



Ranger 30KR

UP33ROP130KRAAZ01B

User Manual

Manual de utilizare



233.24.23.0

Before using this product, carefully read all product documentation and retain it for future reference.

Thank you for purchasing our products!

Please read this manual before using the product.

nJoy is a brand of power and backup protection products that create solutions for multiple levels of environment complexity, residential to industrial.

This UPS will protect your electronic equipment from physical damage and will provide emergency battery backup power to prevent data loss in the event of power problems.

1 Safety and EMC instructions

All safety instructions in this document must be read, understood and followed.

1.1 Transportation and Storage

 Please transport the UPS system only in the original packaging to protect against shock and damage.

 The UPS must be stored in the room where the temperature is well regulated. Ambient temperature should not exceed 40°C.

1.2 Preparation

 Condensation may form if the UPS system is moved immediately from cold to warm environment. The UPS system must be absolutely dry before being installed. Please allow at least two hours for the UPS system to acclimate the environment.

⚠ 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 nearby heat source.

⚠ Do not block ventilation holes on the UPS housing.

1.3 Installation

⚠ Do not connect appliances or devices which would overload the UPS (e.g. big motor-type equipment)) to the UPS output terminal.

⚠ Place cables in such a way that no one can step on or trip over them.

⚠ Do not block air vents on the housing of the UPS. Ensure proper unit spacing of ventilation.

⚠ UPS came equipped with grounding terminal, in the final installation phase, connect grounding/earthing wire to the external UPS battery cabinets or appropriate grounding terminals.

⚠ The UPS can be installed only by qualified maintenance personnel.

⚠ An appropriate disconnect device such as short-circuit backup protection should be incorporated during installation.

⚠ An integral emergency shutoff switch which prevents additional load from the UPS in any mode of operation should be implemented during the installation.

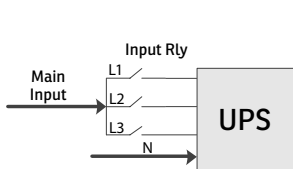
⚠ Secure the grounding/earthing wire before connecting to any live wire terminal.

⚠ Installation and Wiring must be in accordance with the local electrical laws and regulations.

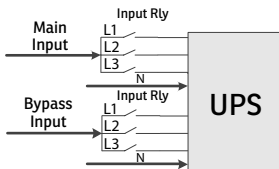
1.4 Connection Warnings

⚠ There is no standard backfeed protection inside of the UPS. However, there are relays on the Input to cut off line voltage and while the neutral is still connect to UPS.

- This UPS should be connected with **TN** grounding/earthing system.
- The power input for this unit must be three-phase rated in accordance with the equipment nameplate. It also must be suitably grounded.



Input relay diagram



Input relay diagram for dual-input model



WARNING

HIGH LEAKAGE CURRENT! EARTH CONNECTION ESSENTIAL BEFORE CONNECTING SUPPLY.

- Use of this equipment in medical instrument of any life-sustaining equipment where failure of this equipment can reasonably be expected to cause the failure of the life-sustaining equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable mixture with air, oxygen or nitrous oxide.
- Connect grounding terminal of UPS to a grounding electrode conductor.
- In accordance with safety standard EN-IEC 62040-1, installation has to be provided with a «Backfeed Protection» system, as for example a contactor, which will prevent the appearance of voltage or dangerous energy in the input mains during a mains fault (see figure 24 and respect the wiring diagram of «Backfeed Protection» depending if the equipment is with signal or three phase input).

 There can be no derivation in the line that goes from the «Backfeed Protection» to the UPS, as the standard safety would be infringed.

- Warning labels should be placed on all primary power switches installed in places away from the unit to alert the electrical maintenance personnel of the presence of a UPS in the circuit. The label will bear the following or an equivalent text:



WARNING

Before working on this circuit!

- Isolate Uninterruptible Power Supply (UPS).
- Then check for Hazardous Voltage between all terminals including the protected earth.



Risk of Voltage Backfeed!

1.5 Operation

 Do not disconnect the grounding/earthing conductor cable on the UPS or the building wiring terminals under any circumstance.

 The UPS system features its own, internal current source (batteries). The UPS output sockets or output terminal blocks may be electrically live even if the UPS system is not connected to the building mains/live wires. (only for standard models).

 In order to fully disconnect the UPS system, first press the “OFF” button and then disconnect the mains/live wires.

 Ensure that no liquid or other foreign objects can enter into the UPS system.

 The UPS can be operated by any individuals with no previous experience.

2 Installation and Operation

These series come with

VAC System	Model	Type
400V	Ranger 30KR	Long-run model

Optional parallel function upon request. The UPS with parallel function is called the "Parallel model". We have detail installation and operation procedure of the Parallel Model in the following chapter.

2.1 Unpacking and Inspection

Unpack the package and check the package contents. The shipping package should contain:

- 1 UPS
- 1 user manual
- 1 monitoring software CD
- 1 RS-232 cable (optional)
- 1 USB cable
- 1 UPS to 2 cabinets cable
- 3 bypass cable
- Tower mounting stand

NOTE!

Before the installation, please inspect the unit. Be sure that there is no physical damage to the unit. Do not turn on the unit and notify the carrier and dealer immediately if there is any damage or missing parts and accessories. Please keep the original packaging for future use. It is recommended to keep each equipment and battery set in their original packaging because they have been designed to provide maximum protection during transportation and storage.

2.2 Wiring Terminal View

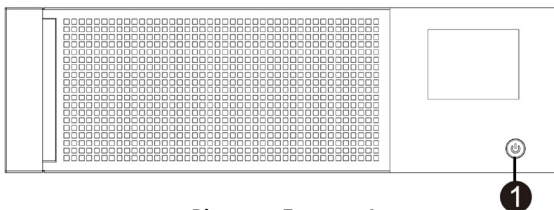


Diagram 1: Front panel

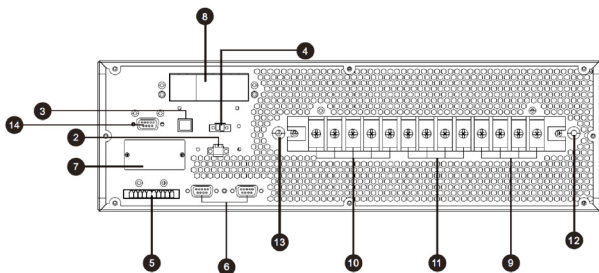


Diagram 2: Ranger 30KR Rear panel

1. Power switch
2. External maintenance bypass switch port
3. USB communication port
4. Emergency power off function connector (EPO connector)
5. Share current port (only available for parallel model)
6. Parallel port (only available for parallel model)
7. Intelligent slot
8. External battery connector
9. Line input terminal
10. Output terminal
11. Bypass input terminal
12. Input grounding terminal
13. Output grounding terminal
14. RS232 port

2.3 Single UPS Installation

Installation and wiring must be carried out in accordance with the local electric laws and regulations by trained professionals.

1) Make sure that the mains wire and breakers of the building are rated for the capacity of the UPS to prevent electric shock or risk of fire.

NOTE!

Do not use the wall receptacle as the input power source for the UPS, as its rated current is less than the UPS's maximum input current. The receptacle may be damaged and destroyed.

2) Switch off the mains switch in the building before installation.

3) Turn off all the connected devices before connecting to the UPS.

4) Prepare wires based on the following table:

Model	Wiring spec (AWG)				
	Input(Ph)	Output(Ph)	Neutral	Battery	Ground
Ranger 30KR	8	8	4	6	4

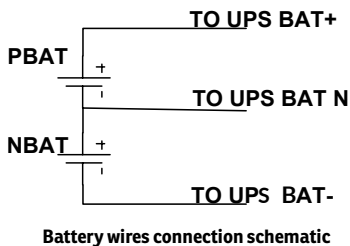
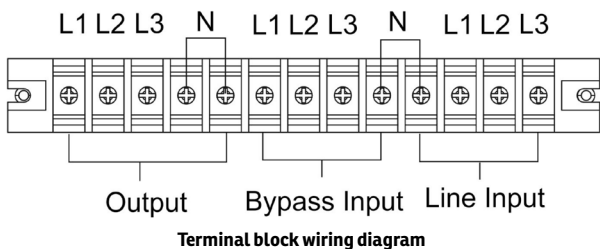
NOTE 1: The cable for Ranger 30KR should be able to withstand over 60A current. It is recommended to use AWG8 or thicker wire for Phase and AWG 4 or thicker wire for Neutral for safety and efficiency.

NOTE 2: The selections for color of wires should be followed by the local electrical laws and regulations.

5) Remove the terminal block cover at the rear panel of UPS. Then connect the wires according to the following terminal block diagrams: (Connect the grounding/earthing wire first when making other wire connections. Remove the grounding/earthing wire last when connecting the UPS!)

NOTE!

For dual input model with single input power system, connect input terminals to the AC power source and connect input and bypass input together (shows dashed line in below wiring diagrams).



NOTE 1: Make sure that the wires are connected securely with the terminals.

NOTE 2: Please install the output breaker between the output terminal and the load, and the breaker should have leakage current protective function if necessary.

6) Put the terminal block cover back at the rear panel of the UPS.



WARNING

- Make sure a DC breaker or other protective device between UPS and the external battery pack is installed for added safety. If not, please install it carefully. Switch off the battery breaker before installation.

NOTE: Set the battery pack breaker in “OFF” position and then install the battery pack.

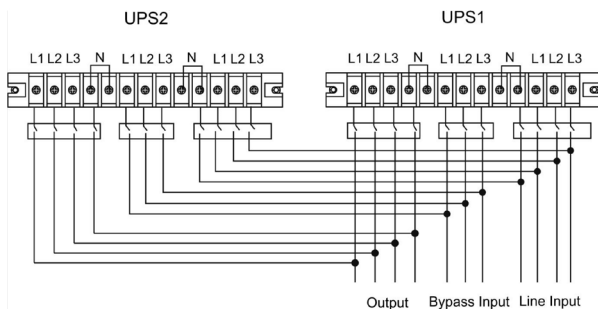
- Pay special attention to the rated battery voltage marked on the rear panel. If you want to change the numbers of the battery in a chain, make sure you modify the UPS setting accordingly. Connection with wrong battery voltage may cause irreversible damage of the UPS.
- Pay special attention to the polarity marking on external battery terminal block. Connection with wrong battery voltage may cause irreversible damage of the UPS.
- Make sure the protective grounding/earthing wiring is adequate. The current spec, color, position, connection and conductance reliability of the wire should be verified.
- Make sure the utility input & output wiring is rated correctly. The current spec, color, position, connection and conductance reliability of the wire should be verified. Make sure the L/N side is correct, not reverse or short-circuited.

2.4 UPS Installation for Parallel System

If the UPS is only for single operation, you may skip this section.

- 1) Install and wired the UPS according to the section 2-3.
- 2) Connect the output wires of each UPS to an output breaker.
- 3) Connect all output breakers to a major breaker. This major output breaker will then connect directly to the loads.
- 4) Either common battery packs or independent battery packs for each UPS are allowed.

5) Refer to the following wiring diagram:



Wiring diagram of parallel system

2.5 Software Installation

For optimal computer system protection, install UPS monitoring software to configure UPS shutdownoperation.

3 Operations

3.1 Button Operation

1) Before operation, make sure that the two strings of batteries are connected correctly in order of "+,GND,-" terminals and the breaker of the battery pack is at "ON" position (only for long-run model).

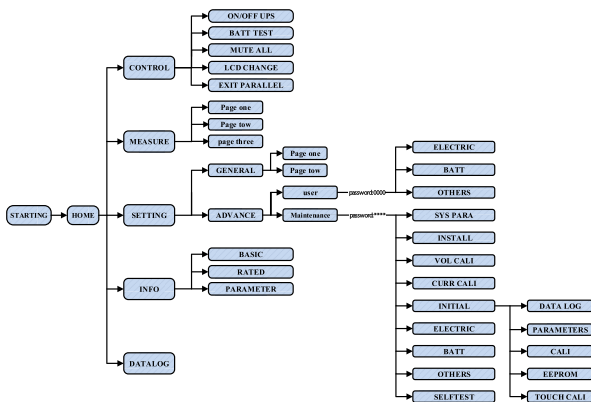
2) Press the "Power" button to set up the power supply for the UPS. UPS will enter into power on mode. After initialization, UPS will enter into "No Output mode".

3.2. Screen Description

After initialization, the LCD will display main screen. There are five sub-menus: Control, measure, setting, information and data log. Touch any sub-menu icon to enter into the sub-screen.

3.1 Button Operation

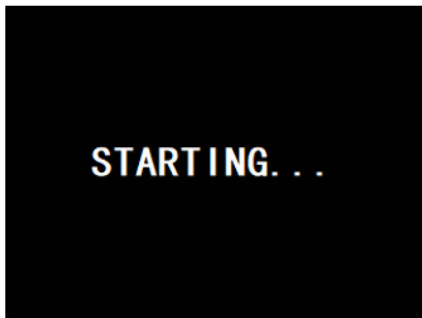
1) Before operation, make sure that the two strings of batteries are connected correctly in order of "+,GND,-" terminals and the breaker of the battery pack is at "ON" position (only for long-run model).



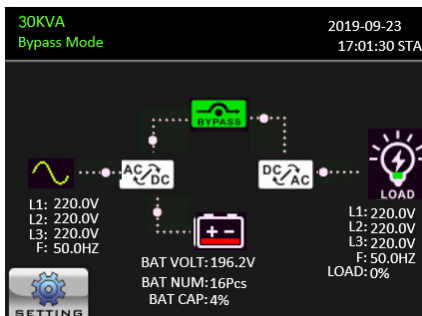
Menu tree

3.2.1 Main screen

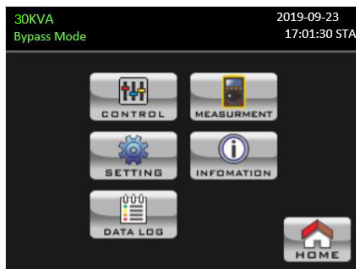
Upon powering on, the LCD will start initialization approximately few seconds as shown below.



After initialization, the main screen will display as shown below.

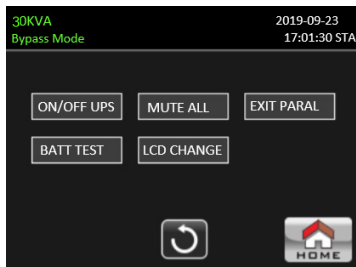


After touching the  icon, it will show five icons in center to represent five sub-menus: Control, measure, setting, information, data log.

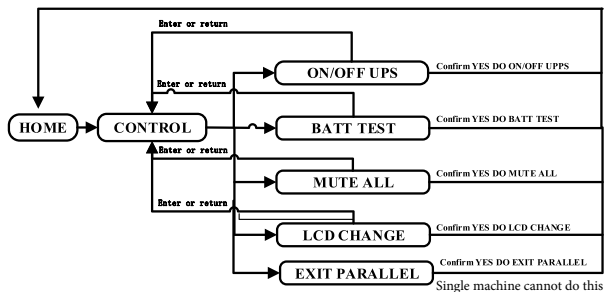


3.2.2 Control screen

Touch the icon  to enter control sub-menu.



Touch  icon will return back to main screen no matter it's in any screen of any submenu.



Screen 1.0 «Control» and its sub-menus

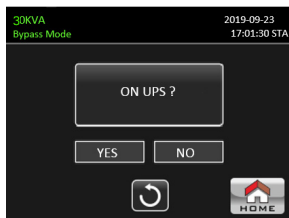
➤ On/Off UPS

It will show “On UPS?” when UPS is off.

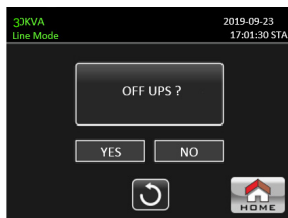
It will show “Off UPS?” when UPS is on.

Touch “YES” to turn on or off the UPS. Then, the screen will return to main screen.

Touch “Back” to return to main screen immediately or “No” to cancel this operation and back to main screen.



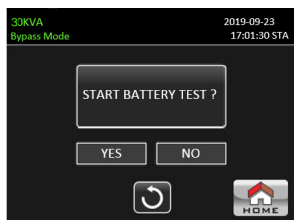
TURN ON UPS



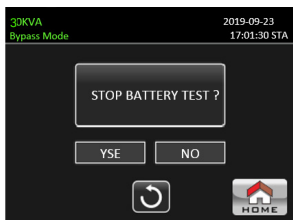
TURN OFF UPS

➤ Battery Test

It will show “Start Battery Test” if the UPS is not in test. Touch “Yes” to start battery test. Then, it will start battery testing. After few seconds, battery test result will show on the screen. Touch “Back” to return to main screen immediately or “No” to cancel this operation and back to main screen. It will show “Stop battery test” if the UPS is in test.



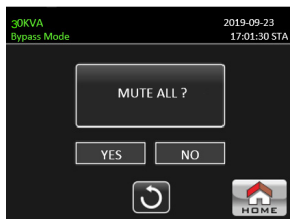
Battery Test



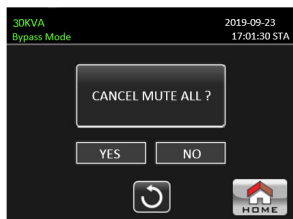
TURN OFF UPS

➤ Mute All

It will show “Mute all” if the audio is  active. Touch “Yes” to activate mute. If “Mute all” is active, it will show  icon on the top left corner of the main screen. Touch “Back” to return to CONTROL screen immediately or “No” to cancel this operation and back to CONTROL screen. It will show “Cancel mute all” if the UPS is mute already. Touch “Yes” to activate audio function or



Mute All



Cancel Mute all

➤ LCD Change

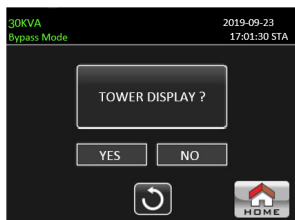
When LCD is in “Rack Display”, if you touch “LCD Change” icon, it will pop-up “Tower Display” window.

When LCD is in “Tower Display”, if you touch “LCD Change”, it will pop-up “Rack Display” window.

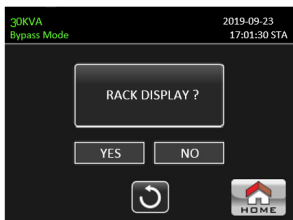
Touch “Yes” icon to change LCD Display.

Touch “No” icon to cancel this operation and back to CONTROL screen.

Touch “HOME” to return to main screen.



Tower Display



Rack Display

➤ Exit Parallel

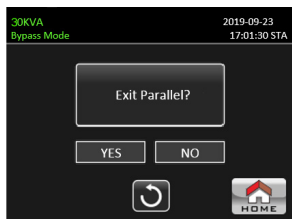
If the UPS is set as parallel mode, you can touch this icon to stop parallel mode.

Touch “Yes” to stop parallel mode and enter into standby mode.

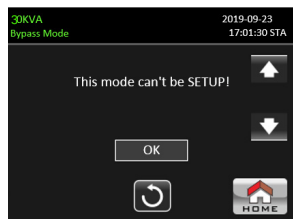
Touch “No” to cancel this operation and back to CONTROL screen.

If the UPS is operated in single mode, even you touch this icon, it will pop-up “This mode can't be setup” window.

Touch “HOME” to return to main screen.



Exit Parallel

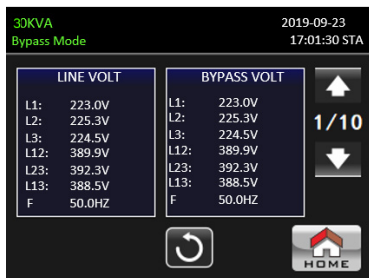


This mode can't be setup

3-2-3. Measure screen

Touch the icon  to enter measure page. Touch the icon  or  to browse information.

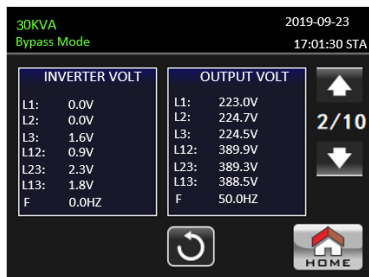
Touch the icon  to return to main screen. Touch the icon  to go back to previous menu.



Measure screen page 1

➤ **LINE VOLT:** The real time value of L1, L2 and L3 phase voltage, L1L2/L2L3/L3L1 voltage and input frequency.

➤ **BYPASS VOLT:** The real time value of L1, L2 and L3 bypass voltage, L1L2/L2L3/L3L1 voltage and frequency.



Measure screen page 2

➤ **INVERTER VOLT:** The real time value of L1, L2 and L3 inverter voltage, L1L2/L2L3/L3L1 voltage and frequency.

➤ **OUTPUT VOLT:** The real time value of L1, L2 and L3 output voltage, L1L2/L2L3/L3L1 voltage and frequency.

30KVA Bypass Mode		2019-09-23 17:01:30 STA	
INPUT W		INPUT W %	
L1:	7W	0%	
L2:	2W	0%	
L3:	3W	0%	
TOTAL W %		0%	

3/10

Measure screen page 3

- **INPUT W:** L1, L2 and L3 input power in watt.
- **INPUT W (%):** L1, L2 and L3 input power watt in percentage.

30KVA Bypass Mode		2019-09-23 17:01:30 STA	
INPUT VA		INPUT VA %	
L1:	57VA	0%	
L2:	67VA	1%	
L3:	67VA	1%	
INPUT VA %		0%	

4/10

Measure screen page 4

- **INPUT VA:** L1, L2 and L3 input power in VA.
- **INPUT VA (%):** L1, L2 and L3 input power VA in percentage.

30KVA
Bypass Mode

2019-09-23
17:01:30 STA

OUTPUT W	OUTPUT W %
L1: 6W	0%
L2: 2W	0%
L3: 3W	0%
TOTAL W %	0%

5/10

HOME

Measure screen page 5

- **OUTPUT W:** L1, L2 and L3 output power in watt.
- **OUTPUT W (%):** L1, L2 and L3 output power watt in percentage.

