6.2.2 Settings Touchscreens

Selecting the ***Settings*** button on the Homepage UI touchscreen shows the ***Settings Touchscreen*** options (Fig. **6.8**).

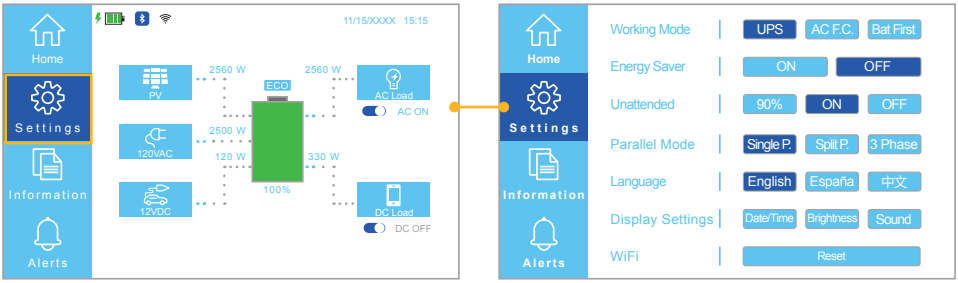

Fig. **6.8** Settings touchscreen

The ***Settings Touchsreen*** displays the setting options for the ***Working Mode, Energy Saver, Unattended Mode, Parallel Mode, Language***, ***Display Settings***, and ***WiFi***. Select the appropriate option to setup the desired settings.

Working Mode Settings

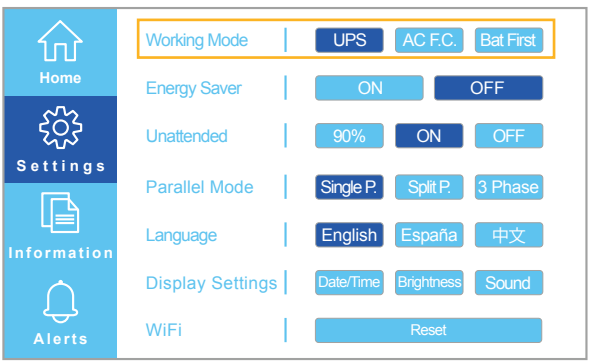

Fig. **6.9** • Working mode settings

The ***Working Mode*** settings option allows you to select the working mode. There are three working modes, these are Uninterruptable Power Supply (UPS - default), AC Fast Charge (AC F.C.), and Battery First (Bat First) (Fig. **6.9**).

Uninterruptable Power Supply (UPS) Mode (default)

Uninterruptable Power Supply (UPS) mode is the units default working mode (Fig. **6.10**).

Important! Uninterruptable Power Supply (UPS) mode, ensures total power draw, including charging and total loads, do **not** exceed rated amperage of utility power source (e.g. consider a standard U.S. wall outlet's current rating of 15A).

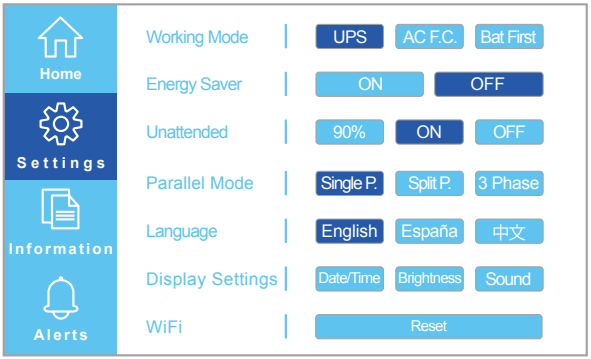

Fig. **6.10** UPS mode settings

The following table (Table **6.1**) shows the power supply priority when the unit is in UPS mode.

Power Supply Priority	Description
1. PV (solar)	PV power is prioritized to charge the battery.
2. Utility	The utility power pass-through powers the Apollo's loads. It also supplements battery charging (600W max) when PV power is insufficient. Total combined input (Utility Pass-Through + Utility Supplemental Charging + Solar Charging) is 7,400W.
3. Battery	The battery power will kick-in when the utility power is OFF, with a delay of <15 ms.

Table **6.1** Power supply priority - UPS mode

AC Fast Charge (AC F.C.) Mode

Important! In ***AC F.C.*** mode, do not exceed the rated limit of the power source. For a standard 15A U.S. wall outlet, the charging power should be programmed to 15A or less. For connections to a higher amperage outlet, such as a 30A outlet, the AC Charging Power could be set higher.

