

**3-year
warranty***

forza[®]
POWER TECHNOLOGIES



User Manual

Uninterruptible Power Supply System

FDC-1002T-C/FDC-2002T-C Online UPS

Table of contents

1. Introduction

- 1-1. Transportation
- 1-2. Preliminary steps
- 1-3. Initial setup
- 1-4. Important safety instructions
- 1-5. Maintenance, service and faults

2. Operation

- 2.1. Unpacking and inspection
- 2.2. Product overview
- 2.3. Installation procedure
- 2.4. UPS connections
- 2.5. ForzaTracker monitoring software

3. Advanced operation

- 3.1. Turning the UPS on and off
- 3.2. Touch panel and configuration menus
- 3.3. Audible alarm and LED indicators
- 3.4. Warning and fault codes

4. Troubleshooting

5. Storage and maintenance

6. Technical specifications

1. Introduction

Thank you for purchasing the Forza **FDC-1002T-C** and **FDC-2002T-C** Online UPS. To enjoy all the features and benefits of this unit, please read and follow all installation and operation instructions thoroughly before unpacking, installing or operating this device. After you have read this manual, keep it in a safe place for future reference.

The information contained in this manual covers the 1000VA and 2000VA uninterruptible power systems, their main functions, operating procedures, options available and troubleshooting guide. It also includes information on how to ship, store, handle, and install the equipment.

1-1. Transportation

- Make sure to transport the UPS system only in the original package to protect it against shock and impact.

1-2. Preliminary steps

- Water condensation may occur if the UPS is unpacked in a very cold environment and then moved to a warmer location.
- The UPS must be thoroughly dry before being installed. Failure to do so may increase the risk of electric shock.
- Do not install the UPS system near water or in moist environments.
- Do not install the UPS system where it would be exposed to direct sunlight or near a heater or heating vent.
- Do not block ventilation holes in the UPS housing.

1-3. Initial setup

- Do not connect appliances or equipment that may overload the UPS system (such as a laser printer) to the output sockets.
- Place cables in such a way that no one can step on or trip over them.
- Do not connect domestic appliances, such as hair dryers, to the UPS output sockets.
- Connect the UPS system only to an earthed shockproof outlet which must be easily accessible and close to the UPS system.
- Use CE-marked cables for connections between mains, the UPS and equipment (shockproof outlet).
- Use CE-marked power cables to connect the loads to the UPS system.
- During the installation of this equipment, make sure that the sum of the leakage currents of the UPS and the connected loads shall not exceed 3.5 mA.

1-4. Important safety instructions

- Do not disconnect the mains cable on the UPS system or the building wiring outlet (shockproof socket outlet) at any time since this would cancel the protective earth of the UPS system and of all connected loads.
- Connect the UPS only to a grounded socket that meets electrical safety guidelines.
- Locate the UPS near a wall socket. Do not use an extension cord between the UPS and the socket.
- In the event of an emergency, press the power button and disconnect the power cord from the AC mains to properly disable the UPS. Do not allow any kind of liquid or foreign object to enter this UPS unit.
- Do not place beverages or any other containers with liquid on or nearby the unit.
- The UPS can be operated by any individual with no previous experience.

1-5. Maintenance, service and faults

- The voltage used by this UPS may be hazardous. The unit contains no user serviceable parts; do not attempt to disassemble the unit. Only qualified service technicians can perform maintenance on the unit. Failure to adhere to this could cause personal injury or equipment malfunction and void the warranty.
- **Caution** - risk of electric shock. Even after the unit is disconnected from the mains, components inside the UPS system are still connected to the battery packs which are potentially dangerous.
- Before carrying out any kind of service and/or maintenance, disconnect the batteries and verify that no current is present and no hazardous voltage exists in the terminals of high-capacity capacitors, such as BUS-capacitors. Servicing of batteries should be performed or supervised by experts who possess the knowledge to closely follow all required precautions.
- **Caution:** potentially hazardous voltages from the battery can still be present even after disconnecting the UPS from the AC mains. Therefore, the positive and negative terminals of the battery shall be disconnected prior to performing any maintenance or repair inside the unit.
- A battery can present the risk of short-circuit current and electrical shock. The following precautions should be taken:
 - remove wristwatches, rings and other metal objects
 - use only tools with insulated grips and handles.
- When replacing the battery, make sure to use the same type and number of sealed lead-acid batteries specified.
- Do not dispose of batteries in a fire. Batteries may explode if exposed to high temperatures.
- Never try to open a battery. The cell contains a toxic electrolyte which is harmful to the skin and eyes.
- Replace the fuse only with the same type and amperage in order to avoid fire hazards.
- Do not dismantle the UPS system.

2. OPERATION

2-1. Unpacking and inspection

Remove the UPS from its package and make sure that all the following items are included:

- One UPS unit
- One user manual
- One monitoring software CD (ForzaTracker)
- One USB cable
- Warranty certificate

Carefully inspect the UPS to check for any damages that may have occurred during shipping.

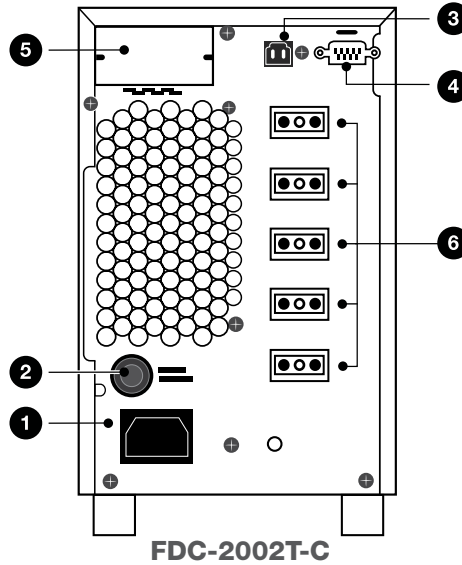
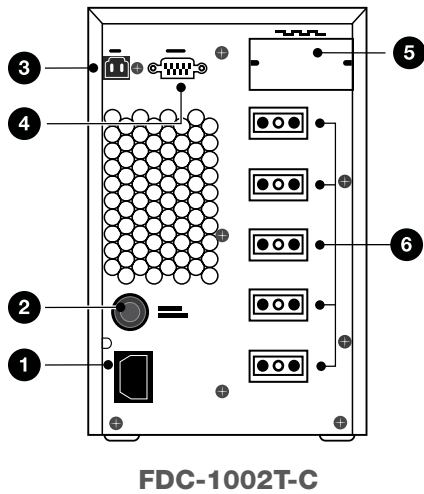
Should any evidence of damage be found or if some parts are missing, do not turn the UPS on; you must immediately notify the carrier or dealer where you purchased the

2-2. Product overview

Front panel view

1. Touch screen
2. Power button





Rear panel view

1. AC input
2. Input circuit breaker
3. USB communication port
4. RS-232 communication port
5. SNMP intelligent slot (optional)
6. Output receptacles

2.3. Installation procedure

Choose location

Install the UPS unit in any protected environment that provides adequate airflow around the unit, and free from excessive dust, corrosive fumes and conductive contaminants. Do not operate your UPS in an environment where the ambient temperature or humidity is high. For best performance, keep the indoor temperature between 0° C and 40° C. Place the UPS unit at least 20 cm away from monitors to avoid interference.

2-4. UPS connections

2-4.1 UPS input connection

Plug the UPS into a two-pole, three-wire, grounded receptacle only. Avoid using extension cords or adapter plugs.

2-4.2 UPS output connection

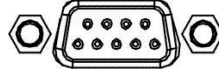
- For socket-type outputs, simply connect devices to the outlets.

Communication port:

USB port



RS-232 port



Intelligent slot



To allow for unattended UPS shutdown/start-up and status monitoring, connect one end of the communication cable to the USB/RS-232 port, and the other end to the communication port of your PC. With the monitoring software installed, you can schedule UPS shutdown/start-up and monitor its status through a PC.

The UPS is equipped with intelligent slot perfect for an optional SNMP card. When installing a SNMP card in the UPS, it will provide advanced communication and network management tools.

Note: The USB and RS-232 ports cannot be used at the same time.