30KVA
Bypass Mode

2019-09-23
17:01:30 STA

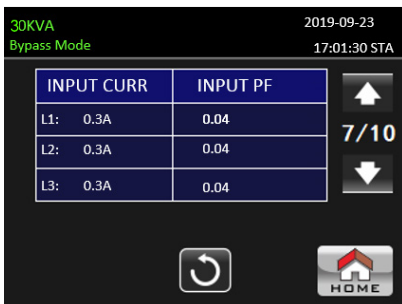
OUTPUT VA	OUTPUT VA %
L1: 67VA	0%
L2: 67VA	1%
L3: 67VA	1%
TOTAL VA %	0%

6/10

HOME

Measure screen page 6

- **OUTPUT VA:** L1, L2 and L3 output power in VA.
- **OUTPUT VA (%):** L1, L2 and L3 output power VA in percentage.



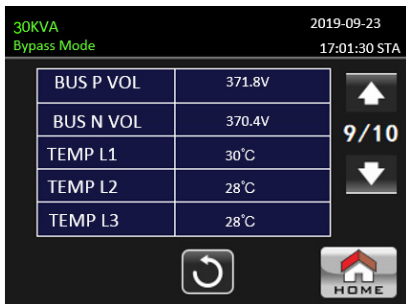
Measure screen page 7

- **INPUT CURR:** L1, L2, L3 input current in Amp.
- **INPUT PF:** L1, L2, L3 input power factor.



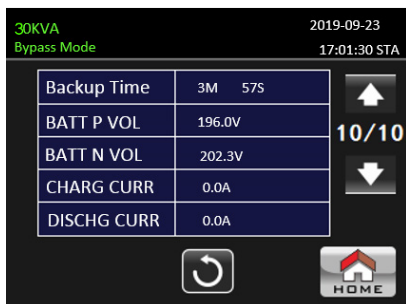
Measure screen page 8

- **OUTPUT CURR:** L1, L2, L3 output current in Amp.
- **OUTPUT PF:** L1, L2, L3 output power factor



Measure screen page 9

- **BUS Voltage:** The real time value of DC BUS (P and N) voltage.
- **TEMP:** Temperature of L1, L2 and L3 phases.



Measure screen page 10

- **Backup Time:** Estimated discharge time.
- **BATT Voltage /Charging Current/Discharging Current:** The real time value of DC related information.

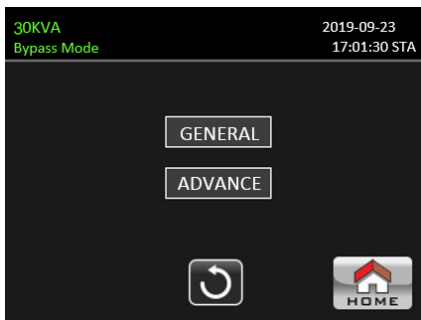
3.2.4 Setting screen

This sub-menu is used to set the parameters of UPS. Touch the icon  to enter setting menu page.

There are 2 options: General and Advanced. Touch the  icon to return to main screen. Touch the icon  to go back to previous menu.

NOTE!

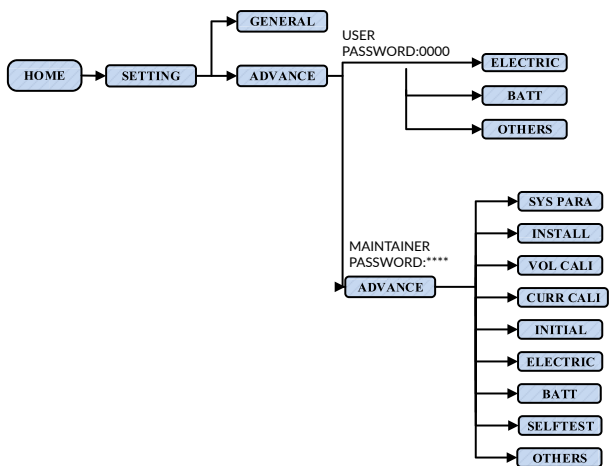
Not all settings are available in every operation mode. If the setting is not available in present mode, the LCD will keep its original setting parameter showed instead of changing the parameters.



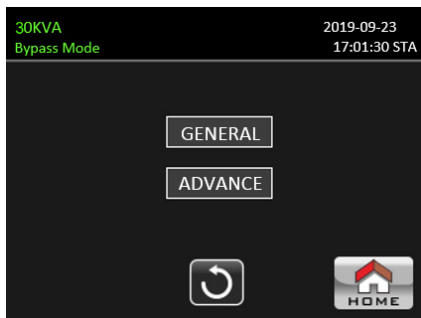
Setting screen

➤ **GENERAL:** It's to set up basic information of the UPS. It's not related to any function parameter.

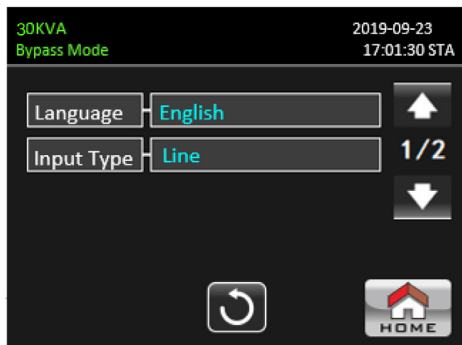
➤ **ADVANCE:** It's required to enter password to access to the "ADVANCED" setting. There are two types of authority, User and Maintainer.



Setting Menu tree



General Setting



Setting screen page 1

➤ **Language:** Set the LCD language. There are three options: English, Simplified Chinese and Traditional Chinese. English is default setting.

➤ **Input Source:** Select the input source. There are two options: Line (utility) and generator. Line is default setting. This setting value will show on the main page. When “generator” is selected, the acceptable input frequency will be fixed at the range of 40~70Hz. This setting value will show on the status bar.

➤ **Buzzer:**
If you touch this icon, it will pop-up “Yes” and “No” option.
If you touch “No”, it will turn off the warning buzzer.
If you touch “Yes”, it will turn on the warning buzzer. The factory default setting is turn on the warning buzzer.

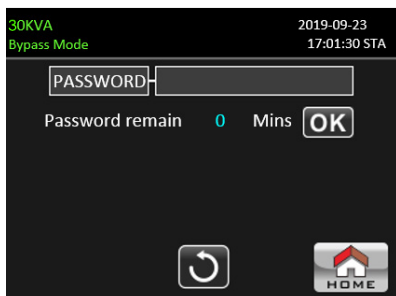
➤ **All Mute:**
Disable: When selected, the UPS will alarm when warning occurs.
Enable: When selected, the UPS will NOT alarm when warning occurs.

➤ **Mode Mute:**
Disable: When selected, the UPS will alarm when UPS related status changes.

Enable: When selected, the UPS will NOT alarm when UPS related status changes.

➤ **Volume:** Simply touch the panel to adjust alarm volume.

Advance Setting

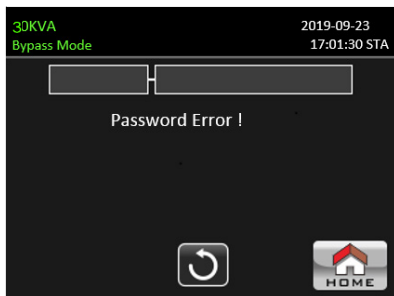


Advance Password Page

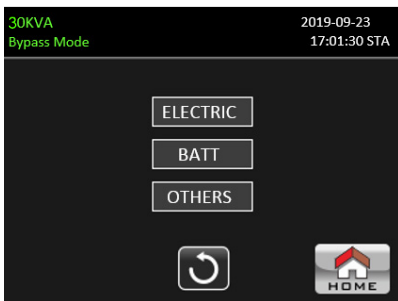
➤ Advance → User

To access to the “Advance → User” Setting menu page, it’s required to enter the default password “0000”.

If entered password is right, the page will jump to setting screen. If the password is wrong, it will ask to enter again.



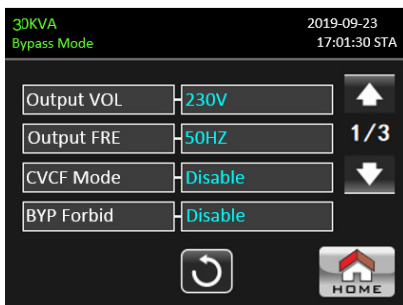
Password error page



Advance Setting Menu Page

There are three sub-menus under “Advance ➔ User” setting: ELECTRIC, BATT and OTHERS.

ELECTRIC



Electric Setting Page 1

- **Output VOLT:** Select the output rated voltage.
 - If the UPS is HV system, there are four options, 208V, 220V, 230V and 240V.
- **Output Frequency:** Select output rated frequency.
 - **50Hz:** The output frequency is setting for 50Hz.

■ **60Hz:** The output frequency is setting for 60Hz.

➤ **CVCF Mode** (constant voltage and constant frequency function)

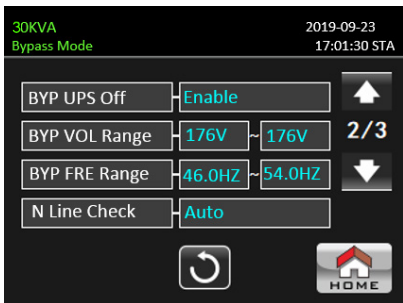
■ **Enable:** CVCF function is enabled. The output frequency will be fixed at 50Hz or 60Hz according to setting of "OP Freq.". The input frequency could be from 40Hz to 70Hz.

■ **Disable:** CVCF function is disabled. The output frequency will synchronize with the bypass frequency within 45~55 Hz for 50Hz system or within 55~65 Hz for 60Hz system. Disable is the default setting.

➤ **Bypass Forbid:**

■ **Enable:** Bypass forbid is allowed. When selected, it's not allowed for running in Bypass mode under any situations.

■ **Disable:** Bypass forbid is not allowed. When selected, UPS will run in Bypass mode depending on "Bypass at UPS off" setting. It 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, bypass mode is activated.

■ **Disable:** Bypass disabled. When selected, no output through bypass when manually turning off the UPS.

➤ **Bypass Voltage Range:** Set the bypass voltage range.

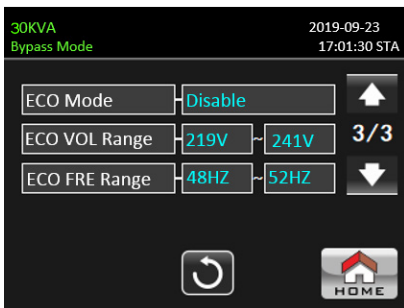
■ **H:** High voltage point for bypass. The setting range is 231V ~ 264V when UPS is HV system. The setting range is 130V ~ 146V when UPS is LV system.

■ **Neutral Line Check:** Indicates neutral loss detection function.

➤ **Disable:** Disable the neutral line check function. The UPS will not detect if the neutral line is loss or not.

➤ **Auto:** The UPS will automatically detect if the neutral is lost or not. If neutral loss is detected, an alarm will be generated. If the UPS is turned on, it will transfer to battery mode. When neutral line is restored and detected, the alarm will be muted automatically and the UPS will go back to normal mode automatically.

■ **Check:** The UPS will automatically detect the neutral loss. If neutral loss is detected, an alarm will be generated. If the UPS is turned on, it will transfer to battery mode. When neutral is restored, the alarm will NOT be muted automatically and the UPS will NOT go back to normal mode automatically.



Electric Setting Page 3

➤ **ECO mode:** Enable/Disable ECO mode. Default setting is "Disable".

➤ **ECO Voltage Range:** Set the ECO voltage range.

■ **H:** High voltage point for ECO mode. The setting range is from (Rated output voltage + 5V) to (Rated output voltage + 11V). "Rated output voltage + 5V" is default setting.

➤ **ECO Frequency Range:** Set the ECO frequency range. The setting range is from 46Hz to 54Hz when the UPS is 50Hz system and from 56Hz to 64Hz when the UPS is 60Hz system.

BATT

30KVA		2019-09-23	
Bypass Mode		17:01:30 STA	
BATT Warn Volt	L 11.5V H 12.5V		
Shutdown volt	10.7V		
BATT Age	24		
BATT AH	9		
			

Battery setting page 1

30KVA		2019-09-23	
Bypass Mode		17:01:30 STA	
BATT Study	Disable	 2/2 	
BATT Initial	NO		
BATT Groups	1		
BATT Cali	100		
BATT TEMP CMPN	0.0mV		
			

Battery setting page 2

➤ Battery Warning Voltage:

■ **HIGH:** High battery warning voltage. The setting range is 14.0V ~ 15.0V. 14.4V is default setting.

■ **LOW:** Low battery warning voltage. The setting range is 10.1V ~ 14.0V. 11.4V is default setting.

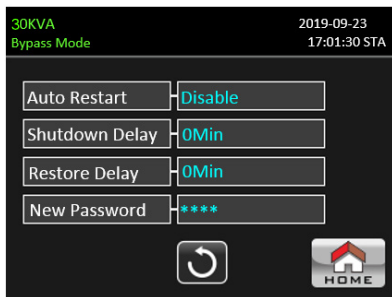
This parameter setting is related to "Shutdown Voltage" setting. This setting value should be higher than "Shutdown Voltage" setting.

➤ **Shutdown Voltage:** If battery voltage is lower than this point in battery mode, UPS will automatically shut down. The setting range is 10.5V ~ 12V. 10.7V is default setting.

➤ **Battery age:** if battery age is beyond the setting month, then the UPS will alarm for reminding. The factory default setting is 24 months.

➤ **Battery AH:** Setting battery capacity.

OTHERS



OTHERS setting page

➤ **Auto Restart:**

■ **Enable:** After “Enable” is set, once UPS shutdown occurs due to low battery and then utility restores, the UPS will return to line mode.

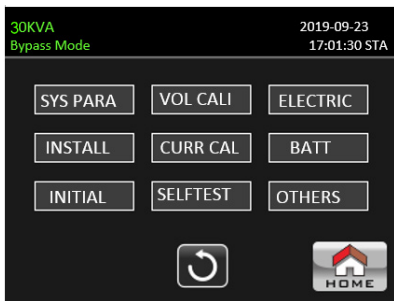
■ **Disable:** After “Disable” is set, once UPS shutdown occurs and the utility restores, the UPS will not automatically turn on.

➤ **Shutdown Delay:** UPS will shut down in setting minutes. The countdown will start after confirming the pop-up screen.

➤ **Restore Delay:** UPS will automatically restart in setting minutes after the UPS shuts down.

➤ **New Password:** Set up new password to enter “ADVANCE ➔ User” menu.

➤ ADVANCE ➔ Maintainer



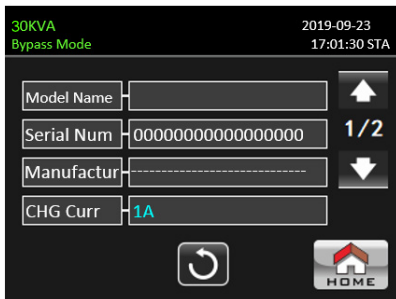
Advance ➔ Maintainer Setting Menu

To access the “Advance ➔ Maintainer” Setting menu page, it’s required to enter password. Please contact your local dealer to get maintainer password.

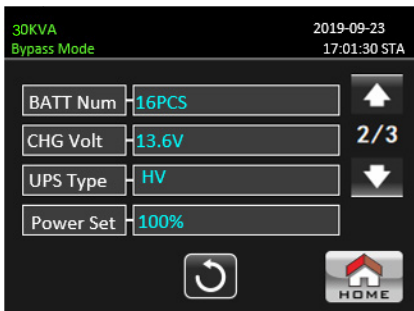
CAUTION: This setting menu is only for qualified technician. Otherwise, mis-operation will cause UPS damage.

There are 9 sub-menus under “Advance ➔ Maintainer” setting: SYS PARAMETER, INSTALL, INITIAL, VOL CALI, CURR CALI, SELF TEST, ELECTRIC, BATT and OTHERS.

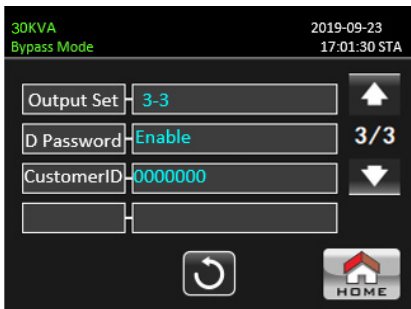
SYSTEM PARAMETER



SYSTEM PARAMETER Page 1



SYSTEM PARAMETER Page 2



SYSTEM PARAMETER Page 3

- Model Name: Set the UPS model name.
- Serial Number: Set the serial number.
- Manufacturer: Set the UPS manufacturer.
- Charge Current:
 - One piece of charger: There are twelve options: 1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A, 9A, 10A, 11A, 12A.
 - Two pieces of charger: There are twelve options: 2A, 4A, 6A, 8A, 10A, 12A, 14A, 16A, 18A, 20A, 22A, 24A.

➤ **BATT Number:** The total number of installed battery. (It's required to restart the UPS after setting.) The setting range is 16 ~ 20 pcs. 16 pcs is default setting.

➤ **Charger VOLT:** The setting point of battery float voltage. 13.6V is default setting.

➤ **UPS Type:** There are two options, HV and LV. This change is only allowed for qualified technician.

NOTE: It's required to restart the UPS after setting.

■ **Power Set:** Set the UPS power.

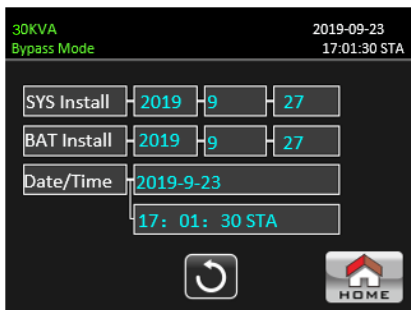
■ **Output Set:** There are two options, 3-3 and 3-1. This change is only allowed for qualified technician.

NOTE: It's required to restart the UPS after setting.

■ **D Password:** Enable or disabled dynamic password.

■ **CustomerID:** Used to produce dynamic password.

INSTALL



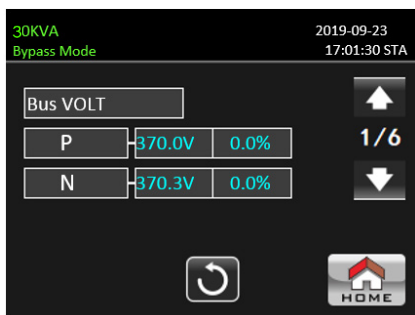
INSTALL Page

➤ **System Install Date:** Set the date of UPS installation.

➤ **Battery Install Date:** Set the date of Battery installation.

■ **Date/Time:** Set the date and time. The format is YYYY-MM-DD HH:MM:SS. The calendar day will be automatically changed when the year, month and date are set.

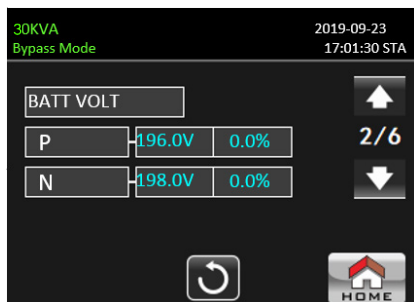
VOLTAGE CALIBRATE



VOLTAGE CALIBRATE Page1

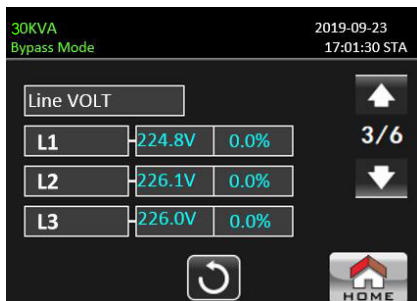
➤ **Bus VOLT:** BUS voltage calibration. Click value columns and it will pop up . Then, each click is 0.1% no matter it's pressing up or down key .

Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.



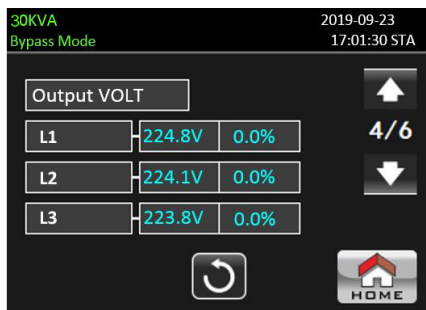
VOLTAGE CALIBRATE Page2

➤ **BATT VOLT:** Battery voltage calibration. Click value columns and it will pop up . Then, each click is 0.1% no matter it's pressing up or down key . Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.



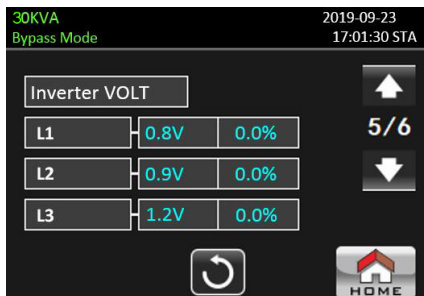
VOLTAGE CALIBRATE Page3

➤ **Line VOLT:** Line voltage calibration. Click value columns and it will pop up . Then, each click is 0.1% no matter it's pressing up or down key . Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.



VOLTAGE CALIBRATE Page 4

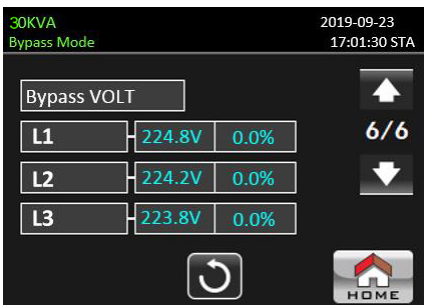
➤ **Output VOLT:** Output voltage calibration. Click value columns and it will pop up . Then, each click is 0.1% no matter it's pressing up or down key . Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.



VOLTAGE CALIBRATE Page 5

➤ **Inverter VOLT:** Inverter voltage calibration. Click value columns and it will pop up . Then, each click is 0.1% no matter it's pressing up or down key . Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.

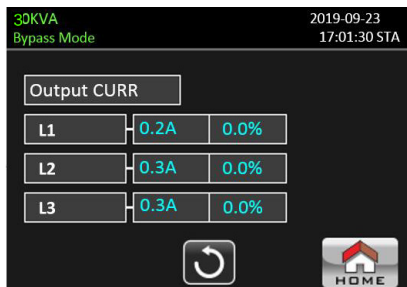
Press "up" key to increase 0.1% and press "down" key to decrease 0.1%. Press "OK" key to confirm the modification.



VOLTAGE CALIBRATE Page 6

➤ **Bypass VOLT:** Bypass voltage calibration. Click value columns and it will pop up   . Then, each click is 0.1% no matter it's pressing up or down key  . Press “up” key to increase 0.1% and press “down” key to decrease 0.1%. Press “OK” key to confirm the modification.