Note: AC Output is disabled in AC Fast Charge Mode. The maximum AC Charging Power Setting screen is disabled if the AC Output switch is set in the ***ON*** position.

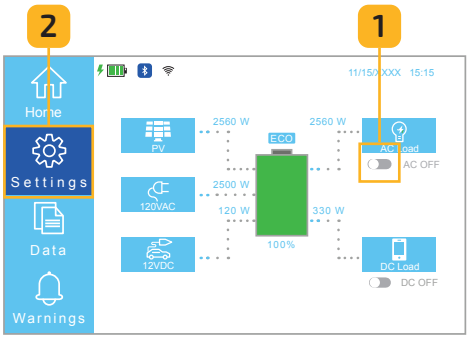

Fig. **6.11** Turn AC output switch OFF

Follow these steps to set the maximum AC power:

1. On the Homepage UI, toggle the ***AC Output*** switch to ***OFF*** (Fig. **6.11**).
2. Select the ***Settings*** button to access the Settings menu.

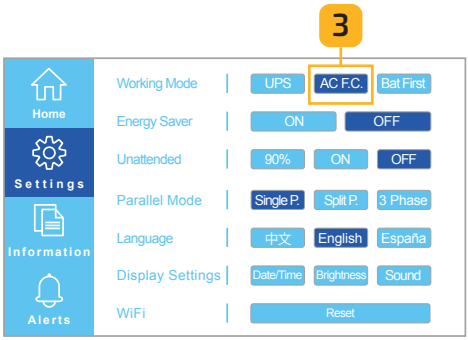

Fig. **6.12** Select AC F.C. button

3. From the Settings menu, select the ***AC F.C.*** button (Fig. **6.12**).

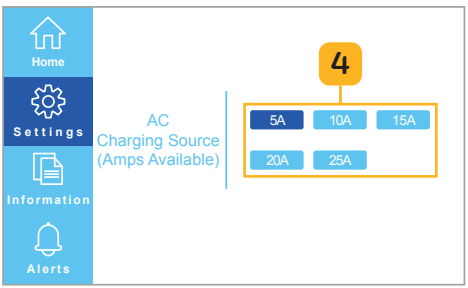

Fig. **6.13** Select maximum AC power

4. Select the available amperage of your ***AC Charging Source*** (Fig. **6.13**). **Note:** AC Input will not exceed the rated amperage of the charging source (Ex. For a standard U.S. Wall Outlet, please select "15A." For a 30A RV Outlet, you may select "25A.")

   Important! Ensure the ***AC Output*** is toggled to the ***OFF*** position.

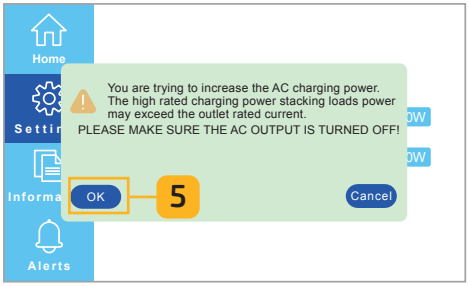

Fig. **6.14** Confirm maximum power

5. Select the ***OK*** button to set the maximum AC power.

The following table (Table **6.2**) shows the power supply priority when the unit is in AC F.C. mode.

Power Supply Priority	Description
1. Utility (AC Input)	The Utility Power charges the battery. **Note:** The utility (AC Input) charging power is programmable for 5A - 25A (600W - 3,000W).
2. PV (solar)	PV power supplements the AC Charging (total combined max 80A (4,400W)).
3. Battery	The battery power will kick-in when the utility power is OFF and the PV power is insufficient.

Table **6.2** Power supply priority - AC F.C. mode

Battery First (Bat First) Mode

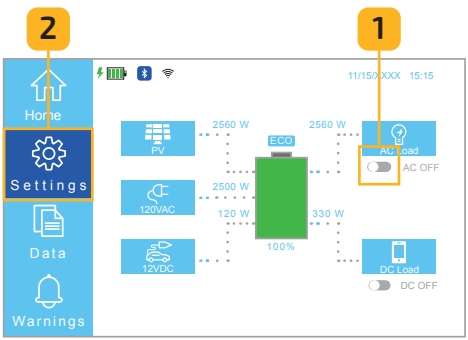

Fig. **6.15** Turn AC output switch OFF

Follow these steps to select the Battery First mode:

1. On the Homepage UI, toggle the ***AC Output*** switch to ***OFF*** (Fig. **6.15**).
2. Select the ***Settings*** button to access the Settings menu.