2-5. ForzaTracker monitoring software

ForzaTracker is a new generation of UPS monitoring software, which provides user-friendly interface to monitor and control your UPS system. This unique software provides safe auto-shutdown for multi-computer systems during power failures. With this software, users can monitor and control any UPS on the same LAN no matter how far they might be from the UPS.


Installation procedure for Windows users:




1. Use the supplied CD or go to the website: <http://www.forzaups.com>.
2. After clicking the software icon, choose the required operation system.
3. Follow the on-screen instructions to install the software.
4. When you finished downloading all required files, enter the serial No (installation password): **5242-87f6-64re-di8d-986u** to install the software (include the hyphens).
5. In order to access as Administrator, input the password: 111296.
6. When your computer restarts, the management software will appear as a light blue round icon located in the system tray, near the clock.
For MAC users, please refer to the ForzaTracker QIG inside the corresponding folder.

3. Advanced operation

3-1. Turning the UPS on and off


This UPS is equipped with a touch LCD panel. Designed for easy management, the 3in digital display features an intuitive design, enhanced visuals, effective monitoring and system configuration, all done with a simple touch.

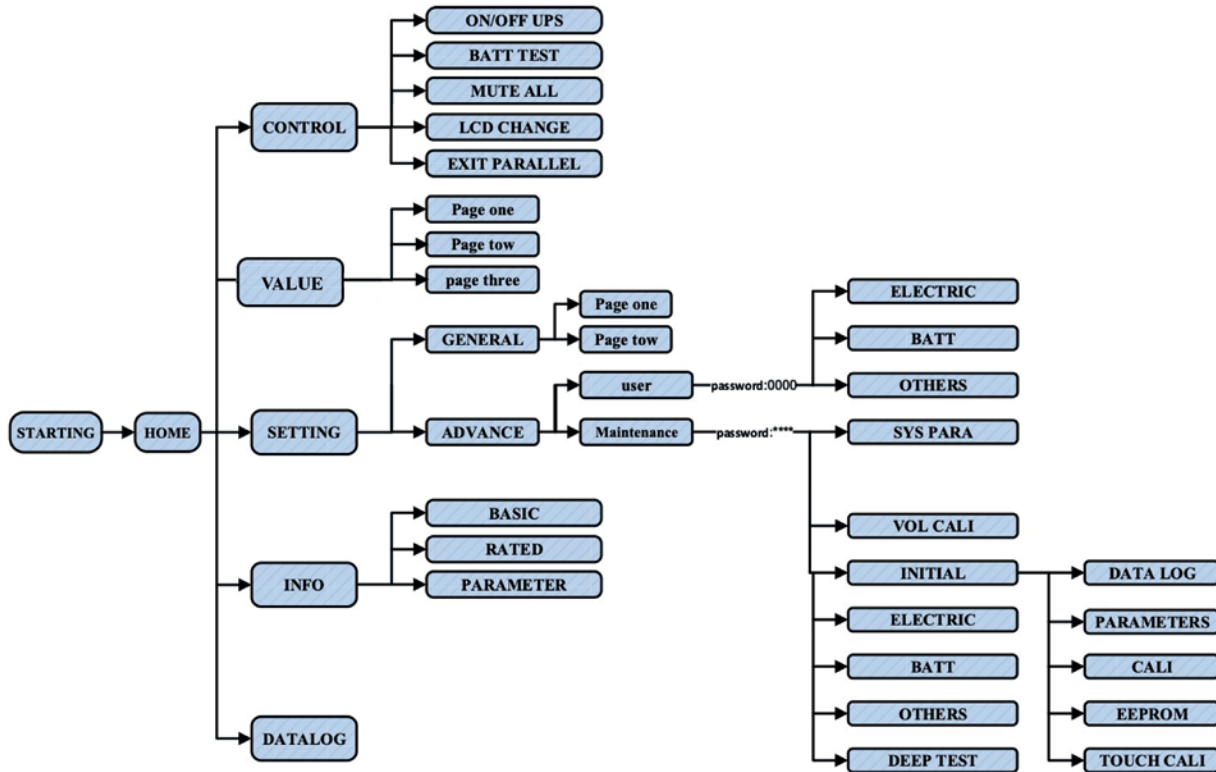
- There is only one physical button located on the front panel for  **POWER**. It is used to perform the following functions:

1. Press and hold the  **POWER** button for 3 or more seconds to turn on UPS. Do the same to switch off the system.
2. If LCD panel is in sleep mode, simply press the  **POWER** button less than 1 second for waking up the system.
3. If LCD screen crashes, press and hold the  **POWER** button for at least 10 seconds to reboot the system.

3-2. Touch panel and configuration menus

As soon as power is supplied to the UPS, the LCD will be initialized automatically.

Once the process concludes, the LCD will change to display the main screen. By tapping on the  icon on the Home page, the five sub-menus will come up: **Control, values, setting, information, and data log**. Touch any of the sub-menu icons to enter into the sub-screen.



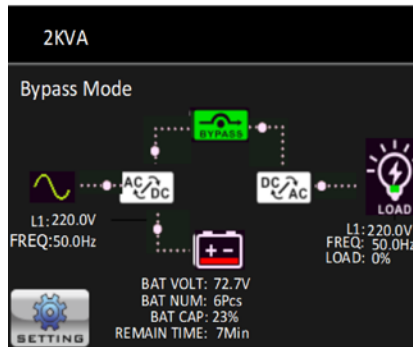
Menu tree hierarchy

3-2.1. Main screen (Home)

- Upon powering on, the LCD will start the initialization process automatically which takes a few seconds to complete, as shown below.




- Once the startup process concludes, the main screen will be displayed.

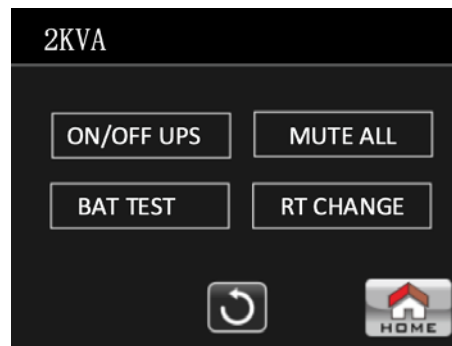


Tap on the settings  icon. That will bring up the five icons representing five sub-menus: **CONTROL, VALUES, SETTING, INFO, DATALOG.**

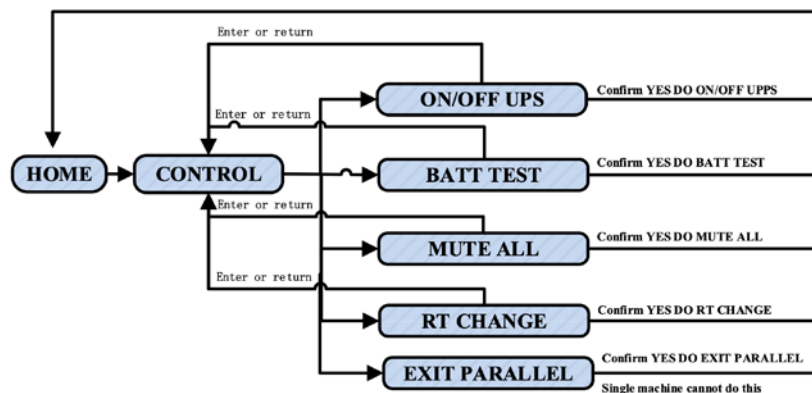


3-2.2. Control screen

Touch the  icon to enter the control sub-menu.



Touch the  icon to return to the main interface, regardless of whether any of the submenu screens are active or not.



Screen 1.0 «Control» and its sub-menus

UPS On/Off

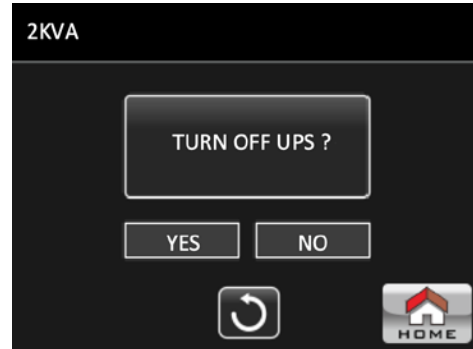
It will display **Turn on UPS?** when the unit is off. It will display **Turn off UPS?** when the unit is on.