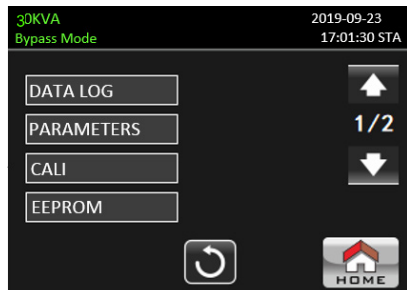
CURRENT CALIBRATE



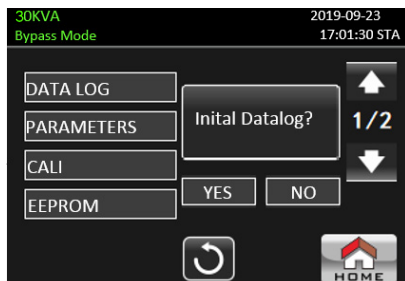
Current Calibrate Page

➤ **Output CURR:** Output current calibration. Click value columns and it will pop up   . Then, each click is 0.1% no matter it's pressing up or down key  . Press “up” key to increase 0.1% and press “down” key to decrease 0.1%. Press “OK” key to confirm the modification.

INITIAL

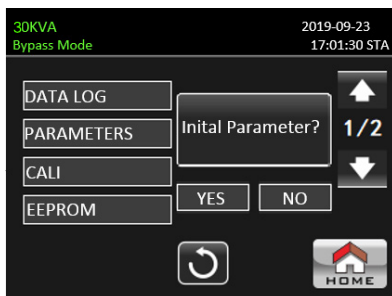


INITIAL menu Page1



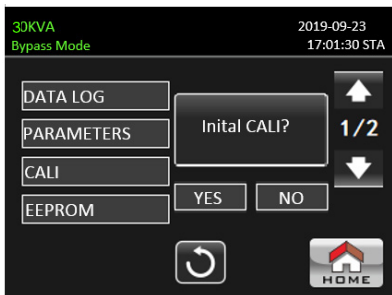
INITIAL → Data log Page

➤ **DATA LOG:** After clicking “DATA LOG”, it will pop up a message board as shown in above screen. Touch “YES” to clear the DATA LOG page. Touch “No” to cancel this operation. Touch “” to return to INITIAL menu page.



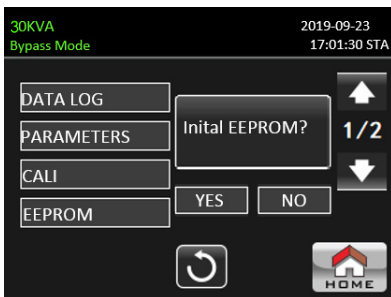
INITIAL → Parameter Page

➤ **PARAMETERS:** After clicking “PARAMETERS”, it will pop up a message screen as shown in above screen. Touch “YES” to restore default value. Touch “No” to cancel this operation. Touch “” to return to INITIAL menu page.



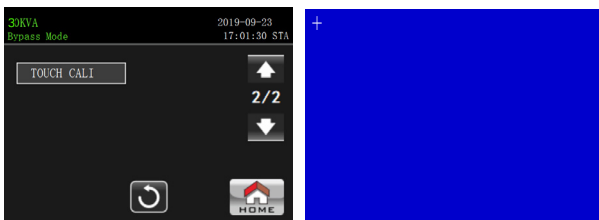
INITIAL → CALI Page

➤ **CALIBRATE:** After clicking “CALI”, it will pop up a message board as shown in above screen. Touch “YES” to restore default calibration value. Touch “No” to cancel this operation. Touch “” to return to INITIAL menu page.



INITIAL → CALI Page

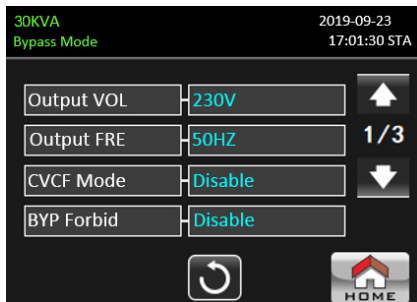
➤ **EEPROM:** After clicking “EEMPROM”, it will pop up a message board as shown in above screen. Touch “YES” to clear all setting value in EEPROM. Touch “No” to cancel this operation. Touch “” to return to INITIAL menu page.



INITIAL → TOUCH CALI Page

➤ **TOUCH CALI:** After pressing the confirmation window, it will pop up as shown in above screen. Touch screen to recalibrate. Then, the blue screen appears and please click on the place of the cross with your mouse.

ELECTRIC



Electric Page 1

- **Output VOLT:** Select the output rated voltage.
 - When UPS is HV system, there are four options, 208V, 220V, 230V and 240V.
- **Output FRE:** Select output rated frequency.
 - 50Hz: The output frequency is setting for 50Hz.
 - 60Hz: The output frequency is setting for 60Hz.
- **CVCF Mode** (constant voltage and constant frequency function).

■ **Enable:** CVCF function is enabled. The output frequency will be fixed at 50Hz or 60Hz according to setting of "Output Freq.". The input frequency could be from 46Hz to 64Hz.

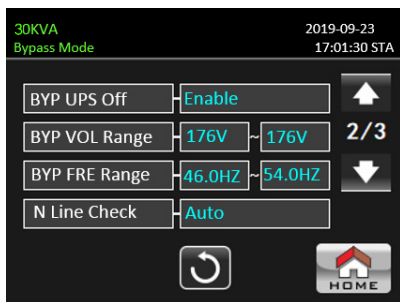
■ **Disable:** CVCF function is disabled. The output frequency will synchronize with the bypass frequency within 46~54 Hz for 50Hz system or within 54~64 Hz for 60Hz system. Disable is the default setting.

➤ Bypass Forbid:

■ **Enable:** Bypass Forbid is enabled. It's not allowed for running in

➤ Bypass mode under any situations.

■ **Disable:** Bypass Forbid is disabled. UPS will run in Bypass mode. It is the default setting.



Electric 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, bypass mode is activated.

■ **Disable:** Bypass disabled. When selected, no output through bypass when manually turning off the UPS.

➤ Bypass Voltage Range: Set the bypass voltage range.

■ **H:** High voltage point for bypass. The setting range is 231V ~ 264V when the UPS is HV system.

➤ Bypass FRE Range: Set the bypass frequency range.

The acceptable bypass frequency range from 46Hz to 54Hz when UPS is 50Hz system and from 56Hz to 64Hz when UPS is 60Hz system.

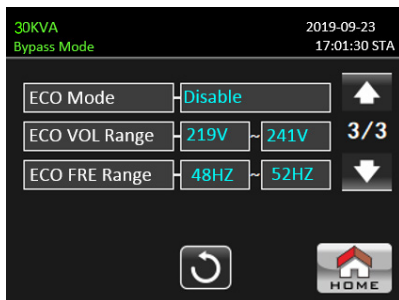
➤ **N Line Check:** Check if neutral line is correctly connected or not.

■ **Disable:** Disable the neutral loss detection function. The UPS will not detect the neutral loss or not.

■ **Auto:** The UPS will automatically detect the neutral is lost or not. If neutral loss is detected, an alarm will be generated. If the UPS is turned on, it will transfer to battery mode. When neutral is restored and detected, the alarm will be muted automatically and the UPS will go back to normal mode automatically.

■ **CHE:** The UPS will detect the neutral loss or not only when first commission. If neutral loss is detected, an alarm will be generated. If the UPS is turned on, it will transfer to battery mode.

When neutral is restored, the alarm will NOT be muted automatically and the UPS will NOT go back to normal mode automatically. Please be sure to enter this selection and re-start the UPS again to mute alarm.



Electric Page 3

➤ **ECO mode:** Enable/Disable ECO mode. Default setting is "Disable".

➤ **ECO Voltage Range:** Set the ECO voltage range.

■ **L:** Low voltage point for ECO mode. The setting range is from (Rated output voltage - 5V) to (Rated output voltage - 11V). "Rated output voltage - 5V" is default setting.

■ **H:** High voltage point for ECO mode. The setting range is from (Rated output voltage + 5V) to (Rated output voltage + 11V). "Rated output voltage + 5V" is default setting.

➤ **ECO FRE Range:** Set the ECO frequency range. The setting range is from 48Hz to 52Hz when the UPS is 50Hz system and from 58Hz to 62Hz when the UPS is 60Hz system.

BATTERY

30KVA
Bypass Mode

2019-09-23
17:01:30 STA

BATT Warn Volt	Low 11.5V	High 12.5V
Shutdown volt	10.7V	
BATT Age	24	
BATT AH	9	




Battery setting page 1

30KVA
Bypass Mode

2019-09-23
17:01:30 STA

BATT Study	Disable	↑ 2/2 ↓
BATT Initial	NO	
BATT Groups	1	
BATT Cali	100	
BATT TEMP CMPN	0.0mV	




Battery setting page 2

- **Battery Warning Voltage:**
- **HIGH:** High battery warning voltage. The setting range is 14.0V ~ 15.0V. 14.4V is default setting.
 - **LOW:** Low battery warning voltage. The setting range is 10.1V ~ 14.0V. 11.4V is default setting.

This parameter setting is related to “Shutdown Voltage” setting. The setting value should be higher than “Shutdown Voltage” setting.

➤ Shutdown Voltage: If battery voltage is lower than this point in battery mode, UPS will automatically shut down. The setting range is 10.5V ~ 12.0V. 10.7V is default setting (This setting is only available for long-run model).

➤ Battery age: if battery age is beyond the setting month, then the UPS will alarm for reminding. The factory default setting is 24 months.

➤ Battery AH: setting battery capacity.

➤ Battery Groups: setting battery groups.

➤ Battery Study:

■ **Enable:** The backup time prediction has a self-learning function to calibrate the battery virtual capacity according to a complete charging and discharging process.

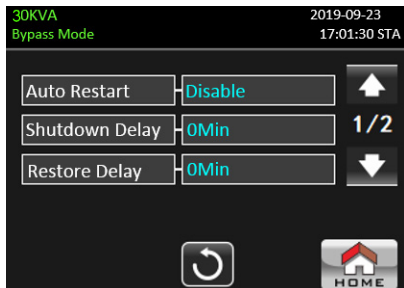
■ **Disable:** The battery capacity will not be updated during the charging and discharging process.

➤ Battery Initial: The battery virtual capacity is initialized to 100%. Because the backup time has self-learning function, after the battery is used for along time, after each full charge is completed, the virtual capacity of the battery will be continuously updated. After replacing the new battery, the virtual of the battery needs to be initialized at this time.

➤ Battery Cali: Calibration backup time.

➤ Battery TEMPCMPN(Compensation): It will compensate charging voltage based on temperature.

OTHERS



OTHERS setting page1

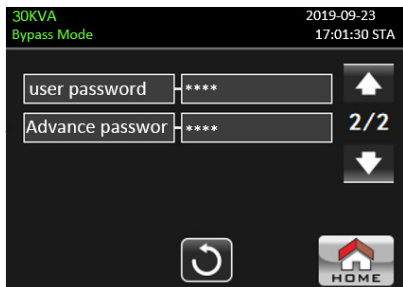
➤ Auto Restart:

■ **Enable:** After “Enable” is set, once UPS shutdown occurs due to low battery and then utility restores, the UPS will return to line mode.

■ **Disable:** After “Disable” is set, once UPS shutdown occurs and the utility restores, the UPS will not automatically turn on.

➤ Shutdown Delay Min: UPS will shut down in setting minutes. The countdown will start after confirming the pop-up screen.

➤ Restore Delay Min: UPS will automatically restart in setting minutes after the UPS shuts down.



OTHERS setting page2

➤ User Password: Set up User new password to enter “ADVANCE➔User” menu page.

➤ Advance Password: Set up User new password to enter “ADVANCE➔Maintainer” menu page.

SELFTEST



This function is only effective when UPS type setting is "HV". Therefore, please disconnect all loads and utility first before executing this function.

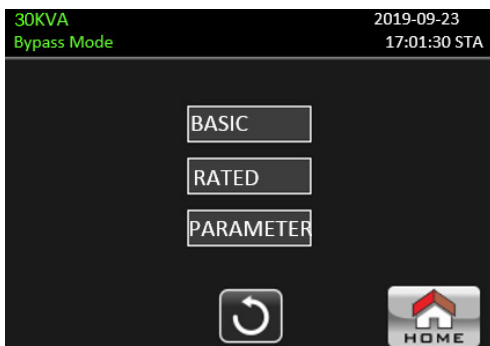
Connect Bypass input L1, L2, L3 to Main input L1, L2, L3 respectively.

Then, please change UPS type to "HV". For the detailed operation, please check "System Parameter" menu under Advance ➔ Maintainer directory.

After changing UPS type to "HV", you have to restart the UPS. After the UPS is restarted, please enter Advance screen and enter Maintainer password. It will show "SELFTEST" selection in the screen. In the screen, all tested items are shown "unknown". Simply click "START" button, the UPS will start self-test. If the UPS is normal, it will show "Normal" in all columns. Otherwise, "Unknown" will be displayed in the columns. After testing is complete, the screen will become black. Otherwise, "Unknown" will be displayed in the columns to show test failure.

3.2.5 Information screen

Touch the icon  to enter information page. There are three sub-menus: BASIC, RATED and PARAMETER. Touch the icon  to return to main screen. Touch the icon  to go back to previous menu.



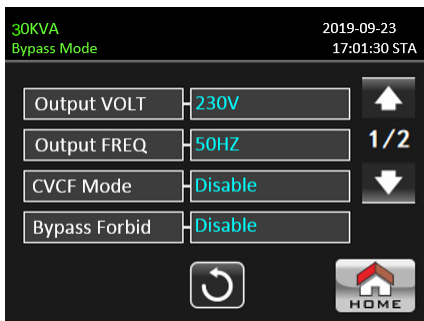
Basic Information Page 1



Basic Information Page 2

Basic Information

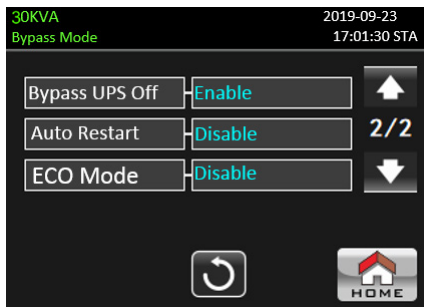
- MCU Version: MCU version.
- DSP Version: DSP version.
- LCD Version: DSP version.
- Serial NO.: The serial number of UPS.



Rated Information Page 1

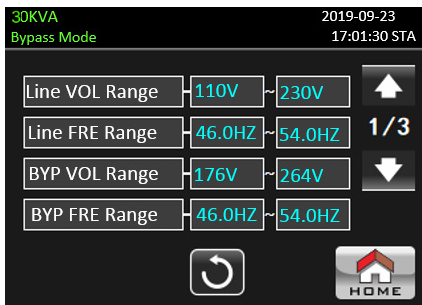
Rated Information

- Output Voltage: It shows output rated voltage.
- Output Frequency: It shows output rated frequency.
- CVCF Mode: Enable/Disable CVCF mode.
- Bypass Forbid: Enable/disable bypass function.



Rated Information Page 2

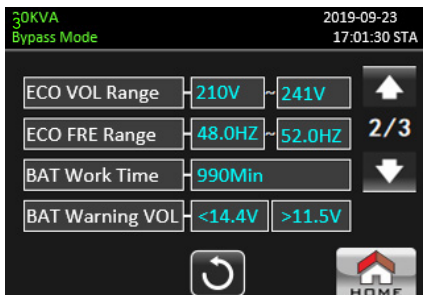
- Bypass at UPS Off: Enable/disable auto bypass function when UPS is off.
- Auto Restart: Enable/disable auto-restart function.
- ECO Mode: Enable/disable ECO function.



Parameter Information Page 1

Parameter Information

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



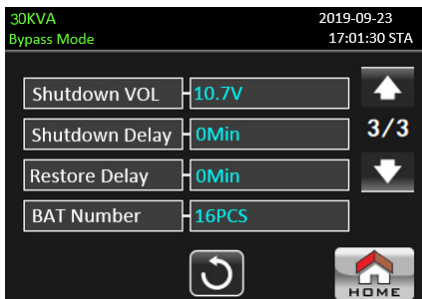
Parameter Information Page 2

- ECO Voltage Range: The acceptable input voltage range for ECO mode.
- ECO FRE Range: The acceptable input frequency range for ECO mode.

➤ ECO Voltage 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.



Parameter Information Page 3

➤ Shutdown Voltage: If battery voltage is lower this point, UPS will automatically shut down.

➤ Shutdown Delay: set time to delay ups shutdown.

➤ Restore Delay: UPS will automatically restart in setting minutes after the UPS shuts down.

➤ Battery Numbers: It shows battery number.

3.2.6 Data Log screen

Touch the icon  to enter date log page. Data log is used to record the warning and fault information of the UPS. The record contains date & time, type and description. Touch the icon  or  to page up or down if there are more than one page in the date log. Touch the icon  to return to main screen. Press the icon  to go back to main menu. Please refer to Section 3-6 and 3-7 for warning and fault code list.

30KVA Bypass Mode		2019-09-23 17:01:30 STA	
Time	Type	Describe	
19/09/23 17:00:20	Mode	PowerOn Mode	






Data Log Screen

3.3 Audible Alarm

Description	Buzzer status	Muted
UPS status		
Bypass mode	Beeping once every 2 minutes	Yes
Battery mode	Beeping once every 4 seconds	
Fault mode	Beeping continuously	
Warning		
Overload	Beeping twice every second	No
Others	Beeping once every second	
Fault		
All	Beeping continuously	Yes

3.4 Single UPS Operation

1. Turn on the UPS with utility power (in AC mode)

- After power mains is connected correctly, set the breaker of the battery pack to "ON" position (this step only necessary for long-run model). Then set the line input breaker to "ON" position. At the same time the fan will start running and the UPS will start initialization. In just a few seconds, the UPS will supply power to the loads via the Bypass mode.

NOTE!

When UPS is in Bypass mode, the output voltage will be directed from mains after you switch on the input breaker. In Bypass mode, the load is not protected by the UPS. To protect your precious devices, you should turn on the UPS. Refer to next step.

- Touch "CONTROL" and select the "icon". It will show "On UPS?" in screen and select "Yes". Refer to On/Off UPS screen.
- In just a few seconds, the UPS will enter into AC mode. If the mains is abnormal, the UPS will operate in Battery mode without interruption.

NOTE!

When the UPS runs out battery, it will shut down automatically in Battery mode. When the mains is normalized, the UPS will auto restart in AC mode.

2. Turn on the UPS without utility power supply (in Battery mode)

- Make sure that the two strings of batteries are connected correctly in order of "+,GND,-" terminals and the breaker of the battery pack is at "ON" position.
- Press the "  POWER" button to set up the power supply for the UPS. UPS will enter to power on mode. After initialization, UPS will enter to "No Output mode".
- In just a few seconds, the UPS will be turned on and enter into Battery mode.

3. Connect devices to UPS

After the UPS is turned on, you can connect devices to the UPS.

- Turn on the UPS first and then switch on the devices one by one. The LCD panel will display total load level.
- If it is necessary to connect the inductive loads such as a printer, the in-rush current of the load should be calculated carefully to see if it meets the overload capability of the UPS. Any load more than 150% over designed capacity the runtime will be less than 60ms
- If the UPS is overload, the buzzer will beep twice every second.
- When the UPS is overload, please remove some loads immediately. It is recommended to have the total loads connected to the UPS less than 80% of its nominal power capacity to prevent overload for system safety.
- If the overload time is over acceptable time listed in spec in AC mode, the UPS will automatically transfer to Bypass mode. After the overloading was resolved, it will return back to AC mode. If the overload time is over acceptable time listed in spec in Battery mode, the UPS will enter fault status.

At this time, if bypass is enabled, the UPS will power to the load via bypass. If bypass function is disabled or the input power is not within bypass acceptable range, it will cut off output entirely.

4. Charge the batteries

- After the UPS is connected to the mains and turned on in AC mode, the charger will charge the batteries automatically except in battery mode, during battery self-test, overload or when battery voltage is high.
- It's recommended to charge batteries for at least 10 hours before operation. Otherwise, the backup time may be shorter than expected.

5. Battery mode operation

- When the UPS is in Battery mode, the buzzer will sound according to different battery capacity. If the battery capacity is more than 25%, the buzzer will beep once every 4 seconds. If the battery voltage drops to the alarm level, the buzzer will beep once every sec to remind users that the battery is at low level and the UPS will shut down imminently. Users could switch off some non-critical loads to disable the shutdown alarm and prolong the backup time. If there is no more load to be switched off, you have to prepare shutdown procedure to preserve working data or devices. Otherwise, there is a risk of data loss or load failure.
- In Battery mode, users can touch "SETTING" → "GENERAL" → Audio Mute to enable "Mode Mute" to disable the buzzer.
- The backup time of the long-run model depends on the external battery capacity.
- The backup time may vary from different operating temperature and load type.
- When setting backup time for 16.5 hours (default value from LCD menu), after discharging 16.5 hours, UPS will shut down automatically to protect the battery. This battery discharge protection can be enabled or disabled through LCD menu.

6. Test the batteries

- If you need to check the battery status when the UPS is running in AC mode/CVCF mode, you could touch "CONTROL" and select "Battery Test". Refer to "Battery Test" screen.
- Users also can set battery self-test through monitoring software.

7. Turn off the UPS with utility power supply in AC mode

- Touch "CONTROL" and select "Turn off UPS" icon to turn off the UPS. Refer to "On/Off UPS" screen.

NOTE 1: If the UPS has been set to bypass output, it will bypass voltage from the mains to output terminal even though you have turned off the UPS (inverter).

NOTE 2: After turning off the UPS, please be aware that the UPS is working in Bypass mode, there will be risk of power loss for connected devices.

- In Bypass mode, output voltage of the UPS is still present. In order to cut off the output, switch off the line input breaker. The LCD display will turn off and UPS is now completely off.

8. Turn off the UPS without utility power supply in Battery mode

- Touch “CONTROL” and select “Off UPS” icon to turn off the UPS. Refer to “On/Off UPS” screen.
- Then UPS will cut off power to output terminals.