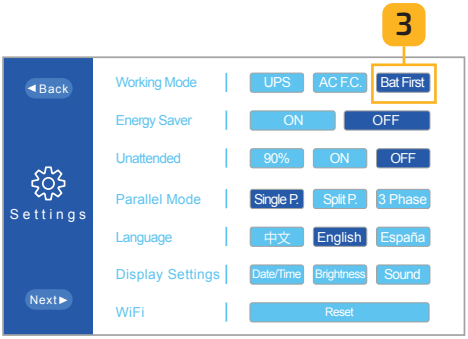

Fig. **6.16** Select bat first button

3. From the Settings menu, select the ***Bat First*** button (Fig. **6.16**).

The following table (Table **6.3**) shows the power supply priority when the unit is in Bat First mode.

Power Supply Priority	Description
1. PV (solar)	PV Power is prioritized to charge the battery.
2. Battery	The battery power will kick-in when the PV power is insufficient.
3. Utility (AC Input)	The utility pass-through powers the loads when both the PV power and the battery power are insufficient. The utility power will not charge the battery.

Table **6.3** Power supply priority - Bat first modes

Energy Saver Mode Settings

Note: The ***Energy Saver*** mode is **not** available for a multi-unit parallel system.

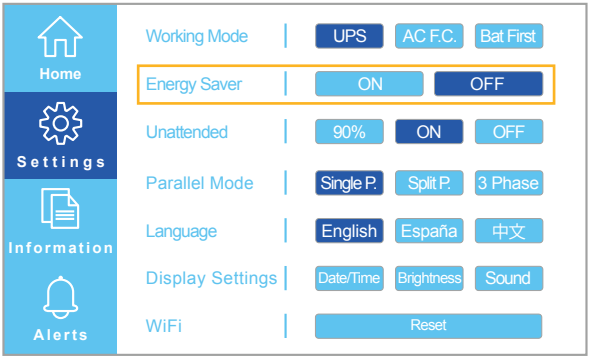

Fig. **6.17** • Energy saver mode settings

When the **Energy Saver** is ***ON***, the Inverter turns off when the load draw is less than 30W. **Note:** Keeping the Inverter shut off ensures the lowest power consumption of the battery bank. The Inverter only turns on when it detects load power greater than 30W. Under the ***Energy Saver*** mode, the AC Input power will **not** charge the battery.

Unattended Mode Settings

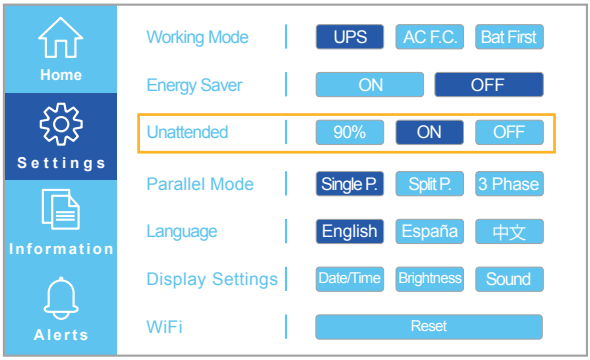

Fig. **6.18** Unattended mode settings

When ***Unattended*** mode is **ON**: if the battery runs out while a solar array is connected, the Apollo will automatically restart the AC Output once the battery charge level reaches the selected auto-start percentage. You may choose an auto-start percentage between 10% - 90%.

Note: If load power may exceed charging power, we recommend selecting an auto-start percentage at or above 50% to optimize battery life.

Follow these steps to choose the Unattended mode setting:

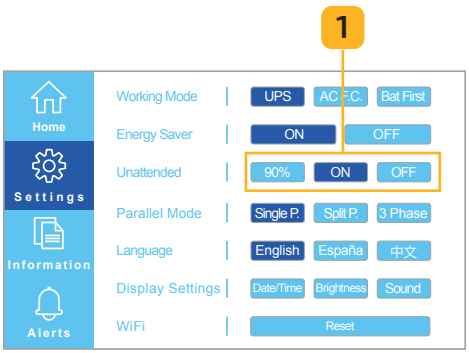

Fig. **6.19** Select unattended mode setting

1. Set the ***Unattended*** mode ***ON*** or ***OFF*** (Fig. **6.19**).

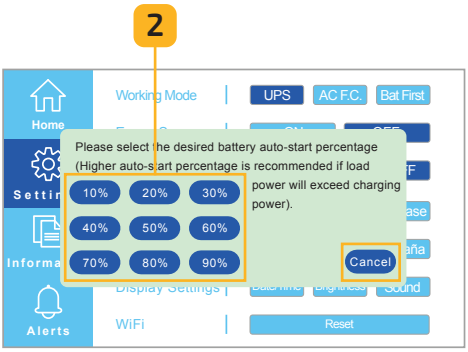

Fig. **6.20** Select auto-start percentage

2. Select the desired battery ***Auto-start*** percentage (Fig. **6.20**).

   Note: Be sure to consider your power consumption while selecting this percentage.

   Click the ***Cancel*** button to return to the ***Settings*** touchscreen without saving the settings.

Parallel Mode Settings

Selecting Parallel mode (Fig. **6.21**) allows you to set the phase of the unit(s). There are three phases to select from. **Note**: Refer to the Apollo 5K Expandability Manual for Parallel mode settings.

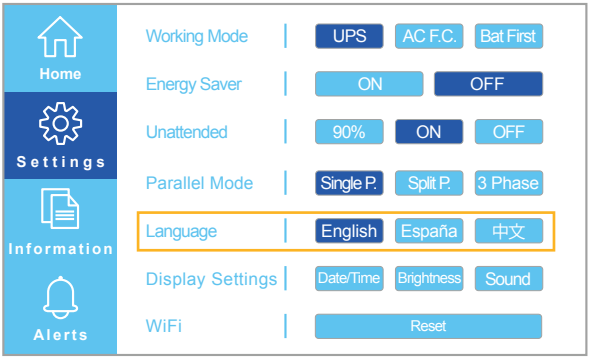

Fig. **6.21** Parallel mode settings

Language Mode Setting

Selecting the Language setting allows you to set the language to English, Spanish, or Chinese (Fig. **6.22**).

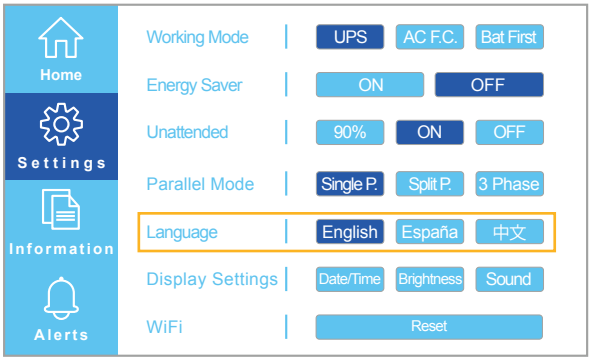

Fig. **6.22** Select language

Display Mode Settings

The Display Settings option allows you to set the ***Date, Time, Brightness,*** and ***Sound*** (Fig. **6.23**).

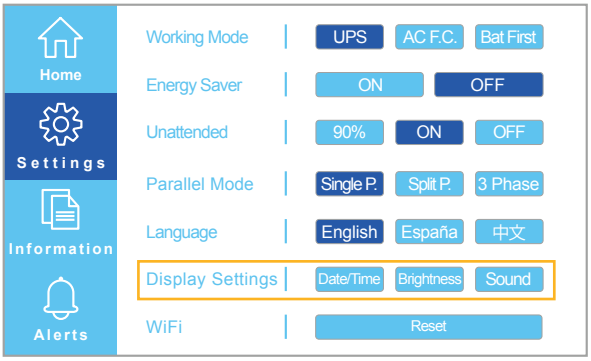

Fig. **6.23** Setup date, time, brightness, and sound

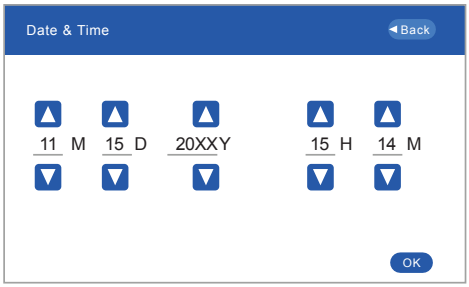

Fig. **6.24** Setup date and time

1. **Selecting Date/Time:**
   Allows you to set the date and time on the unit. Click the up and down arrows to set each setting. Click ***OK*** to confirm or, ***Back*** to cancel (Fig. **6.24**).

