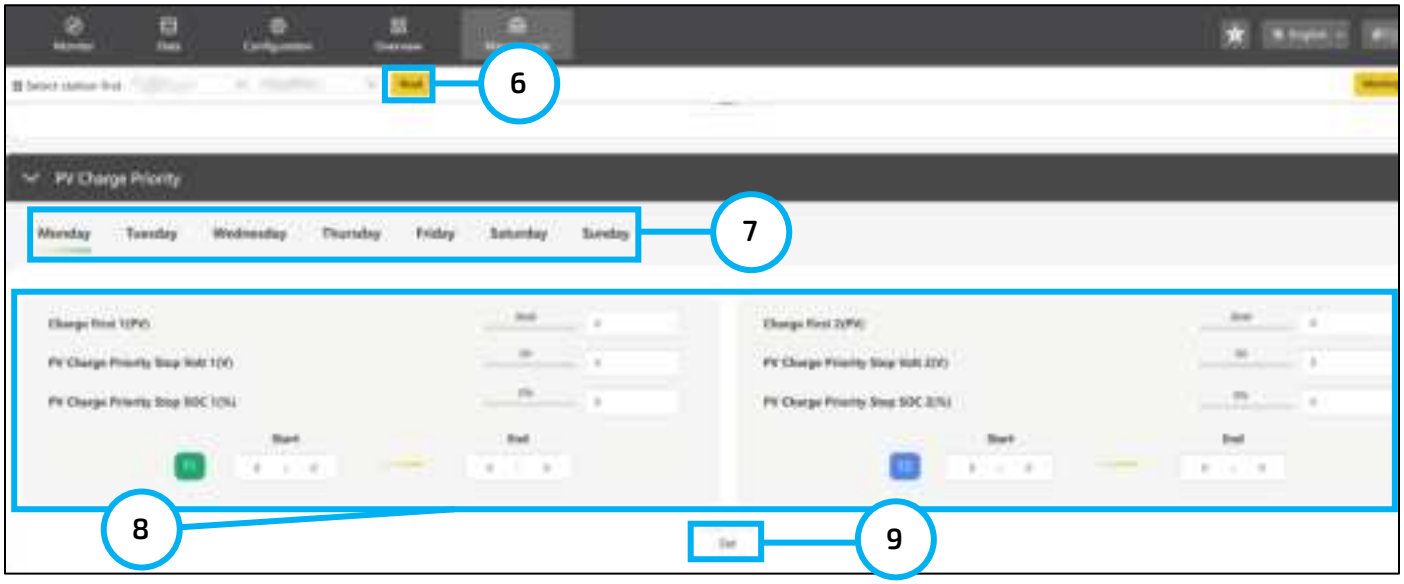
Step 1: Select the “Maintenance” tab and navigate to the Working Modes Settings.

Step 2: Choose the correct station and select "Read" to refresh and view current settings.

Step 3: Select “PV Charge Priority”.

Step 4: Choose "Enable" to activate the feature.

Step 5: Navigate to the Weekly Set menu by selecting the “Weekly Set” button.



Step 6: Select “Read” to refresh and view current settings.

Step 7: Select the specific day of the week to be configured.

Step 8: Set the specific working mode settings based on desired configuration.

Step 9: Select “Set” to complete the weekly set for that day for the chosen working mode.

NOTE:

The functions will not engage until the "Set" button is selected.

PV CHARGE PRIORITY SETTINGS EXPLAINED:

Charge First Power (PV): Set the maximum amount of power to charge the batteries from solar. The input value must be ≤ the rated maximum charging power.

Stop Charge First Volt (V): Set the stop point for PV Charge Priority according to voltage. The input value must be ≥ 40V and ≤ 59V.

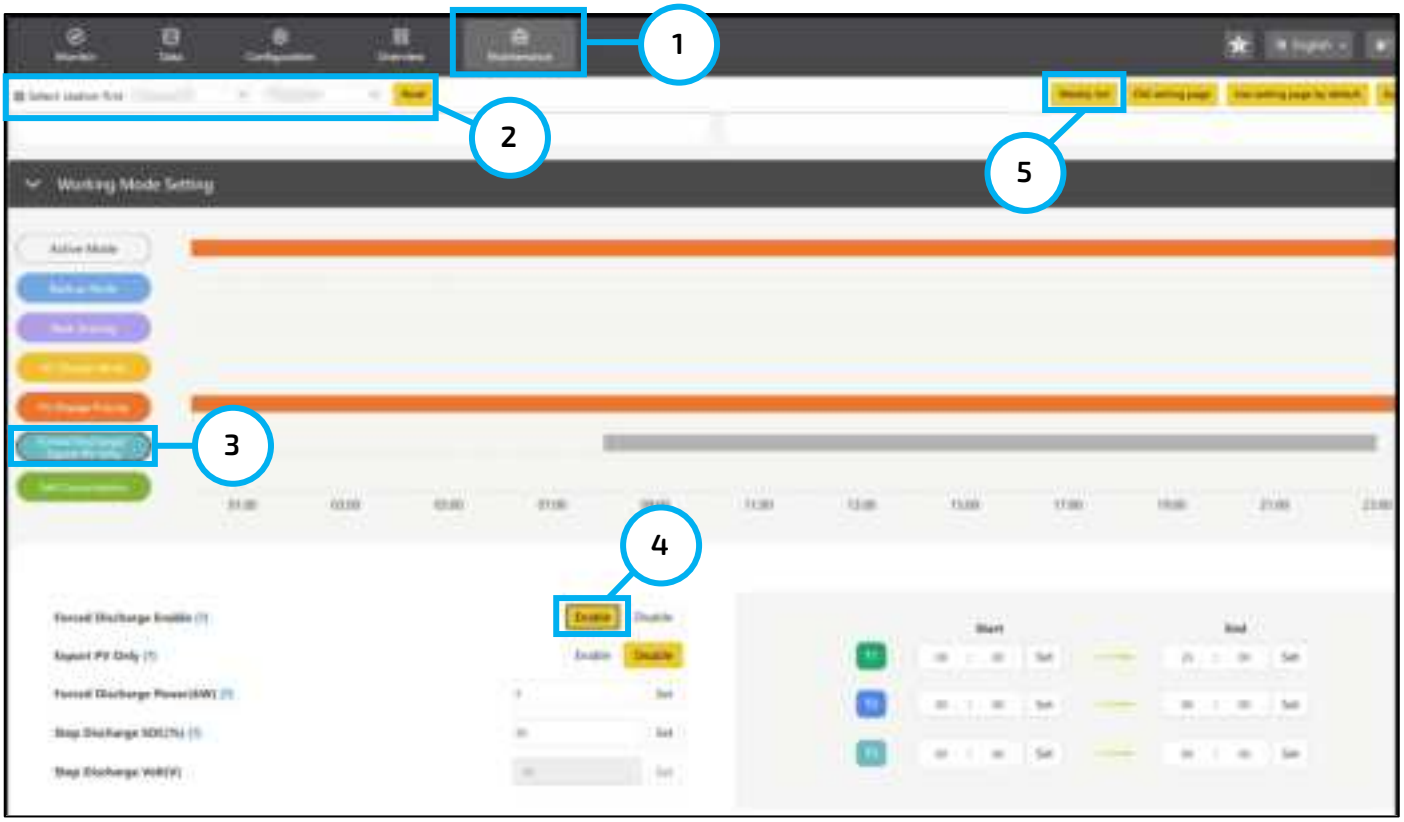
Stop Charge First SOC (%): Set the stop point for PV Charge Priority according to SOC. The input value must be ≤ 100%.