9. Mute the buzzer

- Touch “SETTING” and select “GENERAL” item. There are two events available to mute. Refer to “SETTING” screen.
- Some warning alarms can't be muted unless the error is fixed. Please refer to section 3-3 for details.

10. Operation in warning status

- When LCD screen shows “Fault Mode” and the buzzer beeps once every second, it indicates that there are problems for UPS operation. Users can read the warning message(s) from “DATA LOG” menu. Please refer to the Chapter 4 for details.
- Some warning alarms can't be muted unless the error is fixed. Please refer to section 3-3 for details.

11. Operation in Fault mode

- When the buzzer beeps continuously, it means that there is a fatal error with the UPS. Users can get the fault code from “DATA LOG” menu. Please refer to the Chapter 4 for details.
- Please check the loads, wiring, ventilation, mains, battery and so on after the fault occurs. Don't try to turn on the UPS again before solving the issues. If the problems persist, contact the distributor or service personnel immediately.
- In case of an emergency, shut off connections from mains, external battery, and output immediately to avoid possible damage to the UPS or equipment.

12. Operation in maintenance bypass mode

This operation should only be performed by maintenance personnel or qualified technicians. When the UPS needs to repair or service and the load could not be shut off, the UPS needs to be put into maintenance mode.

- First, switch off the UPS.
- Then, remove the cover of maintenance bypass switch on the panel.
- Turn the maintenance switch to “BPS” position.

13. 33 model set to 31 model

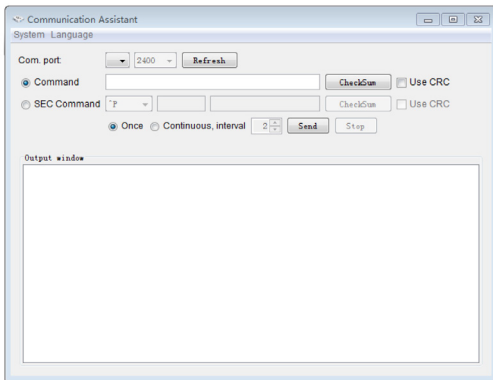
A. First method

This operation should only be performed by maintenance personnel or qualified technicians.

1) Open the communication software.

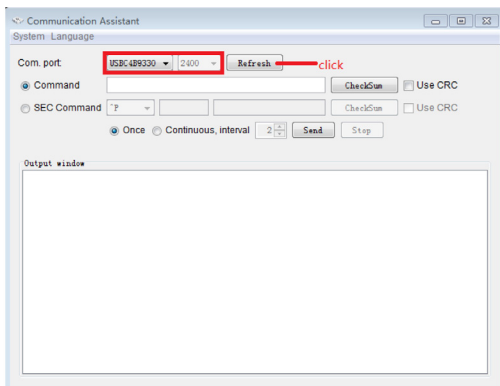


The following interface will appear.



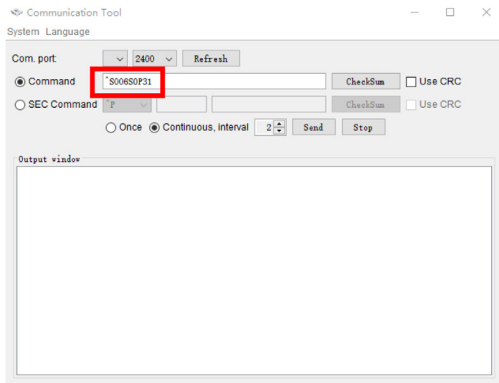
2) When setting up the battery parameter, please confirm that the UPS state is in bypass mode or standby mode.

3) Click “Refresh”, “USB...” and “2400” will appear at the appropriate location.



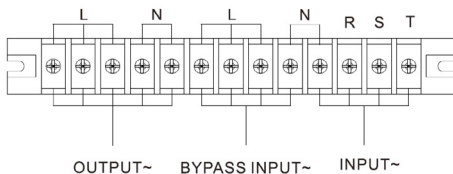
4) Enter the command “^S006SOP31” to set the UPS to 31 model. UPS will return “^D006ACK” when it accepts. If you want to set the UPS to 33 model, the command is “^S006SOP33”.

NOTE!: This parameter setting is not effected immediately. The setting will be saved only when UPS shut down normally with battery connected.

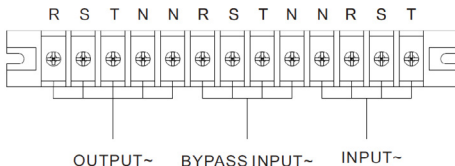


5) After the UPS shuts down normally, the output terminals need to be shorted.

3:1 Schematic diagram for the connection of short circuit sheet copper.

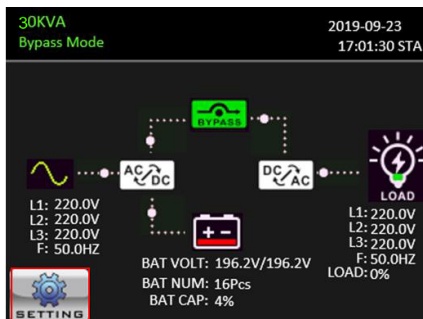


3:3 Schematic diagram for the connection of short circuit sheet copper

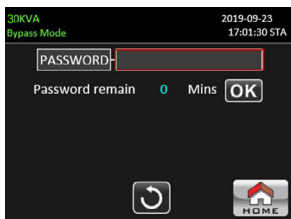
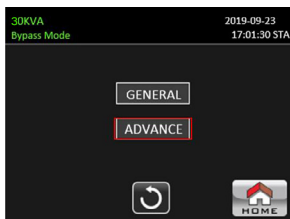


B. Second method

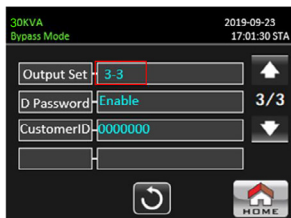
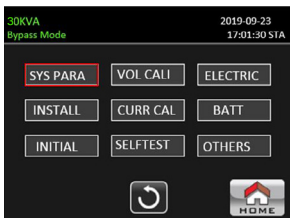
1) Press "SETTING" in bypass mode or standby mode.



2) Enter password.



3) Press "SYS PARSMETER" then go to page 2. Select "Output Settings" and change "3-3" to "3-1"



NOTE: The parameter settings will be saved only when UPS shuts down normally with battery connected.

3.5 Parallel Operation

1. Parallel system initial startup

Please make sure that all of the running UPSs are parallel models and have the same configuration.

- Turn on each UPS in AC mode respectively (Refer to section 3-4(1). Then, measure the inverter output voltage of each phase for each UPS with a multi-meter. Calibrate the inverter output voltage by configuring inverter voltage adjustment (Refer to SETTING ADVANCE SYS PARAMETERS → VOL CALI screen) in LCD menu until the inverter output voltage difference of each UPS is within 1V or less.

- Turn off each UPS (Refer to section 3-4(7). Then, follow the wiring procedure in section 2-4.

3) Remove the cover of parallel share current cable port on the UPS, connect each UPS one by one with the parallel cable and share current cable, and then replace the cover.

4) Turn on the parallel system in AC mode:

- Turn on the line input breaker of each UPS. If using dual-input unit, please also turn on the external bypass input breaker. After all UPSs enter into bypass mode, measure the output voltage between two UPSs for the same phase to make sure the phase sequence is correct. If these two voltage differences are near to zero, that means all connections are met. Otherwise, please check if the wirings are connected correctly.

- Turn on the output breaker of each UPS.

- Turn on each UPS in turns. After a while, the UPSs should enter into AC mode synchronously and then, the parallel system is now complete.

5) Turn on the parallel system in Battery mode:

- Turn on the battery breaker and external output breaker of each UPS.

- Turn on any UPS. A few seconds later, the UPS will enter into battery mode.

- Turn on the next UPS in sequence until all the UPSs enter into Battery mode and add to the parallel system. Now the parallel system is complete.

If you would like to have more information regarding the parallel operation, please contact your supplier or service center for detail parallel operation instruction.

2. Add new units into the parallel system

- You can not add new unit into the parallel system when whole system is running. You must cut off the load and shutdown the system.
- Make sure all of the UPS are the parallel models, and follow the wiring reference in section 2-4.
- Install the new parallel system as per section 3-5.

3. Remove units from the parallel system

There are two methods to remove units from the parallel system:

First method:

- Touch "CONTROL" ➔ "Off UPS" and select "Yes" to turn of the UPS. Then, the UPS will enter into Bypass mode or No Output mode without output.
- Turn off the output breaker of this unit, and then turn off the input breaker of this unit.
- Turn off the battery breaker and remove the parallel and share current cables. And then remove the unit from the parallel system.

Second method:

- If the bypass is abnormal, you can not remove the UPS without interruption. You must cut off the load and shut down the system.
- Make sure the bypass setting is enabled in each UPS and then turn off the system. All UPSs will transfer to Bypass mode. Remove all the maintenance bypass covers and set the maintenance switches from "UPS" to "BPS" position. Turn off all the input breakers and battery breakers in parallel system.
- Turn off the output breaker and remove the parallel cable and share current cable of the UPS which you want to remove. Now, you can remove the UPS from parallel system.

- Turn on the input breaker of the remaining UPS and the system will transfer to Bypass mode. Set the maintenance switches from “BPS” to “UPS position and put the maintenance bypass covers back on.
- Turn on the remaining UPS according to the previous section.



WARNING (Only for the parallel system)

- Before turning on the parallel system to activate inverter, make sure that all unit's maintenance switch at the same position.
- When parallel system is turned on, please do not operate the maintenance switch of any unit.
- The parallel system DOES NOT support ECO mode. Therefore, please DO NOT “enable” ECO mode in any unit.

3.6 Fault Code

Fault code	Fault event	Icon	Fault code	Fault event	Icon
01	Bus start failure	None	41	Over temperature	None
02	Bus over	None	42	DSP communication failure	None
03	Bus under	None	43	Overload	None
04	Bus unbalance	None	46	Incorrect UPS setting	None
06	Converter over current	None	47	MCU communication failure	None
11	Inverter soft start failure	None	48	Two DSP firmware versions are incompatible in parallel system.	None
12	High inverter voltage	None	60	Bypass phase short circuited	None
13	Low inverter voltage	None	61	Bypass SCR short circuited	None
14	Inverter L1 output (line to neutral) short circuited	None	62	Bypass SCR open circuited	None

15	Inverter L2 output (line to neutral) short circuited	None	63	Voltage waveform abnormal in R phase	None
16	Inverter L3output (line to neutral) short circuited	None	64	Voltage waveform abnormal in S phase	None
17	Inverter L1-L2 output (line to line) short circuited	None	65	Voltage waveform abnormal in T phase	None
18	Inverter L2-L3 output (line to line) short circuited	None	66	Inverter current sample abnormal	None
19	Inverter L3-L1 output (line to line) short circuited	None	67	Bypass O/P short circuited	None
1A	Inverter L1 negative power fault	None	68	Bypass O/P line to line short circuited	None
1B	Inverter L2 negative power fault	None	69	Inverter SCR short circuited	None
1C	Inverter L3 negative power fault	None	6C	BUS voltage drops too fast	None
21	Battery SCR short circuited	None	6D	Current sampling error value	None
23	Inverter relay open circuited	None	6E	SPS power error	None
24	Inverter relay short circuited	None	6F	Battery polarity reverse	None
25	Line wiring fault	None	71	PFC IGBT over-current in L1 phase	None
31	Parallel communication failure	None	72	PFC IGBT over-current in L2 phase	None
32	The host signal failure	None	73	PFC IGBT over-current in L3 phase	None

33	Synchronous signal failure	None	74	INV IGBT over-current in L1 phase	None
34	Synchronous trigger signal failure	None	75	INV IGBT over-current in L2 phase	None
35	Parallel communication loss	None	76	INV IGBT over-current in L3 phase	None
36	Parallel output current unbalance	None	78	LCD & MCU communication failure	None

3.7 Warning Code

Warning code	Warning event	Warning code	Warning event
01	Battery unconnected	22	Line situations are different in parallel system
02	IP Neutral loss	33	Bypass situations are different in parallel system
04	IP phase abnormal	34	Locked in bypass after overload 3 times in 30 minutes
05	Bypass phase abnormal	3A	Converter current unbalanced
07	Over charge	3C	Cover of maintain switch is open
08	Low battery	3D	Utility extremely unbalanced
09	Overload	3E	Bypass is unstable
0A	Fan failure	3F	Battery voltage too high
0B	EPO enable	40	Battery voltage unbalanced

0D	Over temperature	41	Bypass loss
0E	Charger failure	42	ISO over-temperature
21	Line situations are different in parallel system	43	BUS soft start error

4 Trouble Shooting

If the UPS system does not operate correctly, please solve the problem by using the table below.

Symptom	Possible cause	Remedy
No indication and alarm in the front display panel even though the mains is normal.	The AC input power is not connected well.	Check if input cable firmly connected to the mains.
The warning code 0B.	EPO function is activated. At this time, the EPO switch is in "OFF" status or the jumper is open.	Set the circuit in closed position to disable the EPO function.
The warning code 01.	The external or internal battery is incorrectly connected.	Check if all batteries are connected well.
The warning code 09.	UPS is overload.	Remove excess loads from UPS output.
	UPS is overloaded. Devices connected to the UPS are fed directly by the electrical network via the Bypass.	Remove excess loads from UPS output.
	After repetitive overloads, the UPS is locked in the Bypass mode. Connected devices are fed directly by the mains.	Remove excess loads from UPS output first. Then shut down the UPS and restart it.

Fault code is shown as 43.	UPS is overload too long and becomes fault. Then UPS shut down automatically.	Remove excess loads from UPS output and restart it.
Fault code is shown as 14, 15, 16, 17, 18 or 19,	The UPS shut down automatically because short circuit occurs on the UPS output.	Check output wiring and if connected devices are in short circuit status.
Other fault codes are shown on LCD display and alarm beeps continuously.	A UPS internal fault has occurred.	Contact your dealer
Battery backup time is shorter than nominal value.	Batteries are not fully charged.	Charge the batteries for at least 7 hours and then check capacity. If the problem still persists, consult your dealer.
	Batteries defect	Contact your dealer to replace the battery.
The warning code 0A.	Fan is locked or not working. Or the UPS temperature is too high.	Check fans and notify dealer.
The warning code 02.	The input neutral wire is disconnected.	Check and correct the input neutral connection. If the connection is ok and the warning is still displaying, please enter LCD setting menu ADVANCE → User → Electric. Then, select "CHE" and restart the UPS.

5 Storage and Maintenance

5.1 Storage

Before storing, charge the UPS at least 7 hours. Store the UPS covered and upright in a cool, dry location. During storage, recharge the battery in accordance with the following table:

Storage Temperature	Recharge Frequency	Charging Duration
-25°C - 40°C	Every 3 months	1-2 hours
40°C - 45°C	Every 2 months	1-2 hours

5.2 Maintenance

 The UPS system operates with hazardous voltages. Repairs may be carried out only by qualified maintenance personnel.

 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 capability capacitor such as BUS-capacitors.

 Only persons are adequately familiar with batteries and with the required precautionary measures may replace batteries and supervise operations. Unauthorized persons must be kept well away from the batteries.

 Verify that no voltage between the battery terminals and the ground is present before maintenance or repair. In this product, the battery circuit is not isolated from the input voltage. Hazardous voltages may occur between the battery terminals and the grounding/earthing.

 Batteries may cause electric shock and have a high short-circuit current. Please remove all wristwatches, rings and other conductive objects before maintenance or repair, and only use tools with insulated grips and handles for maintaining or repairing.

 When replace the batteries, install the same number and same type of batteries.

 Do not attempt to dispose of batteries by burning them. This could cause battery explosion. The batteries must be deposited according to local environmental regulations.

 Do not open or destroy batteries. Escaping electrolyte can cause injury to the skin and eyes. It may be toxic.

 Please replace the fuse only with the same type and amperage in order to avoid fire hazards.

 Do not disassemble the UPS system.

Disposal of Old Electrical & Electronic Equipment

(Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste.

Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product.

The recycling of materials will help to conserve natural resources.

Multumim pentru ca ati ales produsele noastre!

Va rugam cititi cu atentie manualul de utilizare inainte de a pune in functiune acest produs.

nJoy este un brand de solutii UPS dedicate protectiei si rezervei de energie din diferite medii de utilizare, de la rezidential la industrial

UPS-ul va protejeaza echipamentele electronice de daune fizice si ofera o baterie de rezerva pentru a preveni pierderile de date in cazul intreruperilor accidentale ale energiei electrice.

1 Instructiuni de siguranta si compatibilitatea electromagnetica

Toate instructiunile prezentate trebuie citite cu atentie si respectate in interactiunea cu produsul.

1.1 Transportul si depozitarea

 Va rugam transportati produsul doar in ambalajul original, protejat de socuri mecanice si deteriorare.

 UPS-ul trebuie pastrat in incaperi cu temperaturi moderate care sa nu depasesca 40 de grade Celsius.

1.2 Pregatirea

 Fenomenul de condensare poate aparea daca UPS-ul este transferat de la un mediu rece la unul cald. Va rugam asteptati cel putin 2 ore pentru ca UPS-ul sa fie complet uscat inainte de a-l instala.

 Nu instalați UPS-ul aproape de surse de apă externe sau în medii cu umiditate ridicată.

 Nu instalați UPS-ul în bătaia directă a soarelui sau în apropierea surselor de căldură.

 Nu blocați orificiile de ventilație ale carcasei UPS-ului.

1.3 Instalarea

 Nu conectați la ieșirea UPS-ului echipamente care vor provoca supraîncărcarea lui (cum ar fi motoare mari).

 Aranjați cablurile UPS-ului într-un fel în care nu sunt calcate frecvent și nu provoacă accidente.

 Nu blocați orificiile de ventilație. Asigurați o ventilație corespunzătoare în încăperea în care se afla UPS-ul.

 UPS-ul este echipat cu terminal de împământare. La finalizarea instalării va rugăm să legați împământarea la cabinetele de baterii exterioare sau la alte terminale de împământare corespunzătoare.

 Instalarea acestui UPS trebuie executată doar de către tehnicieni autorizați.

 Este recomandată o modalitate de oprire în siguranță este instalarea unui întrerupător de scurtcircuit.

 Este recomandată instalarea unui întrerupător de siguranță care permite blocarea încărcării UPS-ului în orice mod de operare.

 Asigurați cablul de împământare înainte de a conecta orice terminal fază.

 Instalarea și cablarea trebuie făcută în conformitate cu legislația electrică locală.

1.4 Avetismente la conexiuni electrice

⚠ Nu exista un circuit de protectie la scurgerea curentilor inversi (Backfeed protection) in interiorul UPS-ului. In schimb, exista releu la intrare care blocheaza cablul de tensiune cat timp neutrul este conectat la UPS.

- UPS-ul trebuie cablat cu sistem de impamantare TN.
- Reteaua de alimentare electrica pentru acest echipament trebuie sa fie trifazica si impamantata corect.

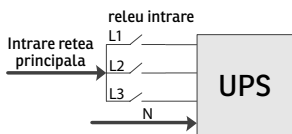


Diagrama intrare releu

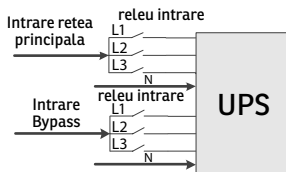


Diagrama releu intrare pentru modelul cu intrare dubla (Dual input)



ATENȚIONARE!

Pericol major de scurgere tensiune! Impamantarea este esentiala! Conectati impamantarea UPS-ului la un electrod conductor de impamantare.

- Utilizarea acestui echipament in medii medicale sau conectat la echipamente de sustinere a vietii, in care este pus in pericol siguranta sau eficienta, nu este recomandat. Nu utilizati acest echipament in prezenta amestecurilor de gaze inflamabile, cum ar fi aer, oxigen si oxid de azot.
- Conectati borna de impamantare a UPS-ului la un electrod de impamantare.
- In conformitate cu standardul electric de siguranta EN-IEC 62040-1, instalarea trebuie asigurata cu un circuit de protectie la curenti inversi (Backfeed protection), un contactor de exemplu, care va preveni scurgerea curentilor periculosi in circuitul de alimentare in timpul unor defectiuni. (figura 24 si respectati instalarea corecta a circuitului de protectie backfeed in functie de modelul echipamentului mono sau trifazic).

 Nu se vor face derivatii ale cablului care duce de la circuitul de protectie backfeed la UPS deoarece se vor incalca standardele de siguranta.

- Toate prizele care alimenteaza UPS-ul trebuie semnalizate corespunzator pentru a alerta personalul de mentenanta de prezenta UPS-ului in circuitul electric. Eticheta va contine urmatorul text sau o variatie a acestui text.



ATENTIONARE!

Inainte de a face lucrari de mentenanta:

- Izolati unitatea neintreruptibila de tensiune (UPS).
- Verificati sa nu existe tensiuni periculoase la terminale, inclusiv impamantarea.



Risc major tensiune inversa!

1.5 Operarea

 Nu deconectati impamantarea de la UPS ori de la retea sub nicio circumstanta.

 Sistemul UPS contine o sursa de alimentare interna (bateriile). Prizele de iesire ale UPS-ului sau cablarea prin blocuri terminale pot fi sub tensiune chiar si in cazul in care UPS-ul nu este conectat la reseaua electrica de alimentare (doar pentru modele standard).

 Pentru a deconecta corect UPS-ul, prima data apasati butonul de oprire, apoi deconectati fazele.

 Asigurati-va ca niciun obiect strain sau lichid nu va patrunde in interiorul UPS-ului.

 UPS-ul poate fi operat de persoane fara experienta tehnica anterioara.

2 Instalare si operare

Aceste serii sunt echipate cu

Sistem VAC	Model	Tip
400V	Ranger 30KR	Model Long-run

Functionare in paralel la cerere. UPS-ul cu functionare in paralel este numit "model in paralel. Detalierea proceduri de operare pentru acest tip de UPS se regaseste in capitolul urmator.

2.1 Desfacere si inspectare

Desfaceti cutia si inspectati continutul. La livrare, cutia trebuie sa contina urmatoarele:

- 1 UPS.
- 1 manual de utilizare.
- 1 CD soft monitorizare.
- 1 cablu RS-232 (optional).
- 1 cablu USB.
- 1 cablu pentru conectare UPS la 2 cabinete.
- 3 cabluri bypass.
- Set suport pentru montare tower.