Tap on **YES** to power the UPS on or off. Then, the screen will return to the main interface.

Tap on **Back** to return to the main screen immediately or **No** to cancel this operation and restore the main menu interface.



TURN ON UPS

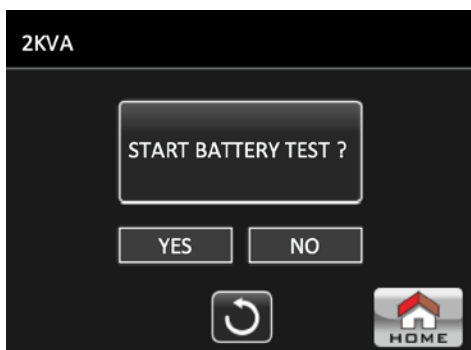


TURN OFF UPS

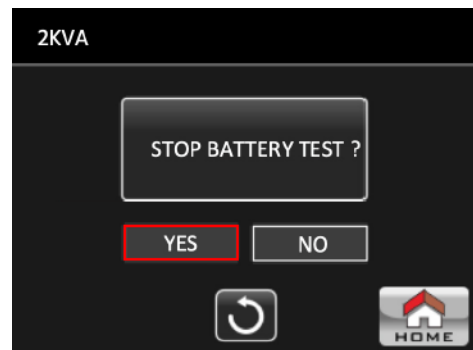
Battery test

When the UPS is not on test mode, **Battery Test** will appear on the screen.

- Tap on **Yes** to start; **Battery testing** will come up during the process. After a few seconds, the battery test result will be shown on the screen.
- Tap on **Back** to return to the main screen immediately or **No** to cancel this operation and restore the main menu interface.
- **Stop battery test?** will be displayed while the test is ongoing in the UPS.




Battery Test

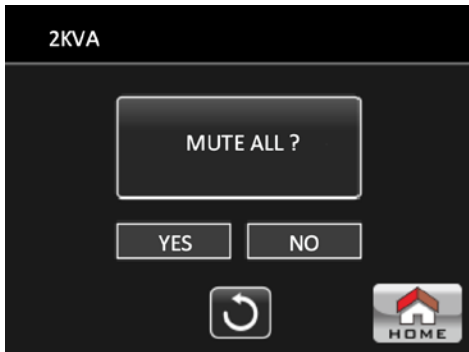


Cancel Battery Test

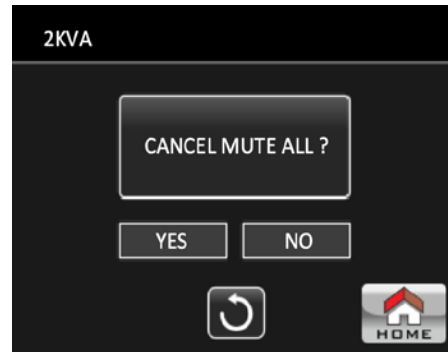
Audio mute

When audio is enabled, **Mute all** appears on the screen.

- Select **Yes** to mute the unit. If **Mute all** is enabled, the  icon will appear on the top left corner of the main screen. Touch **Back** to return to the CONTROL screen immediately or **No** to cancel this operation and restore the control interface.
- **Cancel mute all** appears on the screen when the UPS audio has been silenced. Select **Yes** to enable audio or **No** to keep the unit muted.
- Select **Back** if you want to return to the CONTROL screen.








Mute All



Cancel Mute all

3-2.3. Value screen

Touch the  icon to enter value page. To navigate through the menu pages, simply tap the  or  arrows on the screen. If you want to return to the main screen, touch the  icon, and to go back to the previous menu, select the return  icon on the bottom center of the screen.

LINE VOLT: The real time value of the input voltage and frequency.

BYPASS VOLT: The real time value of the bypass voltage and frequency.

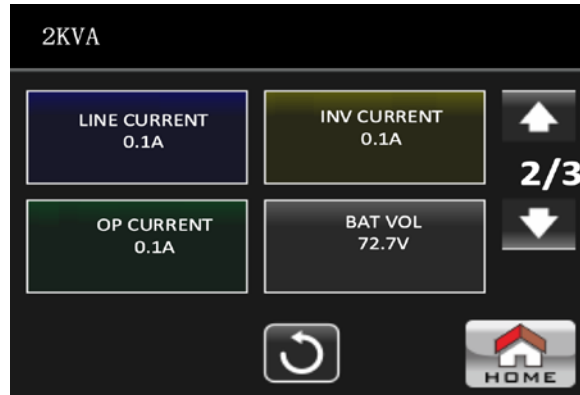
INVERTER VOLT: The real time value of the inverter voltage and frequency.

OUTPUT VOLT: The real-time value of the output voltage and frequency.



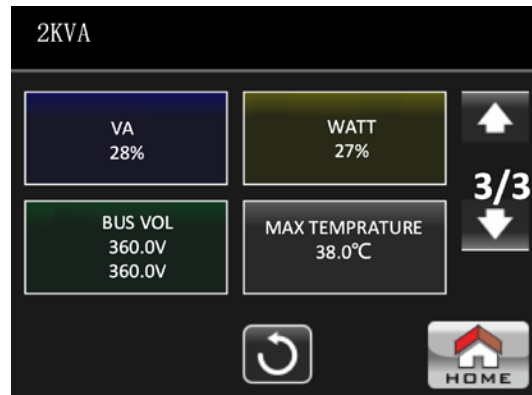
Value screen - Page 1

LINE CURRENT: Input current in amps.
INV CURRENT: Inverter current in amps.
OP CURRENT: Output current in amps.
BAT VOL: Battery voltage in volts.




Value screen- page 2



VA: Output power percentage in VA.
WATT: Output power percentage in watts.
BUS VOL: The real-time value of DC BUS (P and N) voltage.
MAX TEMPERATURE: Highest temperature reading inside the UPS.



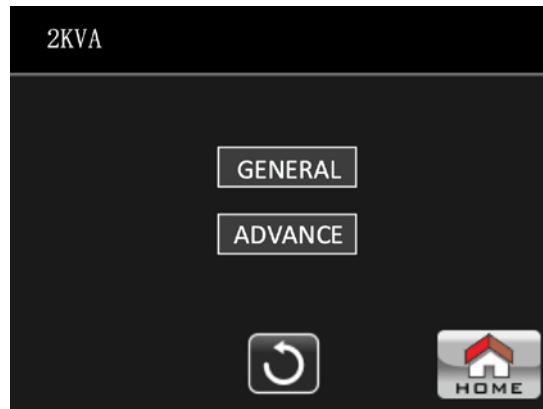
Value screen- Page 3

3-2.4. Setting screen

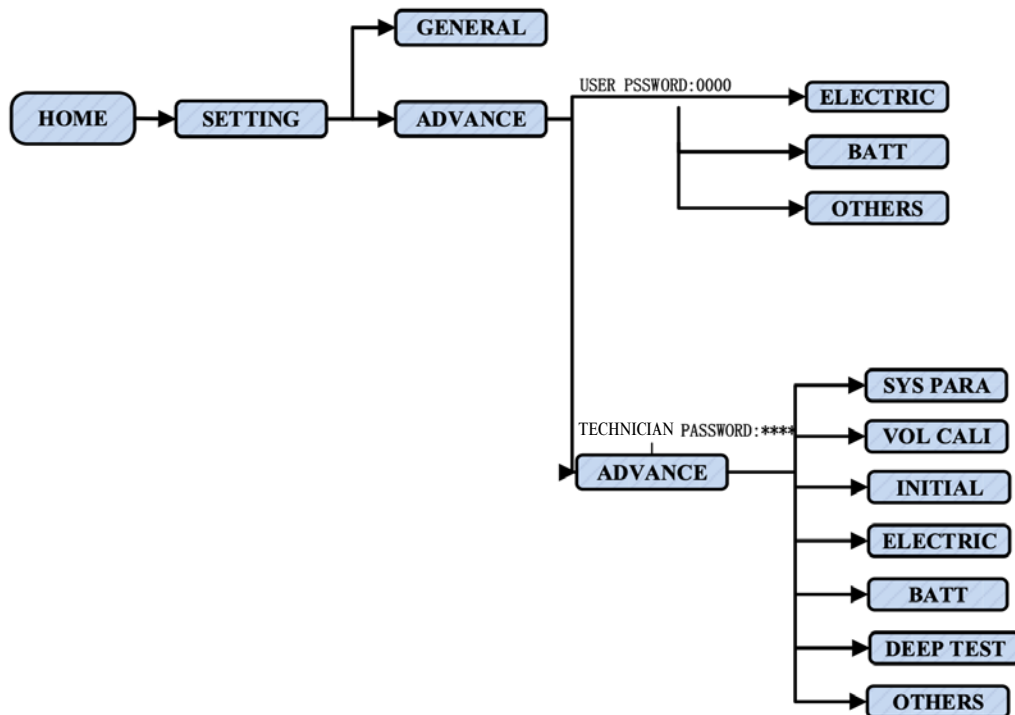
This sub-menu is used to set the parameters of the UPS. Touch the  icon to enter the **Setting** menu page. There are 2 options:

Basic and **Advanced**. Touch the  icon to return to the main screen. Touch the  icon to go back to the previous menu.

NOTE: Not all settings are available in every operation mode. If the setting is not available in the current mode, the LCD will keep its original value displayed instead of changing that parameter.

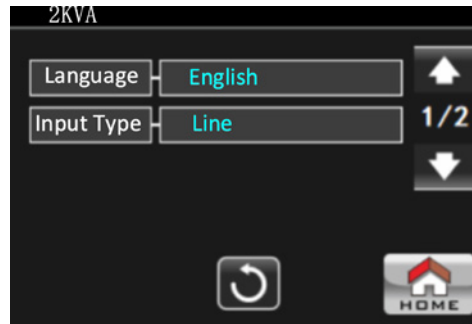


- **GENERAL:** It is used to set up basic information of the UPS. It's not related to any function parameter.
- **ADVANCE:** A password is required to access the ADVANCE settings. Two types of credentials are granted: User and Technician.



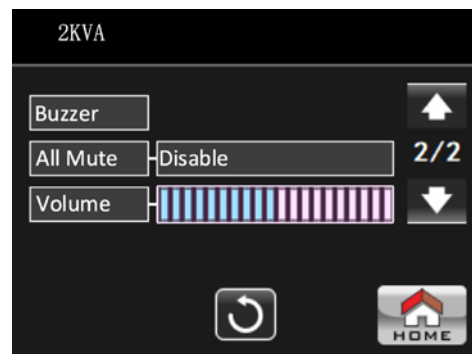
Menu tree diagram

GENERAL



General screen - Page 1

- **Language:** Sets the language of the LCD interface. There are two options available: English and Spanish. English is the default setting.
- **Input source:** Selects the input source. Only Line (utility) is available.



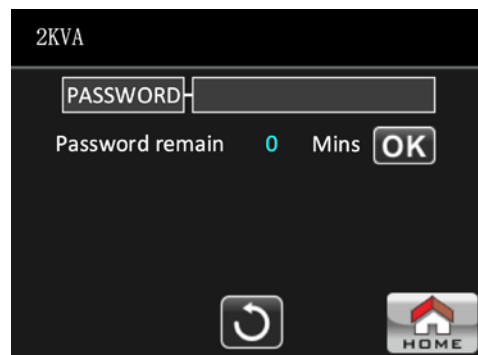
General screen - Page 2

Buzzer:

- **All Mute:**
 - Enable:** If selected, the alarm will not sound when a related event occurs.
 - Disable:** If selected, the alarm of the UPS will go off when a related event occurs.
- **Volume:** Simply touch the panel to adjust the sound level of the alarm.

ADVANCE

A password (4 digits) is required to access the ADVANCE page.



Advance - Password page

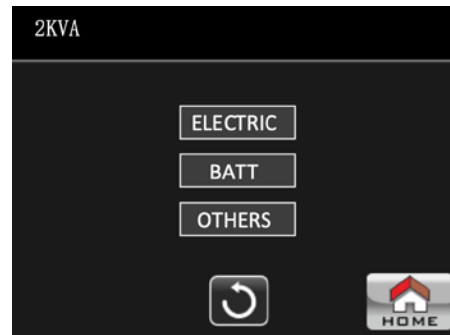
Advance → User

Enter the default password **0000** to access the **Advance → User** setting menu page.

If the password is correct, the setting screen will be opened. However, if the wrong password is entered, then the system will ask the user to make another attempt.



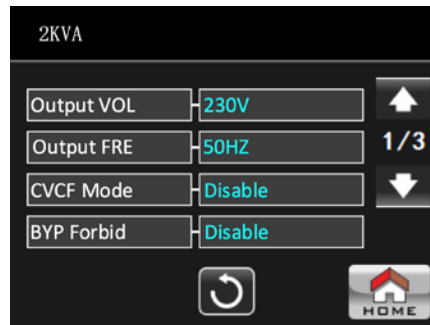
Password error page



Advance setting menu page

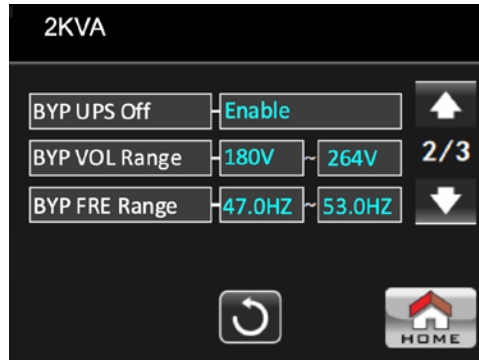
There are three sub-menus under **Advance → User setting**: ELECTRIC, BATT and OTHERS.

ELECTRIC



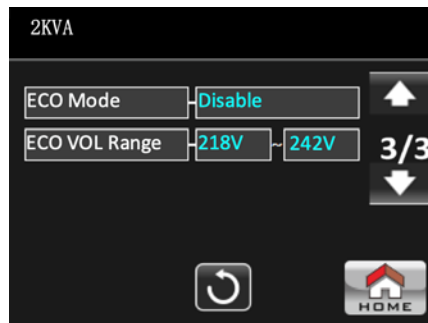
Electric setting - Page 1

- **Output VOL.:** Selects the output rated voltage.
 - The settings available for a HV system are: 208V, 220V, 230V and 240V.
 - The settings available for a LV system are: 110V, 115V, 120V and 127V.
- **Output FRE.:** Selects the output rated frequency.
 - **50Hz:** The output frequency is set at 50Hz.
 - **60Hz:** The output frequency is set at 60Hz.
 - **AUTO:** If selected, the output frequency will be set according to the value detected the first time the UPS is connected to the utility line. If the input frequency is over 55Hz, the output frequency will be set at 60Hz. If the input frequency is below 55Hz, then the output frequency will be set at 50Hz.
- **CVCF Mode** (constant voltage and constant frequency function)
 - **Enable:** The CVCF function is enabled. The output frequency will be fixed at 50Hz or 60Hz according to setting of the **Output FRE**. The input frequency ranges from 40Hz to 70Hz.
 - **Disable:** The CVCF function is disabled. The output frequency will synchronize with the bypass frequency within 45~55 Hz for a 50Hz system or within 55~65 Hz for a 60Hz system. **Disable** is the default setting.
- **Bypass Forbid:**
 - **Enable:** Bypass forbid is enabled. When selected, operation in Bypass mode is not allowed under any circumstances.
 - **Disable:** Bypass forbid is disabled. When selected, the UPS will run in Bypass mode depending on the setting of the **Bypass at UPS off** menu. This is the default setting.