Time (T1 and T2): Set the start/end time of PV Charge Priority depending on SOC/voltage as configured above. The value of the Start time must be < the End time, and the range may be 00:00–23:59.

NOTE:

The charge/discharge power must be set according to the specifications on the nameplate on the side of the inverter.

2.4 FORCED DISCHARGE



Forced Discharge: Forced discharge prioritizes battery power for powering loads and grid sell back.

Step 1: Select the “Maintenance” tab and navigate to the Working Modes Settings.

Step 2: Choose the correct station and select "Read" to refresh and view current settings.

Step 3: Select “Forced Discharge/Export PV Only”.

Step 4: Choose "Enable" to activate the feature.

Step 5: Navigate to the Weekly Set menu by selecting the “Weekly Set” button.

Step 6: Select “Read” to refresh and view current settings.

Step 7: Select the specific day of the week to be configured.

Step 8: Set the specific working mode settings based on desired configuration.

Step 9: Select “Set” to complete the weekly set for that day for the chosen working mode.

NOTE:

The functions will not engage until the "Set" button is selected.

FORCED DISCHARGE SETTINGS EXPLAINED:

Force Discharge Power (kW): Set the maximum power limit of battery discharge. The input value must be ≤ the rated maximum charging power.

Stop Discharge Volt (V): Stop the forced discharge upon reaching the set voltage point.

The input value must be ≥ 40V and ≤ 59V.

Stop Discharge First SOC (%): Stop the forced discharge upon reaching the set SOC point. The input value must be ≤ 100%.

Time (T1 and T2): Set T1 & T2 Start and Stop times for the Force Discharge/Export PV Only working mode. The Start time must be < the End time, and the range should be 00:00 – 23:59.

NOTE:

The charge/discharge power must be set according to the specifications on the nameplate on the side of the inverter.

3. EXAMPLE CONFIGURATIONS

Forced Discharge Mode:
In this first example, imagine that the system has enough PV input to have excess power after the batteries are fully charged during midday. By enabling force discharge on a selected day, the customer can sell excess power back to the grid. In this example, the user wants to sell back to the grid from 1:00 pm – 3:00 pm Monday through Friday only, leaving the weekends open for a bit more personal consumption. They want to sell back at a rate of 2kW per hour, and do not want to allow their battery bank to fall below 80% SOC or 50V.

The following values correspond to those found in the Weekly Set section, under the Forced Discharge settings:

Working Mode Enabled: Forced Discharge
Day(s) Selected: Monday – Friday
Force Discharge Power 1 (kW) Value: 2kW
Stop Discharge Volt 1 (V) Value: 50V
Stop Discharge SOC1 (%) Value: 80%
Time Selected: (T1) 13:00 – 15:00

NOTE:

EG4 recommends disabling the AC Charge working mode when using Forced Discharge to avoid a charge/discharge loop.

AC Charge Mode:
In this next example, the system operates in an area with low-cost off-peak hours. From 10:00 pm – 6:00 am each weekday customers receive extremely lost cost rates from the utility. Weekends, however, do not share these discounted rates. This is a great time to take advantage of the weekly set feature to set up AC Charge mode to help keep batteries fully charged and even power loads throughout the night using cheap utility power. The end user would want to configure the Weekly Setting to apply the AC Charge working mode every weekday from 10:00 pm – 6:00 am and keep their batteries topped off. They would also set the max charge rate to 5kW.

The following values correspond to those found in the Weekly Set section, under the AC Charge settings:

Working Mode Enabled: AC Charge
Day(s) Selected: Monday – Friday
AC Charge Power 1 (kW) Value: 5kW
Stop AC Charge Volt 1(V) Value: 54 – 56V
Stop AC Charge SOC 1(%) Value: 100%
Time Selected: (T1) 22:00 – 06:00

NOTE:

SOC and battery voltage do not directly correlate. Consider the best practice for a particular system based on system needs.

CONTACT US

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