NOTA!

Inainte de instalare, verificati unitatea UPS. Asigurati-va ca nu exista deteriorari. Daca se gasesc defecte sau accesorii lipsa, nu porniti UPS si anuntati imediat unitatea de unde ati achizitionat produsul. Pastrati cutia originala pentru utilizari viitoare. Este recomandata pastrarea echipamentului si setului de baterii in ambalajul original pentru ca acesta a fost special creat pentru a proteja acest tip de produs in timpul transportului si depozitarii.

2.2 Prezentare panou cablare

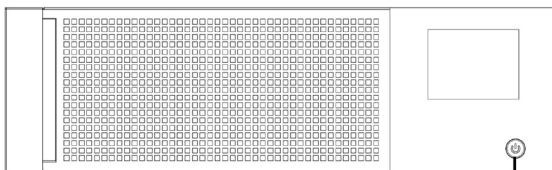


Diagrama 1: panou din fata

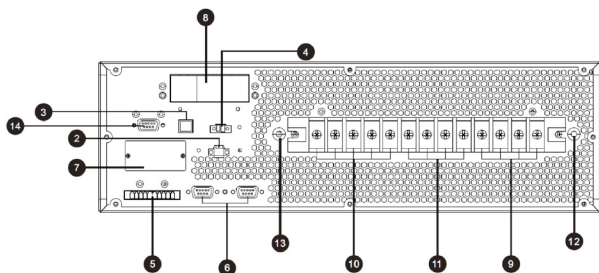


Diagrama 2: Ranger 30KR

1. Intrerupator de pornire
2. Port extern de bypass mentenanta
3. Port de comunicare USB
4. Conector EPO (oprire de urgenta)
5. Port de tensiune partajata (doar pentru modelele cu optiune in paralel)
6. Port paralel (doar pentru modelele cu aceasta optiune)
7. Slot de conectare inteligent
8. Conector de baterii extern
9. Terminal de intrare
10. Terminal de iesire
11. Terminal de intrare Bypass
12. Terminal de impamantare intrare
13. Terminal de impamantare iesire
14. RS232 port

2.3 Instalare UPS singular

Instalarea si cablarea trebuie executata de tehnicieni autorizati si in conformitate cu legislatia locala cu privire la conexiunile electrice.

1 Asigurati-va ca instalatia electrica a locatiei de instalare sunt cotate conform cu puterea UPS-ului pentru a evita provocarea de incendii sau soc electric.

NOTA!

Nu utilizati priza comuna din perete ca sursa principala de alimentare a UPS-ului pentru ca nu poate alimenta corect, poate provoca distrugerea ei si incendii.

2. Intrerupeti alimentarea cu energie electrica a circuitului in care se va face instalarea UPS-ului.

3. Inchideti echipamentele inainte de a le conecta la UPS.

4. Pregatiti cablurile folosind tabelul de mai jos:

Model	Specificatie cablu (AWG)				
	Intrare(Ph)	Iesire (Ph)	Neutru	Baterie	Impamantare
Ranger 30KR	8	8	4	6	4

NOTA 1: Cablul pentru Ranger 30KR trebuie sa suporte curent de peste 60A. Este recomandata utilizarea unui AWG8 sau mai gros pentru faza si AWG4 sau mai gros pentru neutru pentru siguranta si eficienta.

NOTA 2: Culorile cablurilor trebuie sa fie conforme cu legislatia locala unde se va efectua instalarea.

5. Indepartati capacul care acopera blocul terminal de pe spatele UPS-ului. Apoi conectati cablurile ca in diagrama de mai jos a blocului terminal. (conectati impamantarea prima, inaintea altor conexiuni. Indepartati impamantarea ultima la conectarea UPS-ului).

NOTA!

Pentru modelul cu intrare dubla si care utilizeaza o singura alimentare, conectati terminalele de intrare la sursa de tensiune AC si conectati intrarea si bypass-ul impreuna (reprezentata cu o linie in diagrama de mai jos).

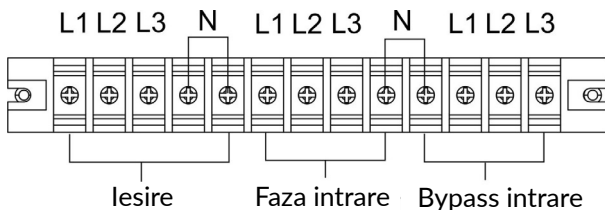
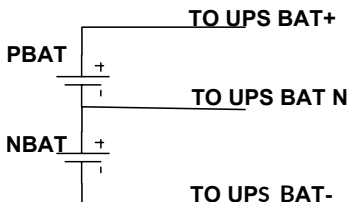


Diagrama cablajului blocului terminal



Schema de conectare a bateriei

NOTA 1: Asigurați-vă ca firele cablurilor sunt strans legate la terminale.

NOTA 2: Instalați întrerupătorul de ieșire între terminalul de ieșire și încărcare, iar întrerupătorul trebuie să aibă protecție la scurgere curent dacă se considera necesar.

6. Puneți înapoi capacul peste terminalele de conectare din spatele UPS-ului.



AVERTISMENT!

- Asigurați-vă ca există un întrerupător DC sau alte dispozitive de protecție între UPS și cabinetul de baterie extern pentru extra siguranță. În cazul în care nu există acest întrerupător, instalați cu precauție. Închideți întrerupătorul de circuit baterie înainte de executarea instalării.

NOTA: Setati întrerupătorul cabinetului de baterii în poziție OFF apoi instalați-l.

- Acordați atenție specială la tensiunea cotelată a bateriei marcată pe panoul din spate. Dacă se dorește modificarea numărului de baterii în serie, modificați această valoare și în setările UPS-ului. Conectarea cu tensiune eronată a bateriei poate provoca daune UPS-ului.

- Acordați atenție sporită polarității bateriei de pe panoul blocului terminal. Conectarea cu tensiune eronată a bateriei poate provoca daune UPS-ului.

- Asigurați-vă că împănțarea este corectă. Verificați cu atenție specificațiile cablului: culoarea, poziția, conexiunea și coeficientul de conductibilitate a cablului.

- Asigurați-vă că partea L/N este corectă, nu inversată sau în scurt circuit.

2.4 Instalare UPS în sistem paralel

Dacă nu se aplică produsului achiziționat de dumneavoastră, puteți trece cu vederea acest capitol.

1. Efectuați instalarea conform cu secțiunea 2-3.
2. Conectați cablurile de ieșire la un întrerupător.
3. Conectați toate întrerupătoarele de ieșire la un întrerupător principal. Acest întrerupător se va conecta direct la echipamentele conectate la UPS.
4. Sunt permise fie pachete de baterii comune, fie pachete de baterii independente pentru fiecare UPS.

5. Consultati diagrama de mai jos:

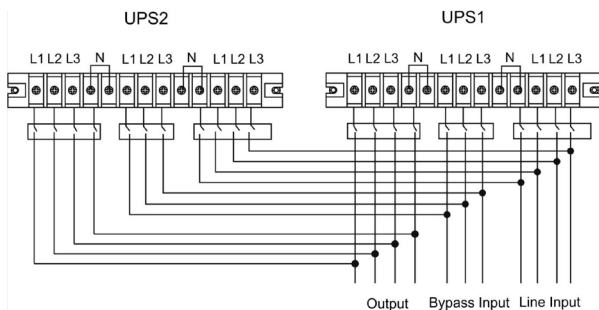


Diagrama de cablare a sistemului in paralel

2.5 Instalarea programului software

Pentru o protectie optima a sistemului recomandam instalarea programului de monitorizare pentru a configura UPS-ul, atat functionarea cat si inchiderea lui.

3 Functionalitate

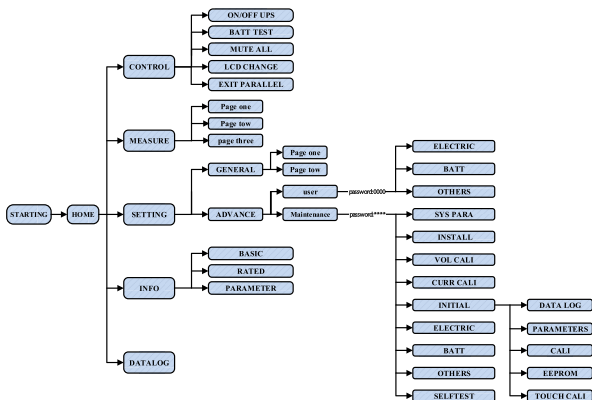
3.1 Functionalitati buton

1) Inainte de utilizare, asigurati-va ca cele doua siruri de baterii sunt conectate in ordinea terminalelor +, impamantare, - , iar intrerupatorul cabinetului de baterii este in pozitie deschisa ON (doar pentru modelele long-run).

2) Apasati butonul  de pornire pentru a alimenta UPS-ul. Acesta va intra in modul Power. Dupa initializare, UPS-ul va intra in modul No Output.

3.2 Descriere ecran

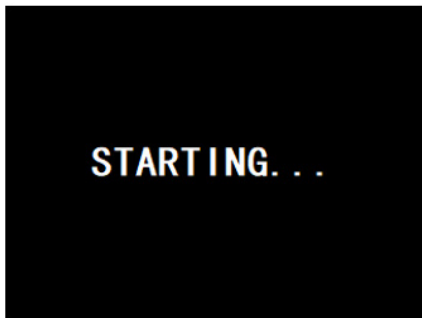
Dupa pornire, ecranul va afisa meniul principal. Acesta contine 5 submeniuri: Control, Measure, Setting, Information si Data Log. Apasati pe unul din elementele submeniului pentru optiuni avansate.



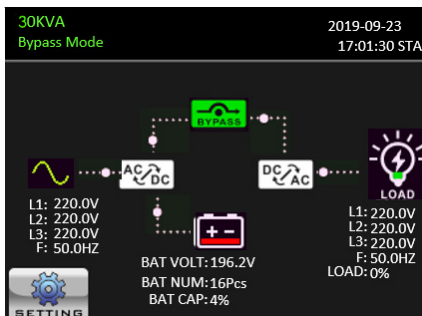
Ramificare meniu

3.2.1 Ecran principal

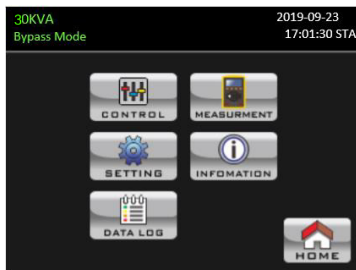
Dupa pornire, pe ecran va aparea initializarea programului care dureaza cateva secunde cum este prezentat mai jos.



Dupa initializare, pe ecranul principal va aparea urmatoarele informatii.

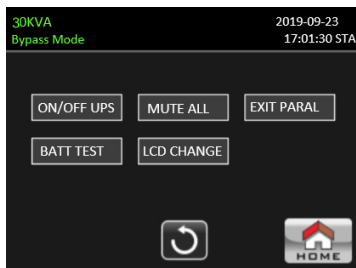


Dupa apasarea pe icoana  se vor afisa 5 icoane care reprezinta sub-meniul: Control, Measure, Setting, Information, Data log.

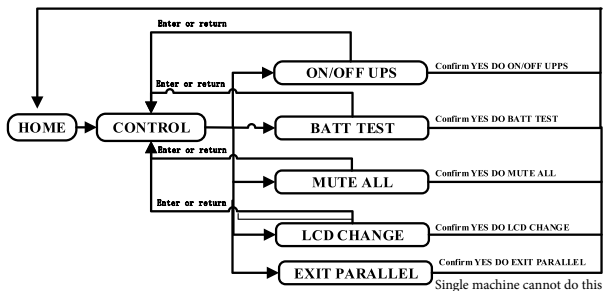


3.2.2 Ecranul Control

Apasarea icoanei  va afisa sub-meniul Control.



Apasarea iconăi  te va intoarce in ecranul principal indiferent in ce partea a submeniului te afli.



Control si sub meniul sau

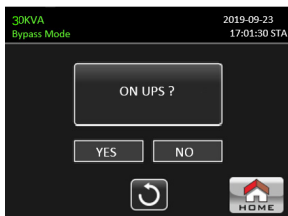
➤ Pornire/oprire UPS

Va afisa "On UPS"(pornire UPS) cand UPS-ul e oprit.

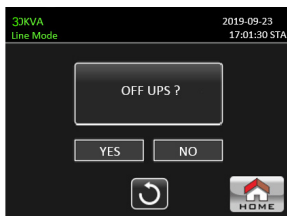
Va afisa "Off UPS"(oprire UPS) cand UPS-ul este pornit.

Apasati "YES" pentru a porni sau opri UPS-ul. Apoi ecranul se va intoarce la ecranul principal.

Apasati "Back" pentru a te intoarce in meniul principal imediat sau "NO" pentru a anula comanda anterioara si a te intoarce in meniul principal.



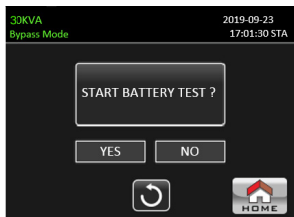
Pornire UPS



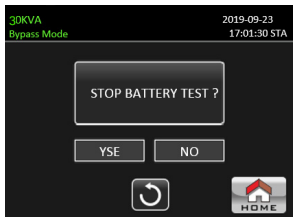
Oprire UPS

➤ Test Baterie

Va afisa "Start Battery Test" daca UPS-ul nu este in test baterie. Apasati "Yes" pentru a incepe testul de baterie. Dupa cateva secunde rezultatele testului vor fi afisate pe ecran. Apasati "BACK" pentru a te intoarce in meniul principal sau "NO" pentru a anula operatiunea si a te intoarce la meniu. Va afisa "Stop Battery Test" daca UPS-ul este deja intr-un test de baterie.



Test baterie



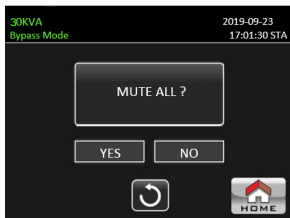
OPRITI UPS

➤ Opreste sonor

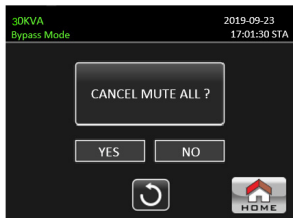
Va afisa "Mute all" daca sonorul este pornit. Apasati "YES" pentru a dezactiva sonorul. Daca sonorul este dezactivat, icoana  va aparea in coltul din stanga sus a ecranului din meniul principal. Apasati "Back" pentru a va intoarce la Meniul Control imediat sau "NO" pentru a anula operatiunea si inapoi la meniul Control.

Va fi afisat pe ecran "Cancel mute all" daca UPS-ul este deja fara sonor activat. Apasati "YES" pentru a activa sonorul sau "NO" pentru a pastra sonorul oprit.

Apasati tasta "HOME" pentru a va intoarce in meniul Control.



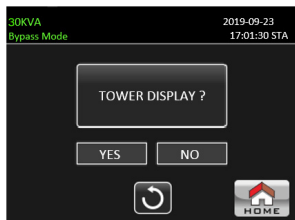
Opriti sonorul



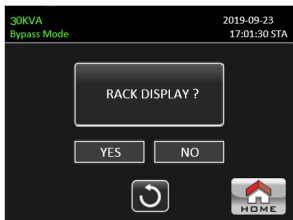
Anulati oprirea sonorului

➤ Schimbare pozitie ecran

Cand ecranul este in "Rack Display" daca apasati icoana "LCD Change" va aparea un pop-up cu "Tower Display". In cazul in care ecranul este deja in pozitie tower atunci afisajul va arata "Rack Display". Selectati "YES" pentru a schimba orientarea ecranului din pozitie verticala in orizontala si invers. Apasati "NO" pentru a anula operatiunea si a va intoarce la meniul CONTROL. Apasati "HOME" pentru a va intoarce la meniul principal.



Tower Display



Rack Display

➤ Iesire Mod Paralel

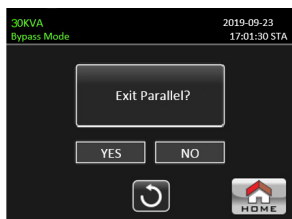
Daca UPS-ul este setat in modul paralel, apasati icoana pentru a iesi din acest mod.

Apasati "YES" pentru a opri modul paralel si a intra in modul stand-by.

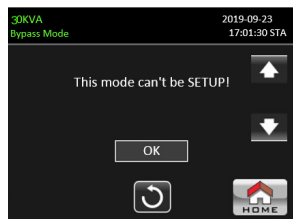
Apasati "NO" pentru a anula operatiunea si a va intoarce in meniul CONTROL.

Daca UPS-ul este operat in Mod singular, chiar si la atingerea icoanei de Mod Paralel. Mesajul Acest mod nu poate fi activat va aparea pe ecran.

Apasati "HOME" pentru a va intoarce la meniul principal.



Iesire Mod Paralel

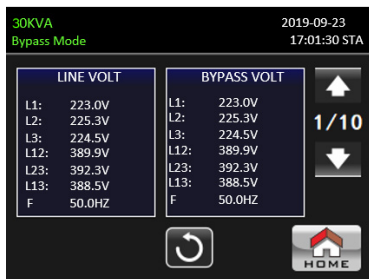


Acest mod nu poate fi setat

3-2-3. Ecran Masuratori

Apasati icona  pentru a intra in ecranul de masuratori. Apasati icona  sau  pentru a rasfoi masuratorile disponibile.

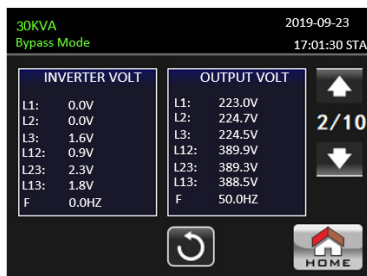
Apasati pentru  a va intoarce la ecranul principal. Apasati  pentru a va intoarce la meniul anterior.



Ecran masuratori pagina 1

➤ **LINE VOLT:** reprezinta valoarea in timp real a tensiunii de pe fazele L1, L2, L3 si a tensiunii si frecventei de intrare de pe, L1L2/L2L3/L3L1.

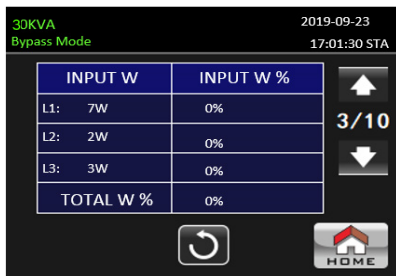
➤ **BYPASS VOLT:** reprezinta valoarea in timp real a tensiunii de bypass de pe L1, L2, L3 si a tensiunii si frecventei L1L2/L2L3/L3L1.



Ecran masuratori pagina 2

➤ **INVERTER VOLT:** reprezinta valoarea in timp real a tensiunii inverter a L1, L2, L3 si a tensiunii si frecventei L1L2/L2L3/L3L1.

➤ **OUTPUT VOLT:** reprezinta valoarea in timp real a tensiunii de iesire L1, L2, L3 si a L1L2/L2L3/L3L1 tensiune si frecventa.



30KVA
Bypass Mode

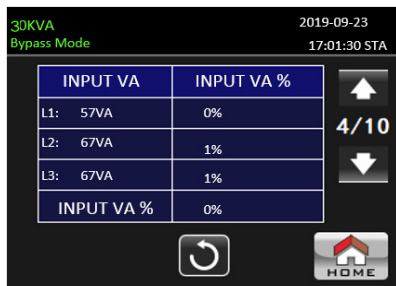
2019-09-23
17:01:30 STA

INPUT W	
L1: 7W	0%
L2: 2W	0%
L3: 3W	0%
TOTAL W %	0%

Navigation icons: Up arrow, 3/10, Down arrow, Refresh, HOME.

Ecran masuratori pagina 3

- **INPUT W:** L1, L2 si L3 intrare putere in wati.
- **INPUT W (%):** L1, L2 si L3 intrare putere in wati procentual.



30KVA
Bypass Mode

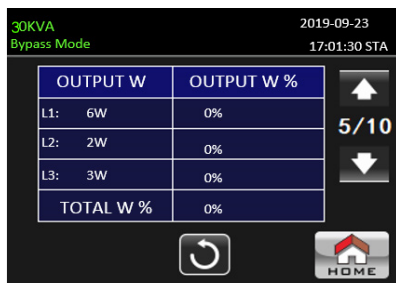
2019-09-23
17:01:30 STA

INPUT VA	
L1: 57VA	0%
L2: 67VA	1%
L3: 67VA	1%
INPUT VA %	0%

Navigation icons: Up arrow, 4/10, Down arrow, Refresh, HOME.

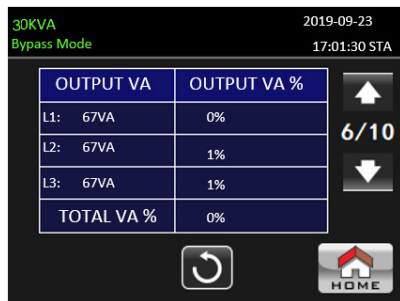
Ecran masuratori pagina 4

- **INPUT VA:** L1, L2 si L3 intrare in VA.
- **INPUT VA (%):** L1, L2 si L3 intrare in VA procentual.



Ecran masuratori pagina 5

- **OUTPUT W:** L1, L2 si L3 iesire in W.
- **OUTPUT W (%):** L1, L2 si L3 iesire putere in W procentual.



Ecran masuratori pagina 6

- **OUTPUT VA:** L1, L2 si L3 putere de iesire în VA.
- **OUTPUT VA (%):** L1, L2 si L3 puterea de ieșire VA în procent.



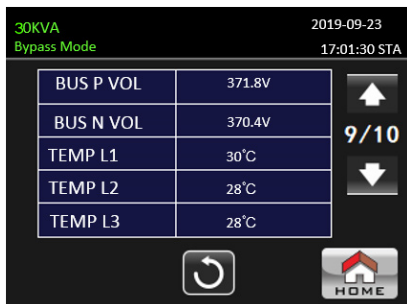
Ecran masuratori pagina 7

- **INPUT CURR:** L1, L2 si L3 intrare curent in Amperi (A).
- **INPUT PF:** L1, L2 si L3 iesire factor de putere.