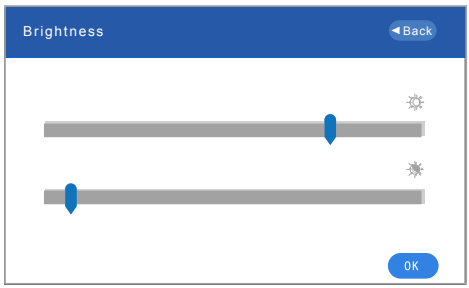

Fig. **6.25** Setup brightness

2. **Selecting Brightness**
   Allows you to set the brightness of the touchscreen The slider with the clear ***sun*** button sets the brightness during operation. The slider with the partially filled ***sun*** button sets the brightness when the unit is on standby (Fig. **6.25**).

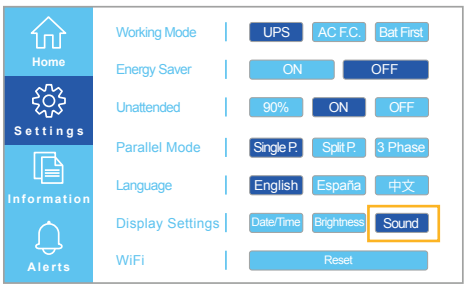

Fig. **6.26** Sound button

3. **Selecting Sound:**
   Turn the sound on or off (Fig. **6.26**).

   Note: The sound is turned ON when the sound button is highlighted.

WiFi Settings

The Apollo 5K can be controlled from anywhere using the Hysolis App. Download the App by searching for “Hysolis” on the App Store or the Google Play Store.

You may need to reset the Apollo 5K WiFi module in some instances if the Apollo 5K loses connection to the WiFi network. In these instances, press the ***Reset*** button to reset the WiFi connection (Fig. **6.27**).

Note: After resetting the WiFi, you will need to reconnect the Apollo 5K to the network via the phone app.

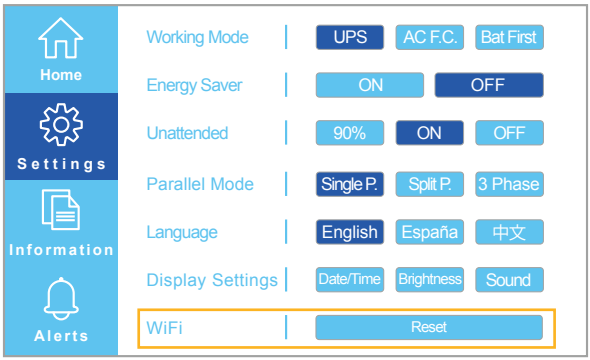

Fig. **6.27** WiFi reset button

6.2.3 Information Touchscreens

Selecting the ***Information*** button (Fig. **6.28**) on the Homepage UI touchscreen opens the Information touchscreen options. The options include information ***About*** the product, the ***Power Generated*** by the different sources, and the ***Alert History***.

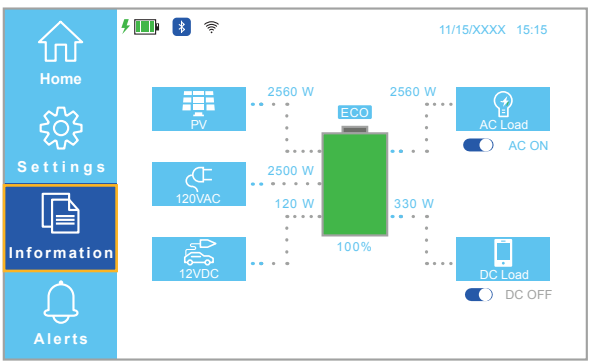

Fig. **6.28** Select information button

About Screen

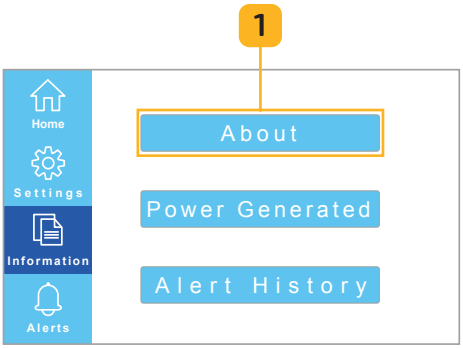

Fig. **6.29** • Select about button

1. Select the ***About*** button to view information about the unit's Hardware Model, Software Version, and General Parameters (Fig. **6.29**).