Electric setting --Page 2

- **Bypass at UPS off:** Select the bypass status when manually turning off the UPS. This setting is only available when **Bypass forbid** is set to **Disable**.
 - **Enable:** Bypass enabled. When selected, the bypass mode is active.
 - **Disable:** Bypass disabled. When selected, there will be no output through bypass when manually turning off the UPS.
- **Bypass Voltage Range:** Establishes the acceptable voltages for the low and high versions.
 - **L:** Low voltage point for bypass.
 - If the UPS is a HV system, the setting ranges from 180V ~ 220V.
 - If the UPS is a LV system, the setting ranges from 90V ~ 110V.
 - **H:** High voltage point for bypass.
 - If the UPS is a HV system, the setting ranges from 230V ~ 264V.
 - If the UPS is a LV system, the setting ranges from 120V ~ 140V.
- **Bypass FRE Range:** Establishes the acceptable frequencies for each system. The acceptable bypass frequency ranges from 45Hz to 55Hz when the UPS is a 50Hz system, and from 59Hz to 61Hz when UPS is a 60Hz system.



Electric setting --Page 3

- **ECO mode:** Enables/Disables the ECO mode. The default setting is **Disable**.
- **ECO Voltage Range:** Sets the voltage range for the ECO function.
 - **L:** Low voltage point for ECO mode.
 - If the UPS is a HV system, this setting ranges from Rated output voltage – 7V to Rated output voltage - 24V.– **22V** is the default setting.
 - If the UPS is a LV system, this setting ranges from Rated output voltage – 3V to Rated output voltage - 12V.– **11V** is the default setting.
 - **H:** High voltage point for ECO mode.
 - If the UPS is a HV system, this setting ranges from Rated output voltage – 7V to Rated output voltage - 24V.–**22V** is the default setting.
 - If the UPS is a LV system, this setting ranges from Rated output voltage – 3V to Rated output voltage - 12V.– **11V** is the default setting.

BATTERY

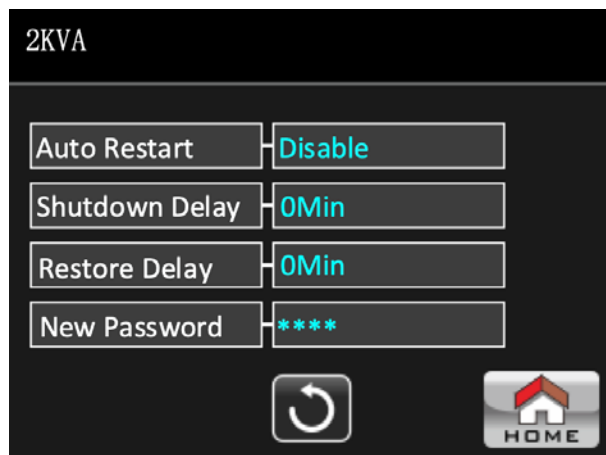


Battery setting page

Battery parameter:

- **Battery AH:** It is the battery capacity value. **9Ah** is the default setting.

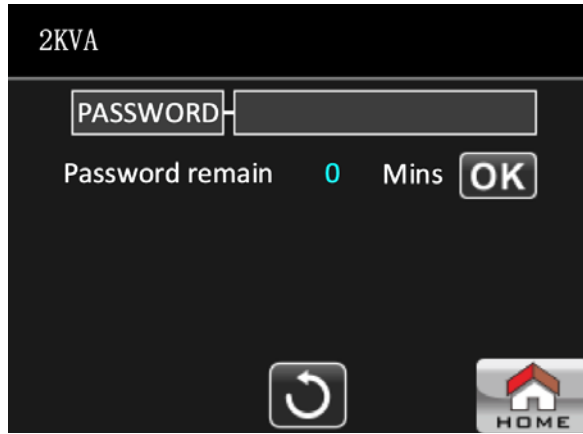
OTHERS



OTHERS setting page

• Auto restart

- **Enable:** If this option is selected, when the UPS shuts down due to low battery, the UPS will return to line mode once utility power is restored.
- **Disable:** If this option is selected, the UPS will not be automatically restarted once utility power is restored after the system has been shut down. Instead, the UPS will be restarted as soon as the battery voltage returns to its adequate level for operation.
- **Shutdown Delay Min:** The UPS will shut down after a specified number of minutes. The countdown will start when the dialogue box is confirmed.
- **Restore Delay Min:** The UPS is automatically restarted after a specified number of minutes when a shutdown occurs.
- **New Password:** Set up a new password to enter the **ADVANCE** → **User** menu.

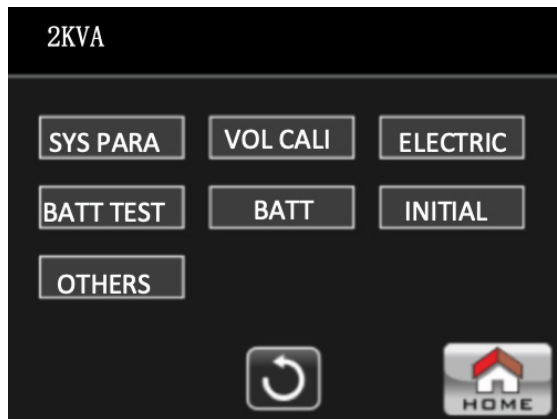


Advance Password Page

ADVANCE → Administrator

A password is required to access the **Advance** → **Administrator** setting menu page. The default password is **0729**.

If the password is correct, the following screen will come up. However, if the wrong password is entered, then the system will ask the user to make another attempt.

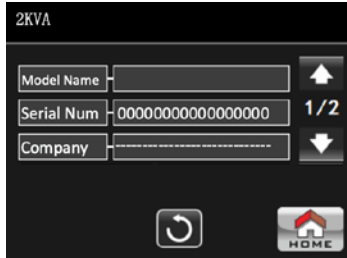


Advance → Administrator Setting Menu

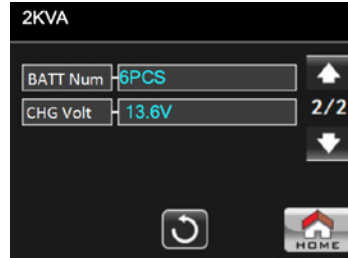
CAUTION: This setting menu is only intended for a qualified technician. Otherwise, misoperation will cause damage to the UPS.

There are seven sub-menus under the **Advance** → **Technician** setting: SYS PARA, VOL CALI, INITIAL, ELECTRIC, BATT TEST, BATT and OTHERS.

SYS PARAMETER



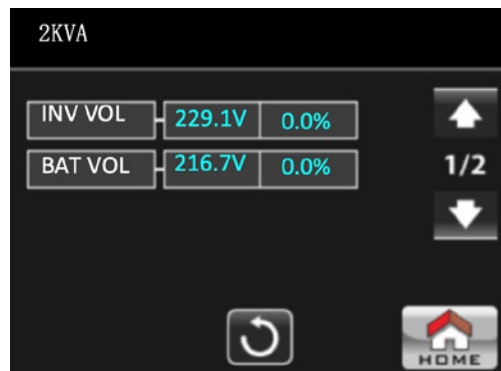
SYSTEM PARAMETER- Page 1



SYSTEM PARAMETER --Page 2

- **Model Name:** In this field, enter the UPS model.
- **Serial Number:** In this field, enter the serial number.
- **Company:** Displays the UPS manufacturer.
- **BATT Number:** Displays total number of installed batteries. (The UPS should be restarted after being set.)
- **CHG Volt:** Provides an indication of the battery float voltage.

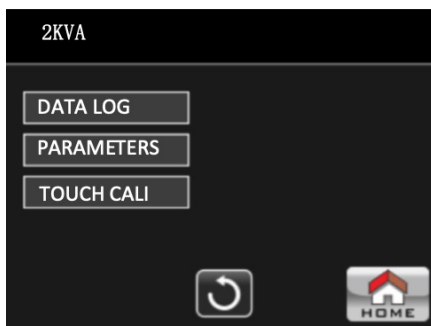
VOLTAGE CALIBRATION



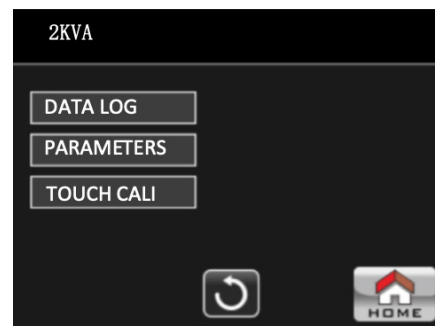
VOLTAGE DISPLAY-- Page 1

- **INV VOL:** Inverter voltage calibration
- **BAT VOL:** Battery voltage calibration

INITIAL




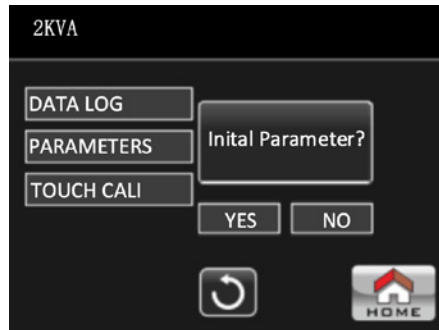
INITIAL Page 1



INITIAL Datalog Page


- **DATA LOG:** When you press this option, a confirmation window will be displayed as shown in the image above.