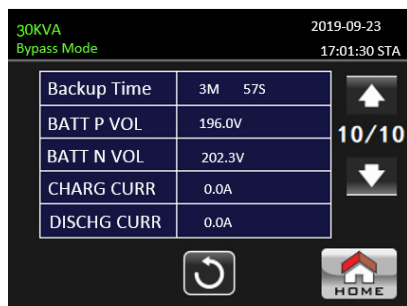
Ecran masuratori pagina 8

- **OUTPUT CURR:** L1, L2 si L3 iesire curent in Amperi (A).
- **OUTPUT PF:** L1, L2 si L3 iesire factor de putere.



Ecran masuratori pagina 9

- **BUS Voltage:** Valoarea in timp real al tensiunii DC BUS (P si N).
- **TEMP:** temperatura fazelor L1, L2 si L3.



Ecran masuratori pagina 10

- **Backup Time:** timp estimativ de descarcare.
- **BATT Voltage / Charging Current/Discharging Current:** valoarea in timp real a DC si informatii conexe.

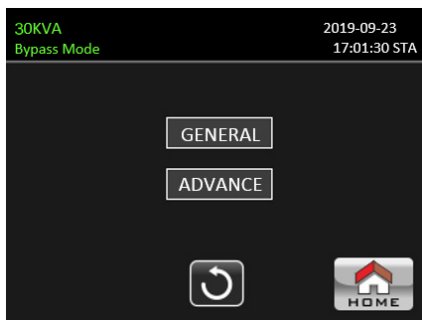
3.2.4 Ecran Setari

Acest sub-meniu arata setari pentru parametrii de functionare a UPS-ului. Apasati  icoana pentru a accesa meniul.

Sunt disponibile 2 optiuni: General si Avansat. Apasati icoana  pentru a te intoarce la meniul principal. Apasati icoana  pentru a te intoarce la pagina anterioara.

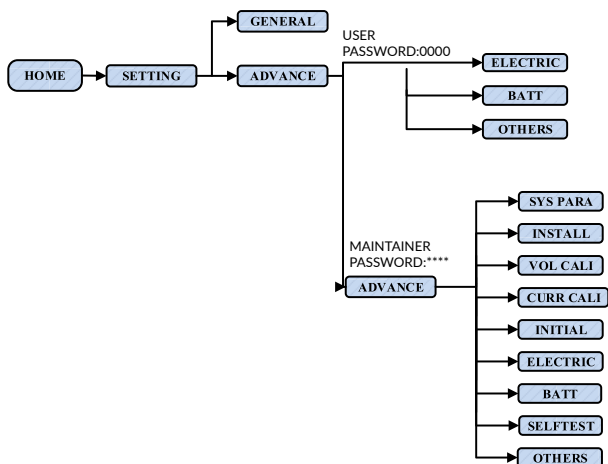
NOTA!

Nu sunt disponibile toate setarile in fiecare mod de operare. Daca o setare nu este disponibila in modul curent de functionare, ecranul va mentine setarile parametrilor originali.

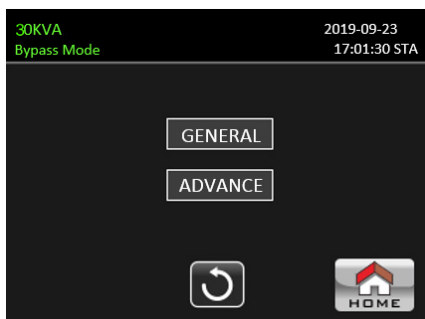


Ecran de setare

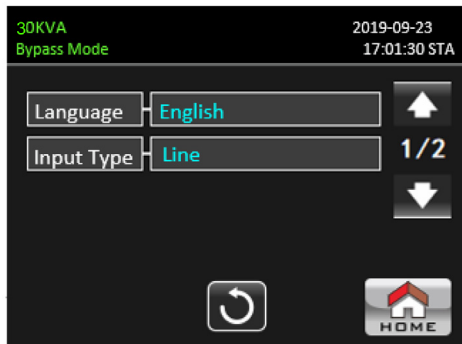
- **GENERAL:** se pot seta informatii simple despre UPS.
- **ADVANCE:** Este necesara introducerea unei parole de acces pentru setarile avansate. Exista 2 tipuri de utilizatori, Client si Tehnic/Mentenanata.



Schema meniului Setari



Setari Generale



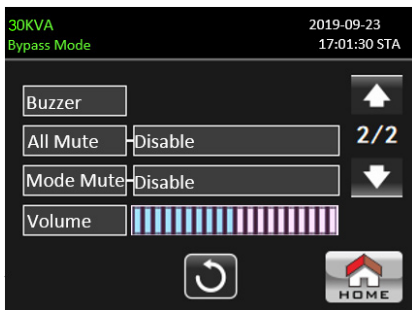
Ecran masuratori pagina 1

➤ **Limba:**

Setati limba de afisaj a textului. Exista 3 optiuni: Engleza (implicit), chineza simplificata si chineza traditionala.

➤ **Sursa de intrare:**

Selectati sursa de intrare. Exista 2 optiuni: Line (de la reseaua electrica, implicita) si generator. Aceasta setare va fi afisata pe pagina principala. Cand optiune Generator este selectata, frecventa de intrare este in intervalul 40-70Hz. Aceasta valoare va afisata pe bara de stare.



Ecran de setare pagina 2

➤ **Sonerie:**

daca apasati aceasta icoana, o fereastră intermediară se va deschide cu opțiunile YES/NO.

Dacă apăsați "Yes" veți porni soneria, dacă veți apăsa "No" aceasta se va opri. Starea implicită este soneria pornită.

➤ **Fără sunet:**

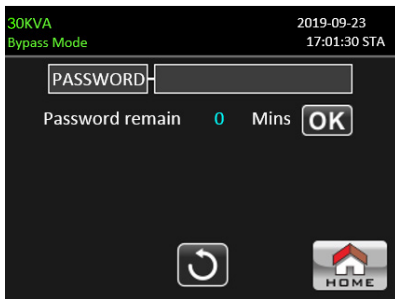
Disable: La apăsarea DISABLE UPS-ul va produce alarme sonore la schimbarea stării sau producerea unui incident.

Enable: La apăsarea ENABLE UPS-ul nu va produce niciun sunet care să însoțească alarmele..

➤ **Volum:**

Selectați volumul pentru a ajusta nivelul sunetului de pe panou.

Setari Avansate

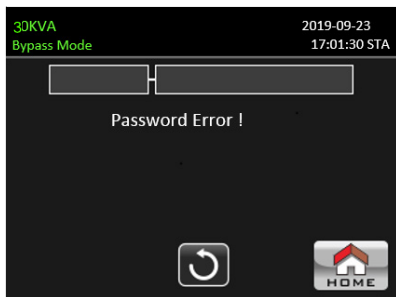


Avansat - Pagina parolei

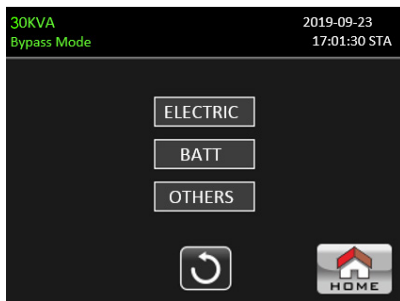
➤ Advance → User (Utilizator avansat)

Pentru a accesa sectiunea din meniul de setari "Advance → User" este necesara introducerea parolei implicite "0000".

Daca parola este corecta fereastra de setari se va deschide automat. Daca parola este eronata vi se va cere din nou sa o introduceti corect.



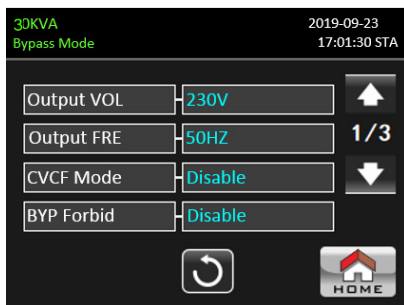
Pagina de eroare a parolei



Avansat - Pagina cu meniul setarilor

Sub aceasta sectiune de setari avansate pentru utilizator sunt 3 meniuri: ELECTRIC, BATT si OTHERS.

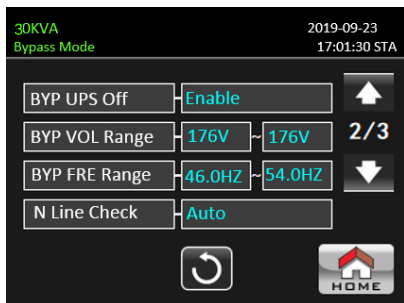
ELECTRIC



Setari electrice pagina 1

- **Output VOLT:** Selectati tensiunea de iesire implicita.
 - Daca UPS-ul este HV exista 4 optiuni: 208V, 220V, 230V, 240V.
- **Frecventa de iesire.** Selectati frecventa de iesire implicita.
 - **50Hz:** frecventa de iesire va fi 50Hz.
 - **60Hz:** frecventa de iesire va fi 60Hz.

- **Output VOLT:** Selectati tensiunea de iesire implicita.
 - Daca UPS-ul este HV exista 4 optiuni: 208V, 220V, 230V, 240V.
- Frecventa de iesire. Selectati frecventa de iesire implicita.
 - **50Hz:** frecventa de iesire va fi 50Hz.
 - **60Hz:** frecventa de iesire va fi 60Hz.
- Mod CVCF (tensiune continua si frecventa continua).
 - **Enable:** CVCF este activat. Frecventa de iesire va fi fixata la 50Hz sau 60Hz in acord cu setarea "OP Freq". Frecventa de intrare poate fi de la 40Hz la 70Hz.
 - **Disable:** CVCF este dezactivat. Frecventa de iesire se va sincroniza cu frecventa de bypass in intervalul 45-55Hz pentru sistemele de 50Hz si intre 55-65Hz pentru sistemele de 60Hz. Dezactivat este starea implicita.
 - Bypass Forbid:



Setari electrice pagina 2

- **Bypass at UPS off:** Selectati starea bypass atunci cand opriti manual UPS-ul. Aceasta setare devine activa doar in momentul cand optiunea de interzicere Bypass este dezactivata.
 - **Enable:** Bypass activ. Cand este selectat bypass este activ.
 - **Disable:** Bypass inactiv. Cand este selectat nu exista iesire prin bypass cand UPS-ul este inchis manual.
- Interval tensiune bypass: setati intervalul de tensiune bypass.
 - **H:** Punct de tensiune inalta pentru bypass. Intervalul de setarii este 231V ~ 264V cand UPS-ul este sistem HV.

➤ **Bypass Frequency Range:** setati intervalul de frecventa bypass.

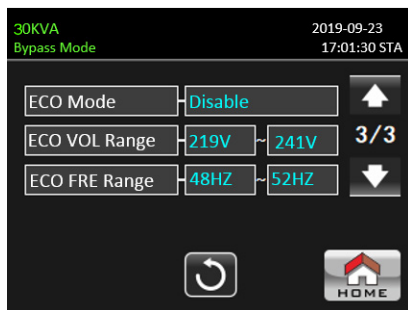
Intervalul acceptabil de frecventa bypass este 46Hz-54Hz cand UPS-ul functioneaza la 50Hz si 56Hz-64Hz cand UPS-ul functioneaza in regim de 60Hz.

➤ **Verificarea firului de nul:** indica pierderea functionalitatii de pe firul de nul.

➤ **Dezactiveaza:** opreste functia de detectie a pierderii nulului. UPS-ul nu va verifica acest parametru.

➤ **Auto:** UPS-ul va detecta automat daca nulul este functional sau nu. Daca este nu este functional, va porni o alarma. Daca UPS-ul este pornit, va intra in modul Baterie. Daca se restabileste functionalitatea nulului, alarma va inceta automat si UPS va reintra in regimul normal de functionare.

➤ **Verifica:** UPS-ul va detecta automat pierderea nulului. Daca este detectata, va porni o alarma. Daca UPS-ul este pornit, va intra in modul Baterie. Cand nulul este restabilit, alarma nu va fi oprita automat, iar UPS nu va reintra in regimul normal de functionare.



Setari electrice pagina 3

➤ **ECO mode:** Oprit/pornit. Starea implicita este oprit.

➤ **ECO Voltage Range:** Setati interval de tensiune ECO.

■ **H:** punct de tensiune inalta pentru modul ECO. Intervalul setarii este de la (+5V tensiune nominala de iesire) pana la (+11V tensiune nominala de iesire). „+5V tensiune nominala de iesire,, este setarea implicita.

➤ **ECO Frequency Range:** ECO: Setati intervalul de frecventa in ECO. Setarea intervalului este de la 46Hz la 54Hz cand UPS-ul este in 50Hz SI 56Hz si 64Hz cand UPS-ul este in 60Hz.

BATT

30KVA
Bypass Mode

2019-09-23
17:01:30 STA

BATT Warn Volt	L 11.5V H 12.5V
Shutdown volt	10.7V
BATT Age	24
BATT AH	9

Refresh button (circular arrow) and HOME button (house icon) are at the bottom.

Pagina de setare a bateriei 1

20KVA
Bypass Mode

2019-09-23
17:01:30 STA

BATT Study	Disable
BATT Initial	NO
BATT Groups	1
BATT Cali	100
BATT TEMP CMPN	0.0mV

Refresh button (circular arrow) and HOME button (house icon) are at the bottom. A page indicator '2/2' with up and down arrows is on the right.

Pagina de setare a bateriei 2

➤ Avertizare tensiune baterie:

■ **HIGH:** Tensiune inalta baterie. Intervalul setarii este 14.0V-15.0V. 14.4V este setarea implicita.

■ **LOW:** Tensiune joasa baterie. Intervalul setarii este 10.1V ~ 14.0V. 11.4V este setarea implicita.

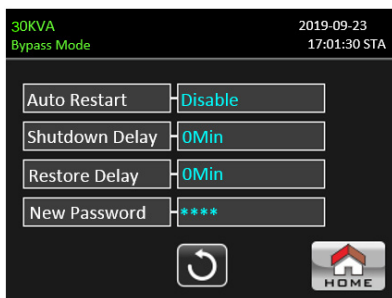
Acest parametru este dependent de setarea tensiunii de inchidere. Aceasta valoare trebuie sa fie mai mare decat setarea tensiunii de inchidere.

➤ **Shutdown Voltage:** daca tensiunea bateriei este mai mica de acest punct in modul baterie, UPS-ul se va opri automat. Intervalul este intre 10.5V-12V. Valoarea implicita este 10.7V.

➤ **Battery age:** daca bateria trece de perioada de functionare setata, UPS-ul va semnala sonor acest aspect. Perioada implicita este 24 luni.

➤ **Battery AH:** Setati capacitatea bateriei.

ALTELE



Pagina de setare ALTELE

➤ Auto Restart:

■ **Enable:** Dupa activare, daca UPS-ul se inchide din lipsa retea si baterie epuizata, va reporni o data cu activitatea retelei.

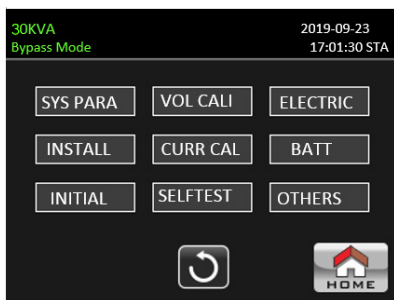
■ **Disable:** Dupa dezactivare, daca UPS-ul se inchide din lipsa retea si baterie epuizata, UPS-ul nu va reporni automat.

➤ **Shutdown:** UPS-ul se va inchide in minutele setate. Numaratoarea pana la inchidere va incepe dupa afisarea pe ecran.

➤ **Restore Delay:** UPS-ul se va reporni automat dupa timpul setat.

➤ **New Password:** Setati o parola noua pentru meniul Avansat ➔ client.

➤ AVANSAT ➔ Mentenanta



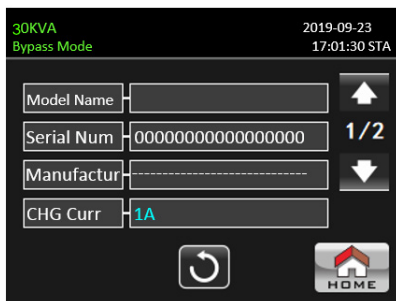
Avanasat ➔ Maintainer Setting Menu

Pentru a accesa acest meniu "Advance ➔ Maintainer" mergeti la meniul Setari si introduceti parola obtinuta de la producatorul echipamentului.

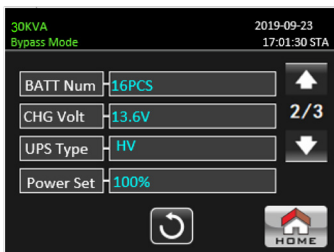
ATENȚIE: Acest meniu este exclusiv pentru tenicienii autorizati. In cazul in care altcineva acceseaza acest meniu poate provoca distrugerii echipamentului.

Exista 9 sub-meniuri "Advance ➔ Maintainer": SYS PARAMETER, INSTALL, INITIAL, VOLT CALI, CURR CALI, SELF TEST, ELECTRIC, BATT si OTHERS.

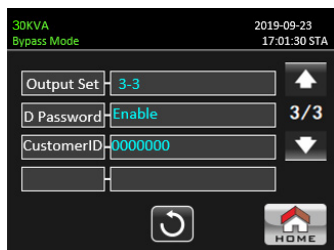
SYSTEM PARAMETER



SYSTEM PARAMETER Pagina 1



SYSTEM PARAMETER Pagina 2



SYSTEM PARAMETER Pagina 3

- Model Name: Setati numele UPS-ului.
- Serial Number: Setati numarul serial.
- Manufacturer: Setati numele producatorului.
- Curent de incarcare:
 - 1 incarcator: sunt compatibile 12 optiuni: 1A, 2A, 3A, 4A, 5A, 6A, 7A, 8A, 9A, 10A, 11A, 12A.
 - 2 incarcatoare: sunt compatibile 12 optiuni: 2A, 4A, 6A, 8A, 10A, 12A, 14A, 16A, 18A, 20A, 22A, 24A.
- **BATT Number:** numarul total de baterii instalate. (Este necesar sa reporniti UPS-ul dupa setare). Intervalul este 16-20 bucati. 16 este numarul implicit.
- **Charger VOLT:** setare punct tensiune floating a bateriei. 13.6V este setarea implicita.

➤ **Tip UPS:** exista 2 optiuni, HV si LV. Aceasta schimbare de optiuni poate fi realizata doar de catre tehnicieni autorizati.

Nota! Este necesara repornirea UPS-ului dupa aceasta setare.

■ Setare putere: seteaza puterea UPS-ului.

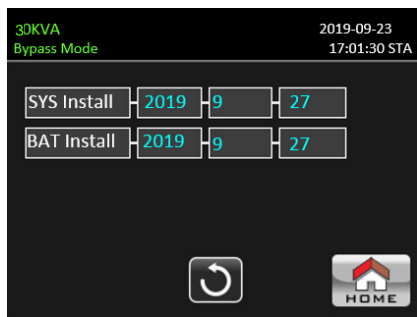
■ Setare iesire: exista 2 optiuni, 3-3 si 1-1. Aceasta schimbare de optiuni poate fi realizata doar de catre tehnicieni autorizati.

Nota! Este necesara repornirea UPS-ului dupa aceasta setare.

■ Parola ID: activeaza sau dezactiveaza parola dinamica.

■ ID client: utilizata pentru a produce o parola dinamica.

INSTALL



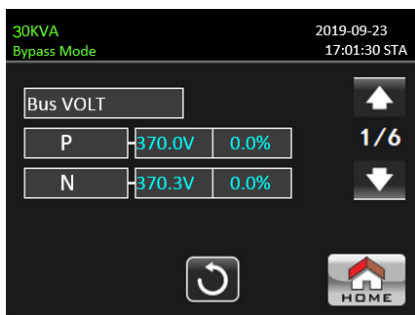
Pagina INSTALL

➤ Data instalarii sistemului: Setati data instalarii UPS-ului.

➤ Data instalarii bateriei: Setati data instalarii bateriei.

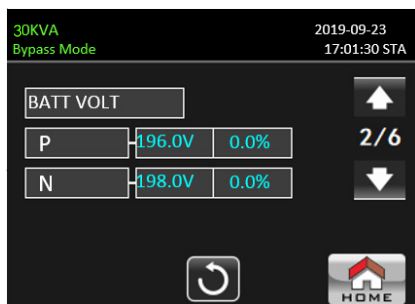
■ **Data/Ora:** Setati data și ora. Formatul este AAAA-LL-ZZ HH:MM:SS. acestea se vor actualiza automat cand data si ora sunt setate.

CALIBRARE Tensiune



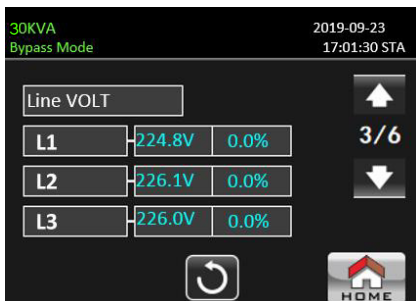
VOLTAGE CALIBRATE Pagina 1

➤ **Bus VOLT:** calibrare tensiune BUS. Apasati pe casuta de introducere valoare si urmatoarea icoana va fi afisata. Apoi setati, fiecare click fiind 0.1% . Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.



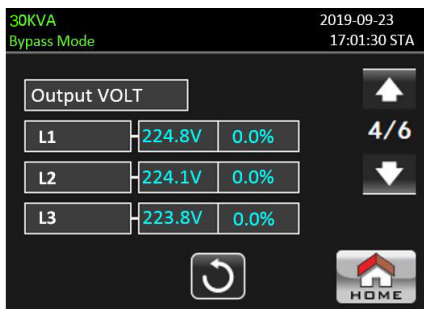
VOLTAGE CALIBRATE Pagina 2

➤ **BATT VOLT:** Calibrare tensiune baterie. Apasati casuta pentru valoare si icoana va fi afisata, Apoi setati, fiecare click fiind 0.1%. Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.



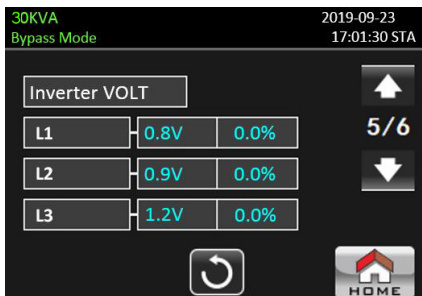
VOLTAGE CALIBRATE Pagina 3

➤ **Line VOLT:** calibrare tensiune faza. Apasati casuta pentru valoare si icoana va fi afisata. Apoi setati, fiecare click fiind 0.1%. Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.