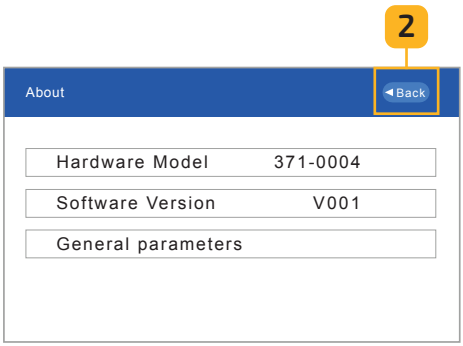

Fig. **6.30** • About screen

2. Click the ***Back*** button to return to the Homepage UI touchscreen (Fig. **6.30**).

Power Generated Screen

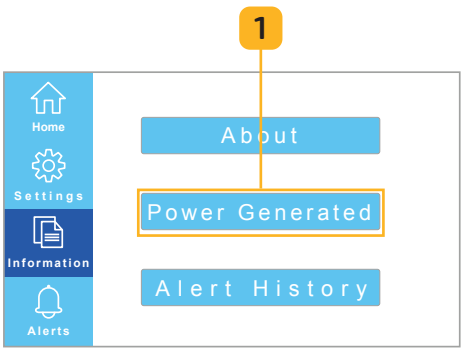

Fig. **6.31** • Select power generated button

1. Select the ***Power Generated*** button to view the total energy generated from the PV, AC, and DC power sources (Fig. **6.31**).

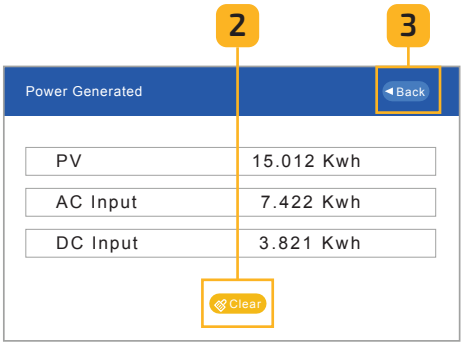

Fig. **6.32** • Power generated screen

2. Click the ***Clear*** button to clear power generation history (Fig. **6.32**).
3. Click the ***Back*** button to return to the Homepage UI touchscreen.

Alert History Screen

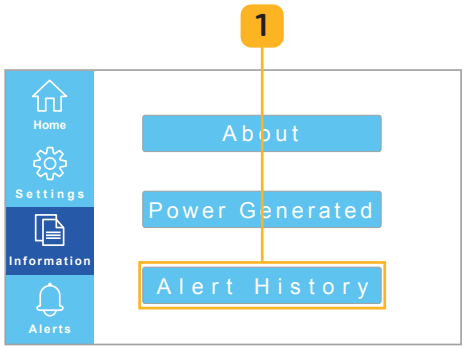

Fig. **6.33** • Select power generated button

1. Select the ***Alert History*** button to view the alert history details (Fig. **6.33**).

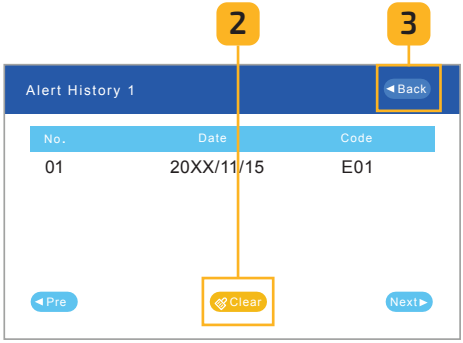

Fig. **6.34** Alert history screen

2. Click the ***Clear*** button to clear alert history (Fig. **6.34**).
3. Click the ***Back*** button to return to the Homepage UI touchscreen.

6.2.3 Alerts Touchscreen

Selecting the ***Alerts*** button (Fig. **6.35**) on the Homepage UI touchscreen opens the current ***Alerts*** screen.

