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.

		Select based on days of the week here.	
Monday Tuesday Wednesday Thursda	/ Friday Saturday Sunday	,,	
AC Charge Power 1(kW)	0kW [0, 25.5]	AC Charge Power 2(kW)	0kW [0, 25.5]
Stop AC Charge Volt 1(V)	40V [40, 59]	Stop AC Charge Volt 2(V)	40V [40, 59]
Stop AC Charge SOC 1(%)	0% [0, 100]	Stop AC Charge SOC 2(%)	0% [0, 100]
Start	End	Start	End
T1 [0, 23] : [0, 59]	[0, 23] : [0, 59]	T2 [0, 23] : [0, 59]	[0, 23] : [0, 59]
Selec	ct up to two times of day here	».	

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: <u>https://monitor.eg4electronics.com/WManage/web/login</u>

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Select station first	Read			Weekly Set	Use setting page by default	Working Mode Ex
✓ Common Setting					3	
Time (?)	yyyy-MM-dd HH:mm:ss	Set	MODBUS Addr (?)	[0, 150]	Set	
PV Input Mode (?)	<empty></empty>	Set	Neutral Detect Enable (?)	Enable Disable		
Start PV Volt(V)	[90, 500]	Set				
Serial Number		Set	Model	[0, 65535]	Set	
Monitor Data Confic Select station first Week Daily Working Mode Enable Ac Charge Monday Tuesday Wednesda	ay Thursday Friday Saturd	ay Sunday				Working
AC Charge Power 1(kW)	Okv	0	AC Charge Power 2(kW)		OkW	0
Stop AC Charge Volt 1(V)	09	0	Stop AC Charge Volt 2(V)		00	0
Stop AC Charge SOC 1(%)		0	Stop AC Charge SOC 2(%)			0
T1 0	Start End : 0 0 :	0	T2	0 : 0	0 : 0	
		Set				

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.

Ø € ۞ 88 Monitor Data Configuration Overview	ස් Maintenance	1					🖈 🔯 English	•
Z Select station first 🛛 🗸 Read					Weekly Set	Old setting page	Use setting page by de	fault Exp
✓ Working Mode Setting	2							
Active Mode								
Backup Mode								
Peak Shaving								
AC Charge Mode								
PV Charge Priority								
Forced Discharge/ Export PV Only								
Self Consumption 01:00 03:00 05:00	07:00 09:00	11:00	13:00	15:00	17:00	19:00	21:00	23:00
(4)		\sim						
AC Charge Enable (?) Enable Disable		5						
AC Charge Power(kW) (?)	V 5 Set	\sim		Start			End	
AC Charge Based On (?)	Time (Ac 🗸 Set		т	00 : 00 Se	t	- 00 :	00 Set	
Stop AC Charge SOC(%) (?)	<pre><empty> Time (According to)</empty></pre>		T2	00 : 00 Se	t	- 00 :	00 Set	
Stop AC Charge Volt(V) (?)	SUC/Volt (According to) Time+SOC/Volt (Accord	ing to)	ТЗ	00 : 00 Se	t	- 00 :	00 Set	

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.

Ø Monitor) Data	ö Configuration	88 Overview	টি Maintenance			* 3	English - C
Select station first	(The state of the	v	Read					Workin
Week Daily Wor	king Mode	Enable Disable	Enable	e or disab	le the feature.			
 Ac Charge 								
Monday	Tuesday	Wednesday Thu	ırsday Friday	Saturday	Sunday	Select the specific day to configure.		
							_	
AC Charge Po	wer 1(kW)			0kW	[0, 25.5]	AC Charge Power 2(kW)	0kW	[0, 25.5]
Stop AC Charg	ge Volt 1(V)			40V	[40, 59]	Stop AC Charge Volt 2(V)	40V	[40, 59]
Stop AC Charg	ge SOC 1(%)			0%	[0, 100]	Stop AC Charge SOC 2(%)	0%	[0, 100]
	T	Start [0, 23] : [0, 59]		End [0, 23] : A)	Start 12 [0, 23] : [0, 59]	End	
Rer	nove th	ne value to le	eave the tir	ne-period	unset.	t		

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.

Select station first			Working
Forced Discharge Power 1(kW)	6	Forced Discharge Power 2(kW)	0kW 0
Stop Discharge Volt 1(V)	0	Stop Discharge Volt 2(V)	0V 0
Stop Discharge SOC 1(%)	0% 0	Stop Discharge SOC 2(%)	0% 0
Start T1 0 : 0	End 0 : 0	Start 12 0 : 0	End 0 : 0
	S	at .	
 PeakShaving 			
Monday Tuesday Wednesday Thursday Friday	Saturday Sunday	7	
	OkW		OKW
Grid Peak-Shaving Power 1(kW)	0	Grid Peak-Shaving Power 2(kW)	0V
Start Peak-Shaving Volt 1(V)	0	Start Peak-Shaving Volt 2(V)	0
Start Peak-Shaving SOC 1(%)	0% 0	Start Peak-Shaving SOC 2(%)	0% 0
Start	End	Start	End
T1 0 : 0	0 : 0	72 0 : 0	0 : 0
8	Si	. 9	

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 ≤ 25.5 kW

Start Peak-Shaving Volt (V): Set the starting point of peak-shaving when using voltage setpoints for batteries. The input value must be \geq 40V and \leq 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 $\leq 100\%$, and input value \leq 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:

2.2 AC CHARGE

Ø 😫 Monitor Data	ලි Configuration	88 Overview	ے Maintenance	- 1					7	🕻 🕅 English	•
Select station first Working Mode Set Active Mode Backup Mode Peak Shaving AC Charge Mode PV Charge Priority	tting	Read	2				Setup wizard	Weekly Set	2kd setting page 1	ise setting page by def	ault Exp
Forced Discharge/ Export PV Only Self Consumption	01:00	03.0 4 05.0 Disable	0 07:00	09:00	11:00	13:00	15:00	17:00	19:00	21:00	23:00
AC Charge Power(k AC Charge Based C Stop AC Charge SO Stop AC Charge Vo	W) (?) In (?) C(%) (?) It(V) (?)	_	0kW (0. 25.5) Time (Ac Comparison of the comparison of the compari	Set Set (According to) (According to) C/Volt (According to)	5	11 12 13	Start (0, 23) : (0, 59) (0, 23) : (0, 59) (0, 23) : (0, 59)	Set	E [0, 23] : [0, 23] : [0, 23] :	nd [0, 59] Set [0, 59] Set [0, 59] Set	

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.

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Select station first Read	(7)	Working
Week Daily Working Mode Enable Disable	\mathbf{O}	
~ Ac Charge		
Monday Tuesday Wednesday Thursday Friday	Saturday Sunday 9	
AC Charge Power 1(kW)	OkW 0 AC Charge Power 2(kW)	0kW 0
Stop AC Charge Volt 1(V)	0V 0 Stop AC Charge Volt 2(V)	0
Stop AC Charge SOC 1(%)	0% 0 Stop AC Charge SOC 2(%)	0% 0
Start	End Start	End
		0:0
10	Set11	

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 \leq 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 \leq 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:

2.3 PV CHARGE PRIORITY

Monitor Data Config	auration Overview	ि Maintenance	1					لا	🕴 English 🕞	۲
Select station first	Read	2				5	Weekly Set Ok	d setting page	Jse setting page by defau	ilt Exp
✓ Working Mode Setting							·			
Active Mode Backup Mode Peak Shaving AC Charge Mode PV Charge Priority 3										
Export PV Only Self Consumption 01:00	03:00 05:0	0 07:00	09:00	11:00	13:00	15:00	17:00	19:00	21:00	23:00
PV Charge Priority (?)	Enable Disable									
PV Charge Power(kW) (?)		5kW 5	Set		T1	Start	Set	23 ;	nd	
PV Charge Priority Stop SOC(%) (?)	Char	ge: 0% 100 utoff: 0% Charge: 56V	Set		T2	00 : 00 !	Set	00 :	00 Set	
PV Charge Priority Stop Volt(V) (?)		cutoff: 59V	Set		ТЗ	00 : 00 !	Set	00 :	00 Set	

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.

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6	300	Workin
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Saturday Sunday	7	
0kW 0	Charge First 2(PV)	0kW 0
0V 0	PV Charge Priority Stop Volt 2(V)	0V 0
0% 0	PV Charge Priority Stop SOC 2(%)	0% 0
End	Start	End
0 : 0	72 0 : 0	0 : 0
	Set 9	
	6 Saturday Sunday 0KW 0 0V 0 0% 0 End 0 : 0	Saturday Sunday 7 OKW 0 Charge First 2(PV) OV 0 PV Charge Priority Stop Volt 2(V) 0% 0 End 0 :: 0 0 12 Start 0 9

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 \leq 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 \geq 40V and \leq 59V.

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

2.4 FORCED DISCHARGE

Monitor Data	🚱 Configuratio	n Overview	D Maintenance	1					🛧 🕅 Englis	h •
Select station first	~	Read						Weekly Set C	Did setting page Use setting page by	v default Ex
			(z)					\prec		
✓ Working Mode Sett	ling							5		
Active Mode										
Backup Mode										
Peak Shaving										
AC Charge Mode										
PV Charge Priority Forced Discharge/										_
Export PV Only Self Consumption										
	01:00	03:00	05:00 07:00	09-00	11:00	13:00	15:00	17:00	19:00 21:00	23:00
				4						
Forced Discharge Enable	: (?)			nable Disable			Start		End	
Export PV Only (?)			E	inable Disable		Т	08 : 00	Set	23 : 00 Set	
Forced Discharge Power	(kW) (?)		5	Set		T2	00 : 00	Set	00 : 00 Set	
Stop Discharge SOC(%)	(?)		20	Set		ТЗ	00 : 00	Set	00 : 00 Set	
Stop Discharge Volt(V)			-10	201						

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.

 한 양 Monitor Data Configuration Overview 	ance		🗙 🕸 English 🗸 🔇
Select station first	6		Working
✓ Forced Discharge			
Monday Tuesday Wednesday Thursday Frida	y Saturday Sunday		
Forced Discharge Power 1(kW)	0kW 0	Forced Discharge Power 2(kW)	0 OkW
Stop Discharge Volt 1(V)	0V 0	Stop Discharge Volt 2(V)	0 V0
Stop Discharge SOC 1(%)	0%	Stop Discharge SOC 2(%)	0%
Start T1 0 : 0	End 0 : 0	Start T2 0 : 0	End 0 : 0
8	S	at 9	

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 \geq 40V and \leq 59V.

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

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:

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.



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