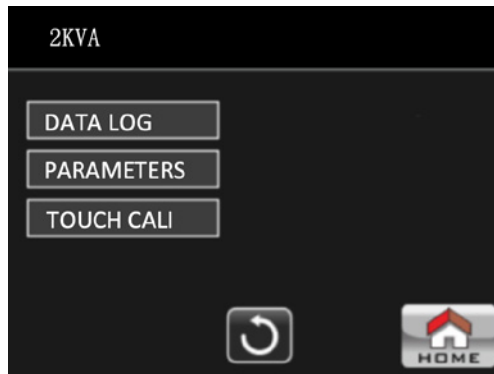
Tap on **YES** to clear the **DATALOG** page. Tap on **No** to cancel this operation or select  if you prefer to return to the INITIAL menu page.



INITIAL →Parameters Page

- **PARAMETERS:** When you press this option, a confirmation window will be displayed as shown in the image above.

Tap on **YES** to restore the default values. Tap on **No** to cancel this operation or select  if you prefer to return to the INITIAL menu page.



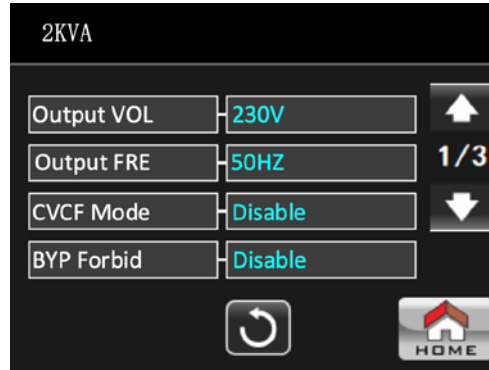
INITIAL→TOUCH CALI page



INITIAL→TOUCH CALI page

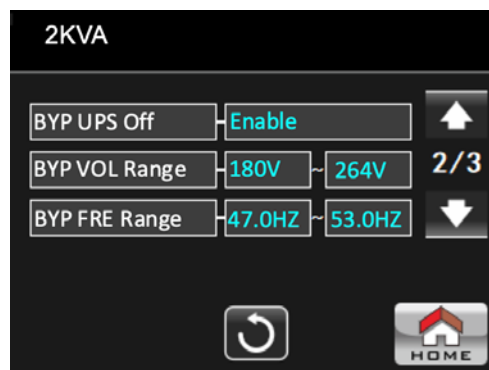
TOUCH CALI: When you press this option, a confirmation window will be displayed, as shown in the image above. Touch the screen to recalibrate. Click on the + symbol with your mouse once the blue screen is displayed.

ELECTRIC



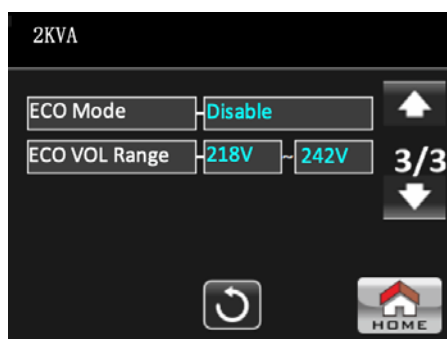
Electric setting - Page 1

- **Output VOL.:** Selects the output rated voltage.
 - The settings available for a HV system are: 208V, 220V, 230V and 240V.
 - The settings available for a LV system are: 110V, 115V, 120V and 127V.
- **Output FRE.:** Selects the output rated frequency.
 - **50Hz:** The output frequency is set at 50Hz.
 - **60Hz:** The output frequency is set at 60Hz.
 - **AUTO:** If selected, the output frequency will be set according to the value detected the first time the UPS is connected to the utility. If the input frequency is over 55Hz, the output frequency will be set at 60Hz. If the input frequency is below 55Hz, then the output frequency will be set at 50Hz.
- **CVCF Mode** (constant voltage and constant frequency function)
 - **Enable:** The CVCF function is enabled. The output frequency will be fixed at 50Hz or 60Hz according to setting of the **Output FRE**. The input frequency ranges from 40Hz to 70Hz.
 - **Disable:** The CVCF function is disabled. The output frequency will synchronize with the bypass frequency within 45~55 Hz for a 50Hz system or within 55~65 Hz for a 60Hz system. Disable is the default setting.
- **Bypass Forbid:** Selects the output rated frequency.
 - **Enable:** Bypass forbid is enabled. When selected, operation in Bypass mode is not allowed under any circumstances.
 - **Disable:** Bypass forbid is disabled. This is the default setting.



Electric setting --Page 2

- **Bypass at UPS off:** Selects the bypass status when manually turning off the UPS. This setting is only available when Bypass forbid is set to **Disable**.
 - **Enable:** Bypass enabled. When selected, the bypass mode is active.
 - **Disable:** Bypass disabled. When selected, there will be no output through bypass when manually turning off the UPS.
- **Bypass Voltage Range:** Sets the bypass voltage range.
 - **L:** Low voltage point for bypass.
 - If the UPS is a HV system, the setting ranges from 180V ~ 220V.
 - If the UPS is a LV system, the setting ranges from 90V ~ 110V.
 - **H:** High voltage point for bypass.
 - If the UPS is a HV system, the setting ranges from 230V ~ 264V.
 - If the UPS is a LV system, the setting ranges from 120V ~ 140V.
- **Bypass FRE Range:** Sets the bypass frequency range.
The acceptable bypass frequency ranges from 47Hz to 55Hz when the UPS is a 50Hz system, and from 59Hz to 61Hz when UPS is a 60Hz system.





Electric setting --Page 3

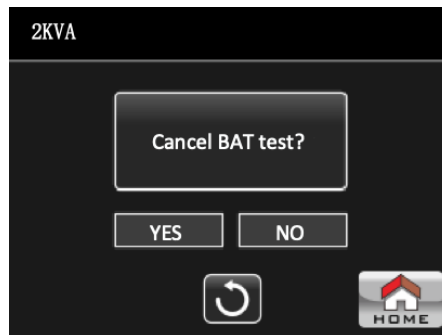
- **ECO mode:** Enables/Disables the ECO mode. The default setting is **Disable**.
- **ECO Voltage Range:** Sets the voltage range for the ECO function.
 - **L:** Low voltage point for ECO mode.
 - If the UPS is a HV system, this setting ranges from Rated output voltage – 7V to Rated output voltage - 24V.– **22V** is the default setting.
 - If the UPS is a LV system, this setting ranges from Rated output voltage – 3V to Rated output voltage - 12V.– **11V** is the default setting.
 - **H:** High voltage point for ECO mode.
 - If the UPS is a HV system, this setting ranges from Rated output voltage – 7V to Rated output voltage - 24V.– **22V** is the default setting.
 - If the UPS is a LV system, this setting ranges from Rated output voltage – 3V to Rated output voltage - 12V.– **11V** is the default setting.


BATTERY TEST



When the UPS is not on test mode, **Deep Test** will appear on the screen.

- **Deep Test:** After clicking on **Deep test**, a confirmation window will come up, as shown above. Tap on **Yes** to start the battery self-test. Tap on **No** to cancel this operation or select  if you prefer to return to the BAT TEST menu page.
- **BAT test:** Enables the programming of the battery test in minutes. When selected, a numeric keypad will come up. Enter the time for the duration of the test. Click on **Enter** to initiate the testing process. To return to the BAT TEST menu page, simply click on the  arrow on the bottom center of the screen.