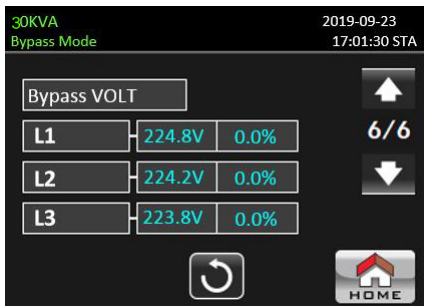
VOLTAGE CALIBRATE Pagina 4

➤ **Output VOLT:** calibrati tensiune iesire. Apasati casuta pentru valoare si icoana va fi afisata. Apoi setati, fiecare click fiind 0.1%. Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.



VOLTAGE CALIBRATE Pagina 5

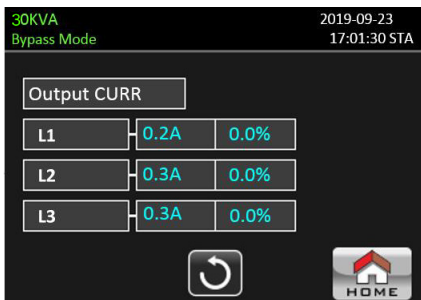
➤ **Inverter VOLT:** calibrare tensiune inverter. Apasati pe casuta de introducere valoare si urmatoarea icoana va fi afisata. Apoi setati, fiecare click fiind 0.1%. Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati OK pentru a confirma selectia.



VOLTAGE CALIBRATE Pagina 6

➤ **Bypass VOLT:** calibrare tensiune bypass. Apasati casuta pentru valoare si icoana va fi afisata. Apoi setati, fiecare click fiind 0.1%. Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.

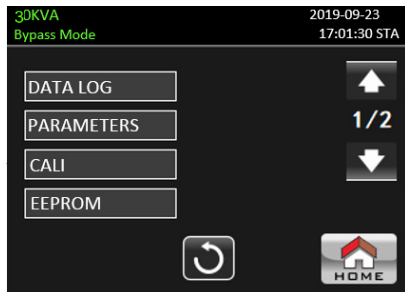
CALIBRARE CURENT



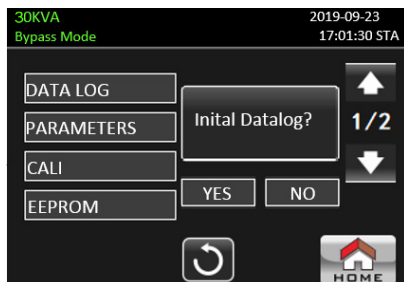
Pagina Current Calibrate

➤ **Output CURR:** Calibrare iesire curent. Apasati casuta pentru valoare si icoana va fi afisata . Apoi setati, fiecare click fiind 0.1% . Apasati in sus pentru a creste valoarea cu 0.1% si in jos pentru a scadea valoarea cu 0.1%. Apasati ok pentru a confirma selectia.

INITIAL

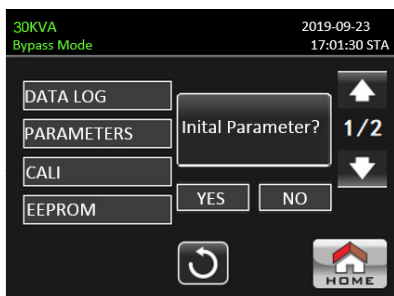


INITIAL menu Pagina 1



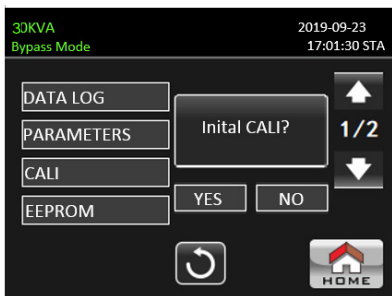
Pagina INITIAL → Data log

➤ **DATA LOG:** Dupa apasarea pe aceasta setare, o casuta de mesaj va aparea cum este prezentat mai sus. Apasati YES pentru a sterge pagina de DATA LOG. Apasati NO pentru a anula operatiunea. Apasati  pentru a va intoarce la pagina initiala din meniu.



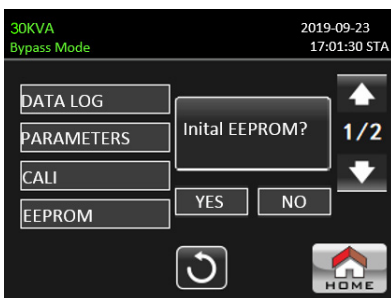
Pagina INITIAL → Parameter

➤ **PARAMETERS:** Dupa apasarea pe aceasta setare, o casuta de mesaj va aparea cum este prezentat mai sus. Apasati YES pentru a reveni la valoarea anterioara. Apasati NO pentru a anula operatiunea. Apasati  pentru a va intoarce la pagina initiala din meniu.



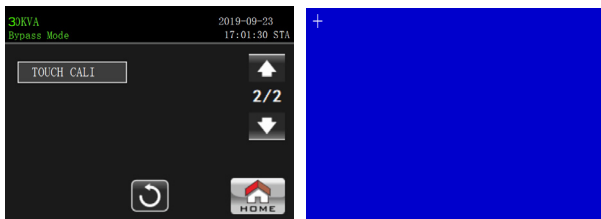
Pagina INITIAL → CALI

➤ **CALIBRATE:** După apăsarea pe această setare, o casuta de mesaj va apărea cum este prezentat mai sus. Apasati YES pentru a reveni la valoarea anterioara. Apasati NO pentru a anula operatiunea. Apasati  pentru a va intoarce la pagina initiala din meniu.



Pagina INITIAL → EEPROM

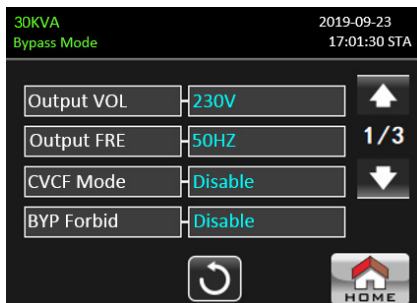
➤ **EEPROM:** După apăsarea pe această setare, o casuta de mesaj va apărea cum este prezentat mai sus. Apasati YES pentru a șterge toate valorile setate anterior. Apasati NO pentru a anula operatiunea. Apasati  pentru a va intoarce la pagina initiala din meniu.



Pagina INITIAL → TOUCH EEPROM

➤ **TOUCH CALI:** Dupa apasarea pe fereastra de confirmare, va aparea fereastra prezentata mai sus. Atingeti pentru a calibra. Apoi, fereastra albastra va aparea si va trebui sa apasati unde apare acel semn, de mai multe ori.

ELECTRIC



Electric Pagina 1

- **Output VOLT:** Selectati tensiunea de iesire nominala.
 - Atunci cand UPS-ul este HV: exista 4 optiuni 208V, 220V, 230V si 240V.
- **Output FRE:** selectati frecventa nominala de iesire.
 - 50Hz: frecventa de iesire este setata la 50Hz.
 - 60Hz: fecventa de iesire este setata la 60Hz.

➤ **CVCF Mode:** (tensiune si frecventa constanta).

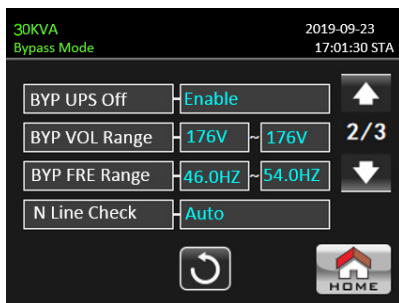
■ **ENABLE:** functia este activata. Frecventa de iesire este fixata la 50 sau 60Hz in functie de setarea anterioara Output Freq. Frecventa de intrare va fi intre 46Hz si 64Hz.

■ **DISABLE:** functia este dezactivata. Frecventa de iesire este sincronizata cu frecventa de bypass, in intervalul 46-56Hz pentru sistemele de 50Hz si intre 54-64Hz pentru sistemele de 60Hz. Setarea implicita este dezactivat.

➤ **Interzice bypass:**

■ **Enable:** Functia este activata. Nu este permisa functionarea in modul Bypass sub nicio circumstanta.

■ **Disable:** functia este dezactivata. UPS va functiona in modul Bypass. Setarea implicita este dezactivat.



Electric Pagina 2

➤ **Bypass la UPS oprit:** Selectati starea de bypass cand inchideti manual UPS-ul. Aceasta setare este valida doar in cazul in care functia de interzice bypass este dezactivata.

■ **Enable:** Bypass activ. Cand este selectat, modul bypass este activ.

■ **Disable:** Bypass inactiv. Cand este selectat, nu va exista iesire prin Bypass cand UPS-ul este oprit manual.

➤ **Interval tensiune Bypass:** setati intervalul.

■ **H:** Punct de tensiune maxim pentru bypass. Intervalul de setare este intre 231V-264V cand UPS-ul este sistem HV.

➤ **Interval bypass FRE:** setati intervalul de frecventa bypass.

Intervalul de frecventa bypass acceptat este intre 46Hz si 54Hz cand UPS functioneaza la 50Hz si de la 56Hz la 64Hz cand UPS-ul este in 60Hz.

➤ **Verificarea firului de nul:** verificati daca cablul nul este conectat corect.

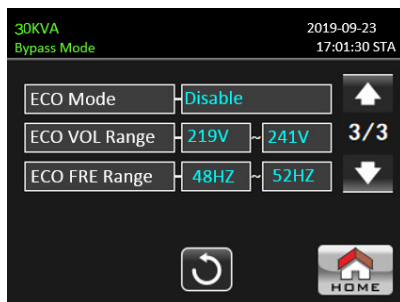
■ **Disable:** dezactivati functia de detectare a pierderii nulului. UPS-ul va detecta pierderea nulului sau nu.

■ **Auto:** UPS-ul va detecta automat daca nulul este functional sau nu. Daca este nu este functional, va porni o alarma. Daca UPS-ul este pornit, va intra in modul Baterie. Daca se restabileste functionalitatea nulului, alarma va inceta automat si UPS va reintra in regimul normal de functionare.

Verifica: UPS-ul va detecta automat pierderea nulului. Daca este detectata, va porni o alarma. Daca UPS-ul este pornit, va intra in modul Baterie.

Cand nulul este restabilit, alarma nu va fi oprita automat, iar UPS nu va reintra in regimul normal de functionare.

■ **CHE:** UPS-ul va detecta automat pierderea nulului. Daca este detectata, va porni o alarma. Daca UPS-ul este pornit, va intra in modul Baterie. Cand nulul este restabilit, alarma nu va fi oprita automat, iar UPS nu va reintra in regimul normal de functionare. reporniti UPS-ul pentru a opri alarma.



Electric Pagina 3

➤ **Mod ECO:** activati/dezactivati aceasta functie. Starea implicita este dezactivat.

➤ **Interval tensiune ECO:** setati intervalul de tensiune in ECO.

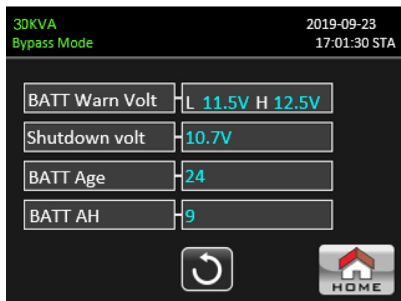
■ **L:** punct de tensiune minim pentru modul ECO. Intervalul de setare

este (tensiune nominala la iesire -5V) si (tensiune nominala la iesire -11V). Tensiunea nominala la iesire -5V este implicita.

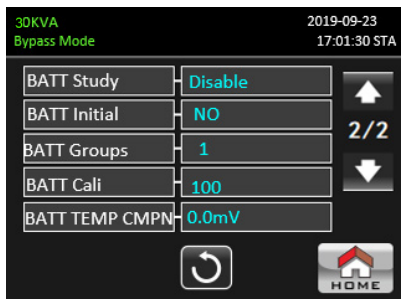
■ **H:** punct de tensiune maxim pentru modul ECO. Intervalul de setare este (tensiune nominala la iesire +5V) si (tensiune nominala la iesire +11V). Tensiunea nominala la iesire +5V este implicita.

➤ **Interval ECO FRE:** setati intervalul de frecventa ECO. Intervalul acceptat este intre 48Hz si 52Hz cand UPS functioneaza la 50Hz si de la 58Hz la 62Hz cand UPS-ul este in 60Hz.

BATERIE



Pagina Battery setting 1



Pagina Battery setting 2

➤ **Tensiune avertizare baterie:**

■ **HIGH:** Avertizare tensiune înaltă baterie. Intervalul de setare este 14.0V - 15.0V. 14.4V este setarea implicită.

■ **LOW:** Avertizare tensiune joasă baterie. Intervalul de setare este 10.1V-14.0V. 11.4 este setarea implicită.

Parametrul acesta este dependent de setarea "Tensiune de închidere". Valoarea acestui parametru trebuie să fie mai mare decât cel al "Tensiune de închidere".

➤ **Tensiune de închidere:** dacă tensiunea bateriei este mai mică decât parametrul setat în modul bateriei, UPS se va închide. Intervalul de setat este între 10.5V-12.0V. Setarea implicită este 10.7V. (Această setare este disponibilă doar pentru modelul long-run).

➤ **Varsta bateriei:** dacă vârsta bateriei este mai mare decât perioada setată, va porni o alarmă de avertizare. Garanția de fabrică este de 24 de luni.

➤ **AH baterie:** capacitate setare baterie.

➤ **Grup de baterii:** setează grupul de baterii.

➤ **Monitorizare baterie:**

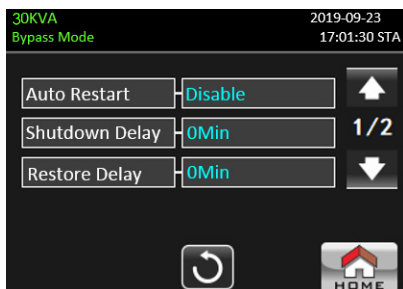
■ **Activat:** calculatorul de calculare a timpului de back-up este bazat pe o funcție de auto-învățare care poate calibra capacitatea virtuală a bateriei în concordanță cu ciclul de încărcare-descărcare.

■ **Dezactivează:** capacitatea bateriei nu va fi monitorizată în ciclul de încărcare-descărcare. Inițializare bateriei: capacitatea virtuală a bateriei este 100% la prima utilizare. Deoarece există un algoritm de învățare care calculează timpul de back-up de-a lungul perioadei de viață, în ciclurile de încărcare-descărcare, acest status al capacității virtuale va fi permanent la zi. După schimbarea bateriei, capacitatea virtuală trebuie reinițializată la 100%.

➤ **Calibrare baterie:** calibrare timp de back-up.

➤ **Battery TEMPCMPN (compensare):** va ajusta tensiunea de încărcare în funcție de temperatură.

ALTELE



OTHERS setting Pagina 1

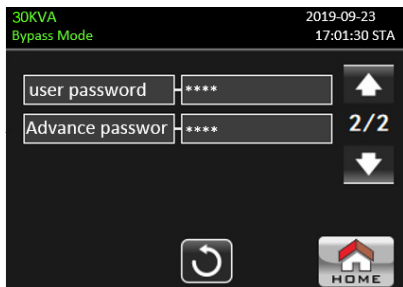
➤ Auto Restart:

■ **Enable:** Dupa activare, daca survine inchiderea UPS-ului cauzata de baterie epuizata iar reseaua este restabilita, UPS-ul se va intorce la functionarea normala.

■ **Disable:** Dupa dezactivare, daca survine inchiderea UPS-ului cauzata de baterie epuizata iar reseaua este restabilita, UPS-ul nu se va intorce la functionarea normala.

➤ **Intarzierea la inchidere** (Shutdown Delay Min): UPS-ul se va inchide respectand minutele setate. Numaratoarea pana la inchidere este pornita, dupa notificarea va aparea pe ecran.

➤ **Restabilire dupa inchiderea** (Restore Delay Min): UPS-ul se va reporni automat in functie de timpul setat dupa inchiderea UPS-ului.



OTHERS setting Pagina 2

- **Parola utilizator:** Setati o parola pentru a accesa setarile avansate din "ADVANCE ➔ User".
- **Parola mentenanta:** setati o parola pentru a accesa setarile avansate din "ADVANCE ➔ Maintainer" menu page.

SELFTEST



Aceasta functie poate fi folosita doar daca UPS-ul este in setari HV. Pentru a executa aceasta functie deconectati toate dispozitivele de la iesire si intrarea de la retea.

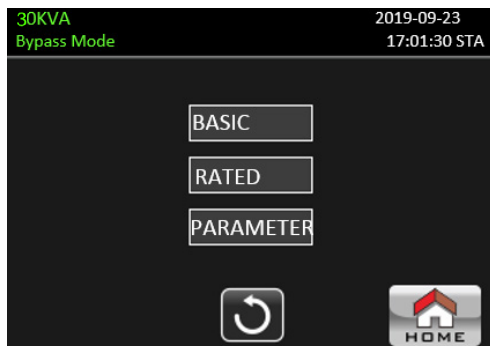
Conectați intrarea Bypass L1, L2, L3 la intrarea principală L1, L2, respectiv L3.

Apoi, schimbati UPS-ul in modul "HV:.. Pentru detalii verificati meniul System Parameter din cadrul Advance ➔ Directoriul Maintainer.

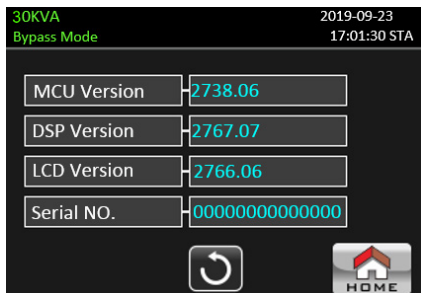
Dupa schimbare, reporniti UPS-ul si introduceti parola pentru a accesa meniul de mentenanta. Optiunea de SELFTEST va aparea pe ecran. Pe ecran, toate elementele testate sunt afisate ca "necunoscut". Doar apasati butonul de start si UPS-ul va fi in modul self-test. Daca totul functioneaza normal, va fi afisata starea Normal pe toate coloanele. In caz contrar, "Unknown" va fi afisat. Dupa ce testul se incheie ecranul se va stinge. In caz contrar, mesajul UNKNOWN va aparea in coloana care reprezinta esecul testului.

3.2.5 Ecranul de informatii

Apasati icoana  pentru a accesa pagina de informatii. Aici se regasesc 3 sub-meniuri: BASIC, RATED si PARAMETER. Apasati icoana  pentru a va intoare la ecran. Apasati icoana  pentru a va intoarce la meniul precedent.



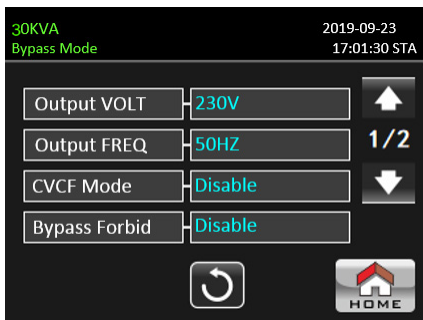
Basic Information Pagina 1



Basic Information Pagina 2

Informatii standard

- Versiune MCU
- Versiune DSP
- Versiune LCD
- Numar serial UPS

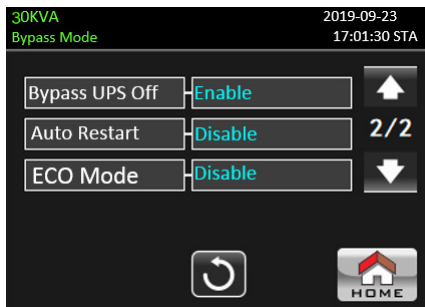


Rated Information Pagina 1

Informatii nominale

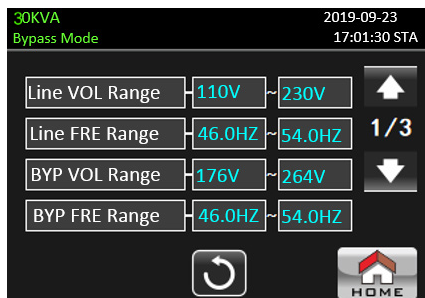
- Tensiune iesire
- Frecventa iesire

- Mod CVCF
- Interzice Bypass



Rated Information Pagina 2

- Bypass oprit
- Auto-restart
- Mod ECO

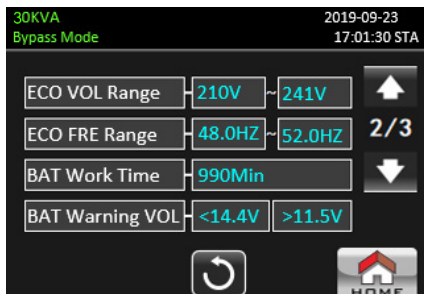


Parameter Information Pagina 1

Informatii despre parametrii

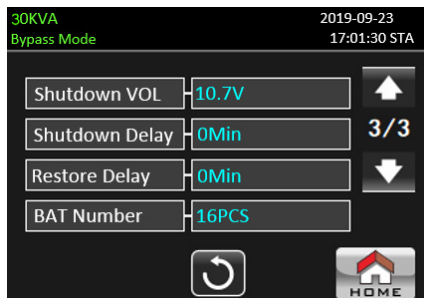
- Interval tensiune faza: interval acceptat
- Interval FRE faza interval acceptat
- Interval tensiune bypass interval acceptat

- Interval FRE bypass interval acceptat



Parameter Information Pagina 2

- Interval mod ECO
- Interval FRE ECO
- Timp de functionare pe baterie
- Avertizare tensiune Baterie
- **LOW:** Avertizare tensiune joasa baterie
- **HIGH:** Avertizare tensiune inalta baterie



Parameter Information Pagina 3

- Tensiune de inchidere: daca tensiunea bateriei este mai mica decat acest parametru, UPS-ul se va inchide

- Intarziere la inchidere: setati timpul de intarziere la inchidere
- Intarziere la restabilire: setati timpul de intarziere la repornire
- Numar baterii

3.2.6 Data Log

Apasati icoana  pentru a intra pe pagina de jurnal. Jurnalul este utilizat pentru a consemna alarme si comportamente neobisnuite ale UPS-ului. Aceste intrari de jurnal contin data & ora, tip si descriere. Apasati icoana   pentru a naviga intre pagini daca sunt multiple. Apasati icoana  pentru a te intoarce la ecranul principal. Apasati icoana  pentru a te intoarce la meniu. Va rugam consultati sectiunile 3-6 si 3-7 pentru avertismente si coduri de eroare.