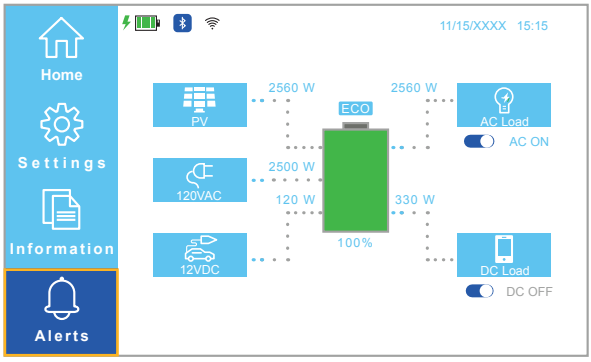

Fig. **6.35** Select alerts button

Current Alert Screen

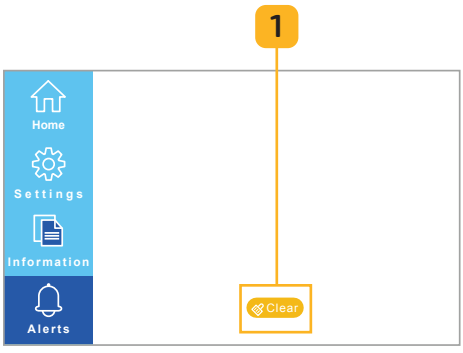

Fig. **6.36** Select power generated button

After viewing the current alerts:

1. Click the ***Clear*** button to clear the current alerts (Fig. **6.36**).

   Note: See Section 8 for Error Codes.

7.0 Product Care

Please follow the following product care recommendations to ensure product functionality and avoid warranty issues.

- Charge the Apollo 5K to 50% capacity at least before shutting off and storing.
- To preserve the battery health, please discharge and fully charge the unit at least once every 6 months.
- Ensure proper ventilation when in use or in storage.
- Only operate within the proper temperature range: +32 to +104 F (0 to +40 C)
- A clean and dry environment is strongly recommended.
- Keep the unit away from children and pets.
- Do not stack anything on the top of the unit while in use or in storage.
- Avoid exposing the unit to rainy or wet environment and in direct sunlight.
- Before storage or other long periods of inactivity, turn off the battery switch.
- Front vent should be removed, checked for dust, and cleaned periodically.

8.0 Troubleshooting

The following tables describe error codes (Table 8.1), warning codes (Table 8.2), and troubleshooting (Table 8.3). If necessary, please have the unit information and working status as much as possible before contacting customer service. The following information is necessary for customer service.

- Unit hardware and software version
- Order information
- Detailed description of the problem

8.1 Alerts Touchscreen

Current error codes and time can be viewed by selecting the ***Alerts*** button on the Homepage UI touchscreen. Click the ***Alert History*** button from the ***Information*** screen to view a history of alerts. Click the ***Back*** button to return to the Homepage UI touchscreen.

Error Codes	Description	Error Codes	Description
E01	Inverter over-temperature	E14	Bus low-voltage
E02	Over-temperature	E16	Over DC voltage in AC output
E03	Battery over-voltage	E18	Output current offset
E04	PV over-temperature	E19	Inverter current offset
E05	Output short circuit	E20	Batttery current offset
E06	Inverter over-voltage	E21	PV current offset
E07	Over-loaded	E22	AC output low-voltage
E08	Bus over-voltage	E23	Inverter negative power
E09	Bus soft-start failed	E24	Host loss under the parallel mode
E10	PV over-current	E25	Sync signal loss under the parallel mode
E11	PV over-voltage	E26	Incompatible battery type
E12	Battery over-current	E27	Firmware version inconsistent
E13	Inverter over-current or surge		

Table **8.1** Error codes

DC Error Codes	Description
D00	DC Input under voltage
D01	DC Input over voltage
D02	DC Output under voltage
D03	DC Output over voltage
D05	DC board over temperature
D06	DC board over current
D07	DC board short circuit

Table **8.2** DC Error codes

Warning Codes	Description
W00	Unidentified AC Input frequency
W01	AC Input wave abnormal
W02	AC Input over voltage
W03	AC Input under voltage
W04	AC Input over frequency
W05	AC Input under frequency
W06	PV Input low voltage
W07	Temperature is too high
W08	Low battery
W09	Battery disconnected
W10	AC Output overload
W12	Battery is depleted
W13	AC Output power reduced
W15	PV power too low
W16	Parallel communication interrupted
W17	Inconsistent parallel operating mode
W18	Battery voltage difference too high in the parallel system
W19	BMS communication failed
W20	Battery discharge over current