- **Cancel BAT test:** When the unit is on battery test mode, and cancel is selected, a pop-up window will be displayed to confirm your choice, as shown above. Click on **YES** to cancel or select the  arrow on the bottom of the screen to return to the BAT TEST menu page.

BATTERY

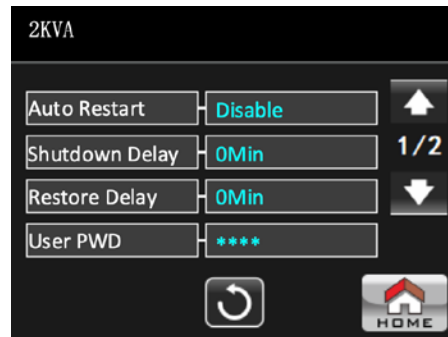


Battery setting page

Battery parameter:

- **Battery AH:** It is the battery capacity value. **9Ah** is the default setting.

OTHERS



OTHERS setting page 1

- **Auto restart**


- **Enable:** If this option is selected, when the UPS shuts down due to low battery, the UPS will return to line mode once utility power is restored.
- **Disable:** If this option is selected, when the UPS shuts down, the UPS will not automatically turn on once utility power is restored. It will turn on once the battery voltage returns to its adequate level.
- **Shutdown Delay Min:** The UPS will shut down after a programmed number of minutes. The countdown will start after the dialogue box is confirmed.
- **Restore Delay:** The UPS will automatically restart after a programmed number of minutes if a shutdown occurs.
- **User Password:** Use it to set up a new password to access the **ADVANCE** → **User** menu.





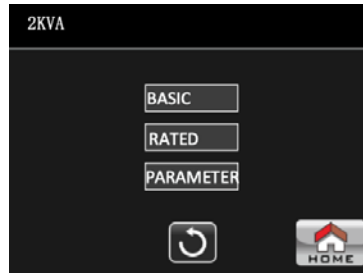
OTHERS setting page 2

- **Adm PWD:** Use it to set up a new password to access the **ADVANCE** → **Administrator** menu page.
- **RST user password:** Resets the User password to its factory default setting.
- **RST adm password:** Resets the Administrator password to its factory default setting.

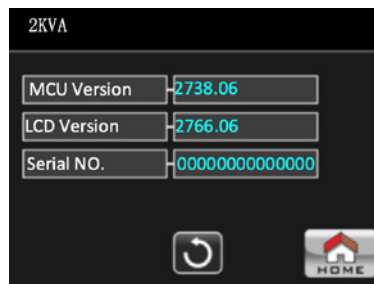
3-2.5. Information screen

Tap on the  icon to open the information page. This will bring up three sub-menus. BASIC, RATED and PARAMETER.

Touch the  icon to return to main screen. To go back to the previous menu, select the  icon on the bottom-of the screen.



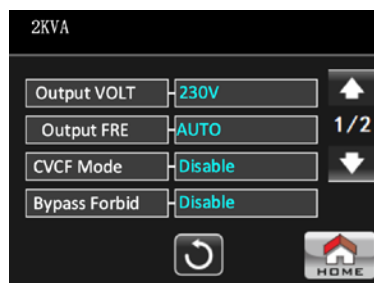
Basic Information



Basic Information page

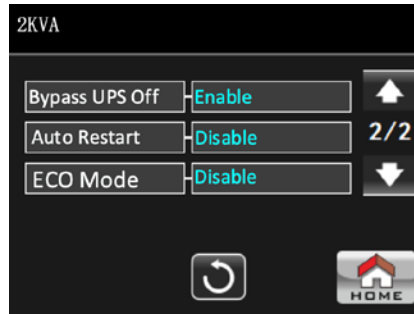
- **MCU Version:** It displays the version of the Microcontroller unit.
- **LCD Version:** It displays the version of the LCD screen integrated in the UPS.
- **Serial NO.:** The serial number identifying the UPS.

Rated information



Rated Information- Page 1

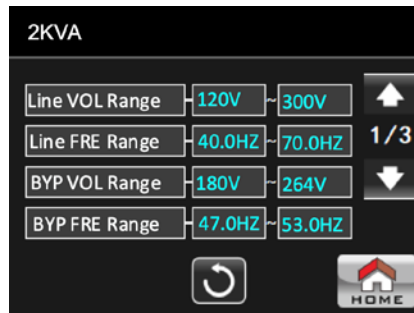
- **Output Voltage:** It shows the output rated voltage.
- **Output FRE:** It shows the output rated frequency.
- **CVCF Mode:** Enables/Disables the CVCF mode.
- **Bypass Forbid:** Enables/Disables the bypass function.



Rated Information- Page 2

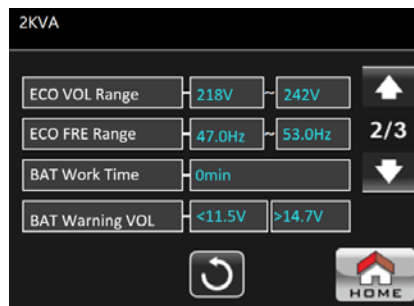
- **Bypass at UPS Off:** Enables/Disables the autobypass function when the UPS is off.
- **Auto Restart:** Enables/Disables the automatic start-up feature on the UPS.
- **ECO Mode:** Enables/Disables the ECO function.

Parameter Information



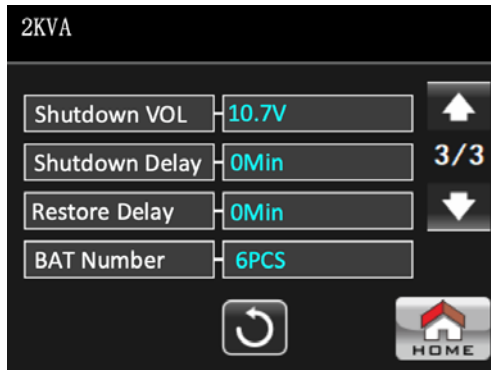
Parameter Information--Page 1

- **Line VOL Range:** The acceptable line input voltage range.
- **Line FRE Range:** The acceptable line input frequency range.
- **BYP Voltage Range:** The acceptable input voltage range for bypass mode.
- **BYP FRE Range:** The acceptable input frequency range for bypass mode.



Parameter Information--Page 2




- **ECO VOL Range:** The acceptable input voltage range for ECO mode.
- **ECO FRE Range:** The acceptable input frequency range for ECO mode.
- **BATT Work Time:** The maximum discharge time in battery mode.
- **BATT Warning Voltage:** It displays high-battery warning voltage and low-battery warning voltage.



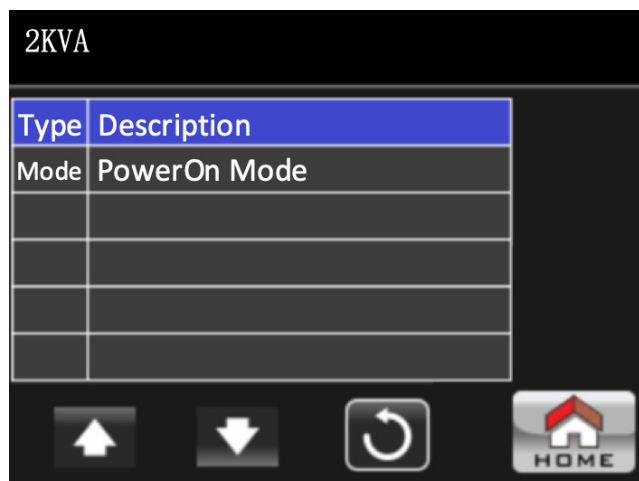
Parameter Information--Page 3

- **Shutdown Voltage:** If the battery voltage goes below this point, the UPS will automatically shut down.
- **Shutdown Delay:** The UPS will shut down after a set number of minutes. The countdown will start once the dialogue box is confirmed.
- **Restore Delay:** The UPS will automatically restart after a set number of minutes if a shutdown occurs.
- **Battery Number:** It shows the number of batteries being used.

3-2.6. Data Log screen


Touch the  icon to open the data log page. The data log is used to record the warning and fault information of the UPS. Each record contains the date & time, code, type and description. Touch the  or  icon to move up or down the page if there is more than one event listed in the data log.

Touch the  icon to return to main screen. Press the  icon to go back to the main menu. Please refer sections 3-3 and 3-4 for warning and fault code list.



Datalog Page

3-3. Audible alarm and LED indicators

Description	Alarm	Mute control	LED 
UPS status			
Bypass mode	Beeps once every 2 minutes	Yes	Green on
Battery mode	Beeps once every 4 seconds		Blue on
Fault mode	Beeps continuously		Red on
Other normal mode	N/A		Blue on
Warning			
Overload	Beeps twice every second	Yes	Intermittent red
Others	Beeps once every second		Intermittent red
Fault			
All	Beeps continuously	Yes	Red on

3-4. Warning and fault codes

When a warning is triggered or a fault occurs, the event description will be displayed on the LCD screen.

Type	Event code	Event description	LCD display
Fault	01	Bus start failure	<01> Bus start failure
Fault	02	Bus voltage is high	<02> Bus over
Fault	03	Bus voltage is low	<03> Bus under
Fault	04	Bus voltage is unbalanced	<04> Bus unbalance
Fault	11	Inverter soft start failure	<11> INV start fail
Fault	12	Inverter voltage is high	<12> High INV volt
Fault	13	Inverter voltage is low	<13> Low INV voltage
Fault	14	Inverter is short-circuited	<14> INV output short
Fault	27	Battery voltage is too high	<27> Battery too high
Fault	28	Battery voltage is too low	<28> Battery too low
Fault	41	Overtemperature	<41> Over temperature
Fault	43	Overload fault	<43> Overload
Fault	45	Charger fault	<45> Charger fail fault
Warning	02	Charger failure	<02> Charger failure
Warning	03	Overcharge	<03> Over charge
Warning	04	Overtemperature	<04> Over temperature
Warning	05	Low battery	<05> Battery low
Warning	06	Overload warning	<06> Overload
Warning	08	Battery is draining to a critically low level	<08> Battery time low
Warning	09	Battery fault	<09> Battery bad
Warning	0A	Bypass out of range	<0A> Bypass out of range
Warning	0B	Bypass frequency unstable	<0B> Bypass freq unstable
Warning	0C	Battery replacement	<0C> Battery replacement
Warning	0D	Battery disconnected	<0D> Battery disconnected
Warning	0E	EEPROM error	<0E> EEPROM Error



4. Troubleshooting guide

If the UPS system does not operate correctly, use the table below to troubleshoot the issue.

Symptom	Possible cause	Solution
Even though the mains supply is normal, there are no status indicators or alarms.	The AC input cable is not properly connected	Check to make sure the power cord is firmly connected to an AC wall socket
	The AC input is connected to the UPS outlet	Plug the power cord to a wall socket
Warning code 0D and Battery disconnect are displayed. The alarm beeps once every second	The external or internal battery connection is incorrect.	Check if all batteries are properly connected
Fault code 27 and Battery too high become illuminated on the LCD display, and the alarm starts beeping continuously.	Battery voltage is too high or the charger fails	Contact your dealer or service center
Fault code 28 and Battery too low become illuminated on the LCD display, and the alarm starts beeping continuously.	Battery voltage is too low or the charger fails	Please contact your dealer or service center
Warning code 0F and Overload become illuminated on the LCD display, and the alarm starts beeping twice every second	UPS is overloaded	Remove excess loads from UPS output
	UPS is overloaded. Devices connected to the UPS are fed directly from utility power via the Bypass	Remove excess loads from the UPS output
	After repetitive overloads, the UPS is locked in Bypass mode. Connected devices are fed directly from utility power.	Remove excess loads from the UPS output first. Shut down the UPS completely before restarting the unit once again
Fault code 43 and Overload fault become illuminated on the LCD display, and the alarm starts beeping continuously	The UPS shuts down automatically upon detecting the overload condition in the output	Remove excess loads from the UPS output and restart the unit once again
Fault code 14 and Inverter short become illuminated, and the alarm starts beeping continuously	The UPS shuts down automatically upon detecting the overload condition in the output	Check the output wiring and whether the connected devices are short-circuited
Fault codes 01, 02, 03, 04, 11, 12, 13, 41 or 45 become illuminated on the LCD display, and the alarm starts beeping continuously	A UPS internal fault has occurred. There are two possible causes: 1. Power is continued to be supplied to the load but it is done directly from the AC grid via a bypass 2. Power is no longer supplied to the load	Please contact the dealer or service center
Battery backup time is shorter than its nominal value	Batteries are not fully charged	Charge the batteries for at least 5 hours and then check their capacity. If the problem persists, consult your dealer
	Defective batteries	Contact your dealer for a replacement

5. Storage and maintenance

The UPS system contains no user-serviceable parts. If the battery service life (3~5 years at 25°C ambient temperature) has been exceeded, the batteries must be replaced. In this case, please contact your dealer or service center.

		Batteries must not be discarded as regular household waste! As part of the company's eco-friendly approach, we encourage you to follow all applicable local waste regulations to dispose of your used devices and batteries properly.
---	---	---

Storage

Charge the UPS for at least 5 hours before storing the unit. Cover the UPS, and place it upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage temperature	Recharge frequency	Runtime
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours

6. Technical specifications

MPN	FDC-1002T-C	FDC-2002T-C
General		
Capacity	1000VA/900W	2000VA/1800W
Topology	Double conversion	
Input		
Nominal voltage	200-240VAC	
Voltage range (low line transfer)	180VAC / 160VAC / 140VAC / 120VAC \pm 5% (based on load percentage 100%-80% / 80%-70% / 70%-60% / 60%-0%)	
Voltage range (low line comeback)	Low line transfer voltage + 10V	
Voltage range (high line transfer)	300VAC \pm 5%	
Voltage range (high line comeback)	High line transfer voltage - 5V	
Frequency	40-70Hz	
Power factor	\geq 0.99 at 100% load	
Total harmonic distortion (THDi)	\leq 10% at 100% load THDU <10%	
AC plug style	IEC C14	
Output		
Nominal voltage	200/208/220/230/240VAC	
AC voltage regulation (battery mode)	\pm 1%	
Frequency (synchronized range)	47-53Hz with a 50Hz system / 57-63Hz with a 60Hz system	
Frequency (battery mode)	50Hz \pm 0.1Hz or 60Hz \pm 0.1Hz	
Power factor	0.9	
Efficiency (AC mode)	\geq 84%	\geq 86%
Efficiency (battery mode)	\geq 80%	\geq 82%
Overload	105%-110%: 10min / 110%-130%: 30 sec / >130%: 3sec	
Transfer time (line to battery)	0ms	
Transfer time (inverter to bypass)	4ms	
Crest ratio	3:1 (max)	
Harmonic distortion	\leq 3% THD (linear load) / \leq 6% THD (non-linear load)	
Waveform	Pure sine wave	
Total outlets	Five Italian (CEI 23-50)	Five Italian (CEI 23-50)
Battery		
Battery type and quantity	12V / 9Ah (2)	12V / 9Ah (4)
Recharge time	4 hours to 90% capacity	
Charging current	1A \pm 10% (max)	
Charging voltage	27.4VDC \pm 1%	54.8VDC \pm 1%
Communications		
LCD display	Integrated 3in LCD touchscreen	
Audible	Battery mode: Sounds every 4 seconds Low battery: Sounds every second Overload: Sounds every 0.5 second Fault: Continuous sound	
Communication ports	SNMP, RS-232, USB	
Power management software	ForzaTracker	

Environment		
Operating temperature	32°F-104°F	
Storage temperature	UPS: -4°F-122°F	
Relative humidity	20-90% non-condensing	
Operating altitude	Above 1000m, the output power decreases 1% every 100m	
Audible noise	<50dB at 1 meter	
Physical appearance		
Dimensions	5.7x8.7x11.1in	5.7x8.7x15.6in
Weight	22lb	38lb
Cord length	3.7ft	
Additional information		
Warranty	Three years*	

*Limited to two years on batteries

forza[®]
POWER TECHNOLOGIES