Table 8.3 Warning codes

Issue	Possible reason	Solution
The unit beeps during startup process	Low battery voltage	Recharge the battery
No response after powered on	1. The battery voltage is far too low. BMS protected 2. Reversed battery polarity	1. Check the battery polarity connection 2. Recharge the battery 3. Replace the battery
AC Input doesn't charge battery	1. Under the ***Energy Saver*** mode 2. Under the ***Battery First*** mode	1. Turn off the ***Energy Saver*** mode 2. Switch the working mode
DC Input doesn't charge battery	1. Battery is full 2. DC Input voltage too low	Use the proper DC Input voltage
Buzzer beeps continuously	**E07:** Overload error. An AC output surge above 3kW is lasting longer than acceptable	Reduce the loads
	E05: AC output short circuit	Check the output wiring. Remove the abnormal loads.
	E02: Inverter components temperature over 100° C.	Check the cooling fan and ventilation
	E03: Battery over-voltage (over charged)	Contact technical support
	E06/22: Abnormal AC output voltage (Too high or too low)	1. Reduce the loads power 2. Contact technical support
	E08/09: Internal components failed	Contact for technical support
	E13: Over-current or surge	Restart the unit Contact technical support if it happens again
	E14: Bus voltage is too low	
	E16: AC output voltage is unbalanced	
	Other failure	Contact technical support

Table **8.4** Troubleshooting

9.0 Technical Specifications

Model		Apollo 5K
Rated AC Power		120 VAC / 3,000 W Continuous (6,000 W Surge)
Battery Bank	Rated voltage	51.2 VDC
	Battery capacity	5,376 Wh
	Battery Type	Lithium / LiFePO4
BMS & Inverter voltage settings	High voltage protection	60.0 VDC
	Low voltage protection	40.0 VDC
	Low voltage recovery	44.8 VDC
	Floating charge voltage	58.4 VDC
	Maximum current	105 A
AC Input	AC input voltage	65 VAC - 140 VAC
	Frequency	60Hz or 50Hz (Auto-detection)
Charge	AC charger	Max. 3,000 watts
	Solar Charger	(Max 4,400 watts charging, MPPT input Voc range 60 VDC-500 VDC)
	Car Charger	Max. 12 VDC x 10 A or 24 VDC x 10 A
AC Output	Voltage Range	120 VAC ±5% (Inverter mode)
	Frequency	60 Hz or 50 Hz ±1%(Inverter mode)
	Output wave	Pure Sine Wave
	Transfer time	<20ms (Typical load)
	Efficiency	>94%
DC Output	USB Ports	USB-QC3.0 x 2, USB-C 18 W x 1, USB-C 100 W x 1
	12V Outlets	12 VDC 30 A x 1, 12 VDC 10 A x 1, 12 VDC 2 A x 2
	Wireless charger	5W / 7.5W / 10W/ 15 W

Table **9.1** Specifications for the unit

10.0 Declarations

- Some changes may not be noticed specifically such as appearance or specifications due to the exterior material or hardware improvement of the product.
- Our company shall not be liable for any damage caused by force, nature such as fire, hurricane, flood, earthquake or the user's negligence, misuse or other abnormal conditions.
- No compensation for damages shall be made for utilizing non-standard adapters and accessories.
- Our company will not bear all responsibilities if the damage is caused by not operating the product properly according to the use method in operation manual.
- This unit is not suitable for use on the relevant equipment or machines involving:
- Personal safety, such as atomic energy devices, aerospace devices, transportation devices, medical devices, etc., or any equipment or machines that require highly reliable power sources. We are not responsible for accidents, fires, or wrongful or negligent actions done to the machine and equipment which results in damage.

11.0 FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important! Changes or modifications to this unit not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

This equipment complied with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

12.0 IC Notice

This device complies with Canada Industry licence-exempt RSS standard(s). Operation is subject to the following two conditions:

(1) this device may not cause interference; and

(2) this device must accept any interference. Including interference that may cause undesired operation of the device.

CAN ICES-3 (B)

Avis d'Industrie Canada

Le présent appareil est conforme aux CNR d'industrie Canada applicables aux appareils radio exem pts de licence L'exploitation est autorisée aux deux conditions suivantes:

1) l'appareil ne doit pas produire de brouillage; et

2) l'utillsateur de l'appareil doit accepter brouillage radio électrique subi meme si le brouillage est susceptible d'encompromettre le fonctionnement. mauvais fonctionnement de l'appareil.

Cet appareil numériquie de la classe B est conforme à la norme NMB-003 du Canada.

CAN NMB-3 (B)

Radiation (RF) Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

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