30KVA		2019-09-23	
Bypass Mode		17:01:30 STA	
Time	Type	Describe	
19/09/23 17:00:20	Mode	PowerOn Mode	

Pagina Data Log

3.3 Alarmer sonore

Descriere	Stare sonor	Fara sonor
Stare UPS		
Mod bypass	Suna la fiecare 2 minute	Da
Mod baterie	Suna la fiecare 4 secunde	
Mod eroare	Suna continuu	
Avertisment		
Supraincarcare	Suna de 2 ori la 2 secunde	Nu
Altele	Suna 1 data la fiecare secunda	
Eroare		
Toate	Suna incontinuu	Da

3.4 Operare UPS singular

1. Porniti UPS-ul cu rețeaua electrică activă (În modul AC)

- După conectarea la rețeaua corectă, setați siguranța cabinetului de baterii în poziția ON (acest pas este necesar doar pentru modelul long-run). Apoi setați siguranța alimentării în poziția ON. În același timp ventilatorul va porni și UPS-ul va începe inițializarea. În câteva secunde, UPS-ul va alimenta echipamentele conectate la ieșire prin Bypass.

NOTA!

Când UPS-ul este în modul bypass, tensiunea la ieșire va fi direcționată de la alimentare după activarea siguranței de intrare. În modul bypass, echipamentele conectate nu sunt protejate de UPS. Pentru ca acestea să fie în siguranță trebuie pornit UPS-ul.

- Apasați CONTROL și selectați icoana care va afișa întrebarea ON UPS. Iar selecția este YES. Folosiți ecranul UPS on/off.
- După câteva secunde, UPS-ul va intra în modul AC. Dacă rețeaua este instabilă, UPS-ul va funcționa în modul Baterie.

NOTA!

Cand UPS-ul este cu bateria epuizata, se va inchide automat in modul baterie. Cand retea de alimentare se stabilizeaza, UPS-ul va porni automat in mod AC.

2. Porniti UPS-ul cu retea 0 (in mod Baterie)

- Asigurati-va ca cele 2 siruri de baterii sunt conectate corect in ordinea terminalelor + GND - si intrerupatorul cabinetului de baterii este intotdeauna pornit ON.
- Apasati  butonul de pornire pentru a alimenta UPS-ul dupa initializare UPS-ul va intra in modul Fara alimentare la iesire.
- Dupa cateva secunde UPS-ul va fi pornit si va intra in modul Baterie.

3. Conectarea echipamentelor la UPS

Dupa pornire UPS-ului puteti alimenta echipamente de la iesirea sa.

- Porniti UPS apoi porniti echipamentele pe rand. Ecranul va afisa valoarea incarcarii totale.
- Daca este necesara conectarea echipamentelor inductive la UPS, curentul de pornire trebuie calculat in punctul maxim pentru a nu supraincarca UPS-ul. Orice incarcare mai mare de 150% peste capacitatea totala de functionare va asigura o functionare sub 60ms.
- Daca UPS-ul este supraincarcat, soneria va suna de doua ori la fiecare secunda.
- Daca UPS-ul este supraincarcat, va rugam eliminati din echipamentele conectate. In modul AC UPS-ul se va transfera automat in modul Bypass.
- Daca UPS-ul este supraincarcat, va rugam eliminati din echipamentele conectate. In modul AC UPS-ul se va transfera automat in modul Bypass. Dupa rezolvarea supraincarcarii, se va intoarce in modul AC. Daca supraincarcarea depaseste timpul acceptabil listat in fisa tehnica in modul baterie, UPS-ul va intra in mod eroare. In acest punct daca functia de bypass este activata, UPS-ul va alimenta echipamentele conectate prin bypass. Daca este inactiva sau intrarea nu este in intervalul de bypass acceptat, se va opri alimentarea la iesire complet.

4. Incarcarea bateriilor

- Dupa conectarea UPS-ului la retea acesta va functiona in modul AC. incarcatorul va incarca bateriile automat in modul baterie, in timpul unui test de baterie, supraincarcare sau tensiune majora la baterie.
- Este recomandata incarcarea cu cel putin 10 ore a bateriei inainte de operare. In caz contrar, timpul de back-up va fi mai mic decat cel anticipat.

5. Operarea in modul baterie

- Cand UPS-ul este in modul Baterie, alarma va suna incontinuu in functie de nivelul de incarcare a bateriei. Daca bateria este mai mult de 25%, alarma va suna 1 data la fiecare 4 secunde. Daca tensiunea bateriei scade pana la limita de alarma, aceasta va suna la secunda pentru a reaminti ca nivelul bateriei este in scadere si UPS-ul se va inchide in scurt timp. Utilizatorul are optiunea sa deconecteze echipamentele non-critice pentru a prelungi perioada de back-up. Daca aceasta operatiune nu este posibila, pregatiti procedura de a inchide si salva datele importante pentru a nu risca pierderea lor.
- In modul baterie, se poate accesa "SETTING" → "GENERAL" → "Audio Mute" pentru a dezactiva alarma.
- Timpul de back-up al modelelor long-run depinde de capacitatea cabinetului de baterii.
- Timpul de back-up variaza in functie de temperatura de operare si tipul echipamentelor conectate.
- Cand timpul de backup este setat la 16.5 ore (valoarea implicita setata in meniul UPS-ului dupa scurgerea celor 16.5 ore UPS-ul se va inchide automat pentru a proteja bateria. Aceasta protectie la descarcare poate fi activata / dezactivata prin meniul din ecranul UPS-ului.

6. Testarea bateriilor

- Daca exista nevoia de a verifica starea bateriei cand UPS-ul este in functiune in modurile AC sau CVCF se poate accesa CONTROL>BATTERY TEST.
- Utilizatorii pot seta testul de baterie prin programul de monitorizare.

7. Opriti UPS-ul cu alimentare de la retea in modul AC

- Apasati CONTROL si selectati TURN OFF UPS pentru a opri UPS-ul. Verificati fereastra On/Off UPS.

NOTA 1: Daca UPS-ul este setat sa faca bypass la iesire, tensiunea de bypass va fi continua chiar daca UPS-ul este oprit.

NOTA 2: Dupa inchiderea UPS-ului, acesta functioneaza in modul bypass, iar echipamentele conectate sunt expuse variatiilor de tensiune de la retea.

- In modul Bypass, tensiunea de iesire este prezenta la UPS. Pentru a intrerupe iesirea, inchideti intrerupatorul de la alimentare. Ecranul LCD se va inchide si doar in acest moment este inchis UPS-ul complet.

8. Opriti UPS-ul fara alimentare de la retea in modul Baterie

- Apasati CONTROL si selectati OFF UPS pentru a-l inchide.
- UPS-ul va inceta alimentarea echipamentelor conectate.

9. Opriti alarma

- Apasati SETTINGS > GENERAL, aici se regasesc doua evenimente disponibile pentru a le face silentioase. Consultati ecranul SETTINGS.
- Unele alarme nu pot fi puse in mod silentios fara a rezolva eroarea care le declanseaza. Consultati sectiunea 3-3 pentru detalii.

10. Operarea in starea de avertizare

- Cand pe ecran apare FAULT MODE si alarma suna la fiecare secunda este indicatia unei probleme la UPS. Utilizatorii pot verifica evenimentul care a dus la aceasta alarma in meniul DATA LOG. Consultati capitolul 4 pentru detalii.
- Unele alarme nu pot fi puse in mod silentios fara a rezolva eroarea care le declanseaza. Consultati sectiunea 3-3 pentru detalii.

11. Operarea in modul avarie

- Daca alarma suna continuu semnifica o problema urgenta la UPS. Utilizatorii pot verifica evenimentul care a dus la aceasta alarma in meniul DATA LOG. Consultati capitolul 4 pentru detalii.
- Verificati echipamentele conectate, cablarea, ventilatia, reseaua, bateriile etc. dupa producerea erorii. Nu porniti UPS-ul inainte de rezolvarea erorii. Daca eroarea persista contactati unitatea de unde ati achizitionat produsul sau suportul tehnic.

- In cazul unei urgente inchideti alimentarea de la retea, baterie externa si iesire imediat pentru a evita daune ale echipamentului.

12. Operarea in modul mentenanta bypass

Aceasta operatiune trebuie executata doar de personal autorizat si tehnicieni. Cand este nevoie de mentenanta sau service, iar UPS-ul nu poate fi inchis se va utiliza modul mentenanta.

- Opriti UPS.
- Inlaturati capacul intrerupatorului de bypass din panou.
- Puneti intrerupatorul in pozitia BPS.

13. Model 3:3 setat la 3:1

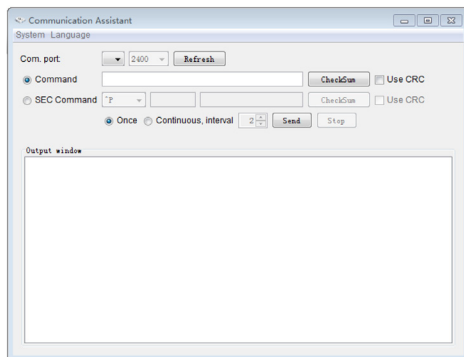
Metoda A

Aceasta operatiune trebuie efectuata doar de catre personal autorizat.

1. Accesati programul de comunicare.

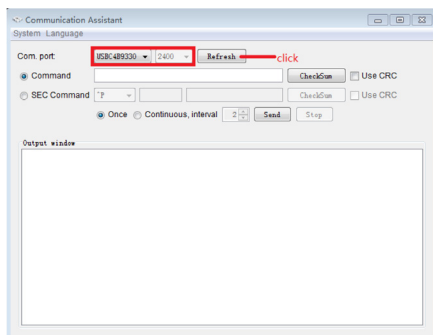


Aceasta interfata este afisata.



2) La setarea parametrului de baterie, asigurati-va ca UPS-ul este in modul Bypass sau Stand-by.

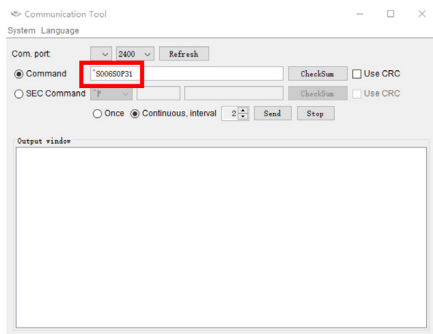
3) Dupa refresh, USB si 2400 vor fi afisate in locatiile potrivite.



4) Introduceti comanda S006SOP31 si setati UPS-ul la model 3:1.

Mesajul D006ACK va fi returnat pentru confirmare. Pentru a reveni la modelul 3:3 introduceti comanda ^S006SOP33.

NOTA!: Schimbarea acestui parametru nu va avea efect imediat. Setarea va fi salvata doar dupa ce UPS-ul este inchis in mod obisnuit cu bateriile conectate.



3.5 Operarea in paralel

1. Initializarea sistemului paralel

Asigurati-va ca toate sistemele UPS au aceeasi configuratie.

- Porniti fiecare UPS in modul AC. Apoi, masurati tensiunea de la iesire a fiecarei faze cu un multimetru. Calibrati tensiunea de iesire prin configurarea ajustarilor din ecranul **SETTING → ADVANCE → SYS PARAMETERS → VOL CALI** din meniu pana cand diferenta dintre UPS-uri este 1V sau mai putin.
- Opriti fiecare UPS. Apoi utilizati procedura de cablare de la sectiunea 2-4.
- Indepartati capacul portului unde se va atasa cablul de curent paralel la UPS, conectati fiecare UPS cu un cablu si acoperiti cu un capac.

2. Porniti sistemul in paralel in mod AC:

- Porniti intrerupatorul de intrare al fiecarui UPS. Daca este utilizat dual-input porniti si intrerupatorul pentru bypass intern. Dupa ce toate unitatile UPS sunt in mod bypass, masurati tensiunea de iesire intre doua UPS pe aceeasi faza pentru a va asigura ca ordinea de conectare a fazelor este corecta. Daca tensiunile masurate sunt aproape de 0 atunci legarea este corecta. In caz contrar asigurati-va ca sunt legate corect.
- Porniti intrerupatorul de iesire al fiecarui UPS.
- Porniti UPS-ul pe rand. Dupa un timp, toate unitatile ar trebui sa intre in modul AC sincronizat, iar apoi sistemul paralel este complet.

5) Dupa inchiderea obisnuita, terminalele de iesire trebuie sa fie in scurt.

Diagrama 3:1 pentru conexiunea in scurt circuit a foii de cupru.

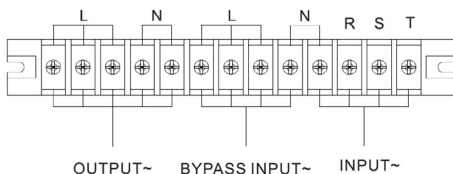
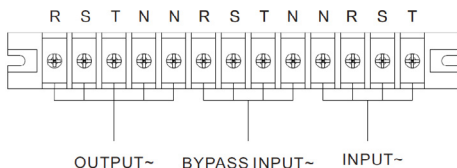


Diagrama 3:3 pentru conexiunea in scurt circuit a foii de cupru.



3. Pornirea sistemului paralel in modul baterie:

- Porniti intrerupatorul bateriei si a iesirii externe de la fiecare UPS.
- Porniti oricare UPS. Acesta va intra in modul baterie.
- Porniti urmatorul UPS in modul baterie pana la completarea sistemului paralel.

Pentru mai multe detalii legate de functionarea in paralel contactati producatorul sau centrul de service.

4. Adaugati noi unitati sistemului paralel

- Nu se pot adauga noi unitati in sistemul deja functional. Acesta trebuie oprit si incetata alimentarea.
- Asigurati-va ca toate unitatile UPS sunt modele ce suporta instalarea in paralel, consultati capitolul 2-4.
- Instalati conform capitolului 3-5.

5. Indepartati unitati UPS din sistemul paralel

Exista 2 metode:

Metoda 1

- Apasati CONTROL ➔ OFF UPS si selectati YES. Acum UPS va intra in mod bypass sau fara tensiune la iesire.
- Opriti intrerupatorul de iesire a acestei unitati apoi opriti intrarea.
- Opriti intrerupatorul bateriei si indepartati cablul de conectare in paralel. Indepartati unitatea UPS din sistem.

Metoda 2:

- Dacă bypass-ul este atipic, nu poți îndepărta UPS-ul fără întrerupere. Trebuie oprit tot sistemul
- Asigurați-vă ca toate UPS-urile sunt în modul bypass apoi opriți sistemul. Îndepărtați capacele de la bypass de mentenanță și setați întrerupătoarele din poziția UPS în BPS. Închideți toate circuitele de intrare și cele de baterie.
- Opriti întrerupătorul de ieșire și îndepărtați cablul de conectare în paralel a unității care trebuie îndepărtată. Îndepărtați unitatea UPS din sistem.
- Porniți întrerupătorul de intrare a unităților UPS rămase iar sistemul se va transfera în mod Bypass. Setați întrerupătoarele din poziția BPS în UPS.
- Porniți unitățile UPS rămase conform cu secțiunea anterioară.



Avertisment (doar pentru sistemul paralel)

- Înainte de conectarea la alimentare a sistemului paralel, asigurați-vă ca întrerupătoarele de mentenanță sunt toate în aceeași poziție.
- Când sistemul paralel este alimentat, nu operați servicii de mentenanță la niciun UPS din circuit.
- Sistemul paralel nu poate fi pus în mod ECO. Nu porniți modul ECO la nicio unitate UPS.

3.6 Coduri de eroare

Cod de eroare	Eveniment eroare	Icoana	Cod de eroare	Eveniment eroare	Icoana
01	Deteriorare BUS	Fara	41	Supraincalzire	Fara
02	Supra BUS	Fara	42	Eroare comunicare DSP	Fara
03	Sub BUS	None	43	Supraincarcare	Fara
04	BUS dezechilibrat	None	46	Setari UPS incorecte	Fara
06	Curent convertor peste limita	None	47	Eroare la comunicare MCU	Fara

11	Eroare la inverter soft-start	None	48	Doua versiuni de firmware DSP sunt incompatibile in sistemul paralel	Fara
12	Tensiune inalta inverter	None	60	Scutrcircuit faza bypass	Fara
13	Tensiune joasa inverter	Fara	61	Scutrcircuit faza SCR	Fara
14	Inverter L1 iesire (faza la nul) scurt circuit	Fara	62	Circuit deschis bypass SCR	Fara
15	Inverter L2 iesire (faza la nul) scurt circuit	Fara	63	Forma de unda atipica tensiune in faza S	Fara
16	Inverter L3 iesire (faza la nul) scurt circuit	Fara	64	Voltage waveform abnormal in S phase	Fara
17	Inverter L1-L2 iesire (faza la faza) scurt circuit	Fara	65	Forma de unda atipica tensiune in faza T	Fara
18	Inverter L2-L3 iesire (faza la faza) scurt circuit	Fara	66	Proba curent inverter atipic	Fara
19	Inverter L3-L1 iesire (faza la faza) scurt circuit	Fara	67	Scurt circuit bypass O/P	Fara
1A	Inverter L1 eroare putere negativa	Fara	68	Bypass linie O/P la linie scurtcircuit	Fara
1B	Inverter L2 eroare putere negativa	Fara	69	Inverter SCR scurtcircuit	Fara
1C	Inverter L3 eroare putere negativa	Fara	6C	Tensiune BUS coboara prea rapid	Fara
21	Baterie SCR scurtcircuit	Fara	6D	Valoare eroare proba curent	Fara
23	Inverter releu circuit deschis	Fara	6E	Eroare putere SPS	Fara

24	Invertor releu scurt circuit	Fara	6F	Polaritate baterie inversata	Fara
25	Line wiring fault	Fara	71	PFC IGBT over-current in L1 phase	Fara
31	Eroare la comunicarea in paralel	Fara	72	PFC IGBT supracurent in faza L2	Fara
32	Eroare la semnal conectare host	Fara	73	PFC IGBT supracurent in faza L3	Fara
33	Eroare la semnal sincron	Fara	74	INV IGBT supracurent L1	Fara
34	Invertor L2 iesire (faza la nul) scurt circuit	Fara	75	INV IGBT supracurent L2	Fara
35	Invertor L3 iesire (faza la nul) scurt circuit	Fara	76	INV IGBT supracurent L3	Fara
36	Invertor L1-L2 iesire (faza la faza) scurt circuit	Fara	78	Eroare la comunicare LCD & MCU	Fara

3.7 Coduri avertisment

Cod eveniment	Eveniment	Cod eveniment	Eveniment
01	Baterie deconectata	22	Comportamentul alimentarii este diferit in sistemele paralele
02	Pierdere nul IP	33	Comportamentul de bypass este diferit in sistemele paralele
04	Faza IP atipica	34	Blocat in bypass dupa 3 notificari de suprasarcina in 30 de minute
05	Faza bypass atipica	3A	Convertor de curent dezechilibrat

07	Supraincarcare	3C	Capacul intrerupatorului de mentenanta este deschis
08	Baterie slaba	3D	Retea extrem de atipica
09	Suprasarcina	3E	Bypass instabil
0A	Ventilator defect	3F	Tensiune baterie prea mare
0B	Activeaza EPO	40	Tensiunea baterie dezechilibrata
0D	Supraincalzire	41	Incarcator in scurtcircuit
0E	Incarcator defect	42	Supraincalzire ISO
21	Situatiile liniilor sunt diferite în sistemul paralel	43	Eroare BUS de pornire soft

4 Depanare

Daca sistemul UPS nu functioneaza corect, identificati problema utilizand tabelul de mai jos.

Simptom	Cauza	Rezolvare
Fara indicatori si alarma pe ecran, dar retea este fara evenimente.	Intrarea AC nu este conectata corect.	Verificati cablul sa fie atasat corect la alimentare.
Eroare cod 0B	Funcția EPO este activata. In acest moment, intrerupatorul EPO este inchis si jumperul este deschis.	Setati circuitul in pozitia inchis pentru a activa functia EPO.
Eroare cod 01	Bateriile interne si externe sunt conectate corect.	Verificati ca toate bateriile sa fie conectate corect.

Eroare cod 09	UPS-ul este in suprasarcina.	Indepartati echipamente conectate de la iesirea UPS-ului.
	UPS-ul este in suprasarcina. Echipamentele conectate sunt alimentate direct de retea electrica prin Bypass.	Indepartati echipamente conectate de la iesirea UPS-ului.
	Dupa erori de suprasarcina repetitive UPS-ul este blocat in modul Bypass. Echipamentele conectate sunt alimentate direct de retea electrica.	Indepartati echipamente conectate de la iesirea UPS-ului, apoi reporniti-l.
Cod eroare afisat: 43	UPS-ul este in suprasarcina prea mult si se deterioreaza. Apoi se inchide.	Indepartati echipamente conectate de la iesirea UPS-ului, apoi reporniti-l.
Cod eroare afisat: 14, 15, 16, 17, 18 sau 19.	UPS este inchis automat deoarece un scurt circuit s-a produs la iesire.	Verificati cablarea de la iesire si daca unul din echipamentele conectate sunt in scurtcircuit.
Alte coduri de eroare sunt afisate pe ecran si alarma suna fara intrerupere.	O eroare interna s-a produs la UPS.	Contactati Suportul Tehnic.
Timpul de back-up este mai scurt decat valoarea nominala.	Bateriile nu sunt incarcate complet.	problema persista, contactati Suportul Tehnic.
	Baterii defecte.	Contactati Suportul Tehnic pentru a inlocui bateria.
Cod eroare 0A	Ventilatorul este blocat sau nu functioneaza. UPS-ul se supraincalzeste.	Verificati ventilatorul si contactati Suportul Tehnic.

Cod eroare 02	Nulul de intrare este deconectat.	Verificati si corectati intrarea nulului. Daca este corect conectat iar problema persista va rugam sa accesati din meniul LCD urmatoarea cale ADVANCE>USER>Electric. Apoi selectati CHE si reporniti UPS-ul.
---------------	-----------------------------------	--

5 Depozitare si mentenanta

5.1 Depozitare

Inainte de depozitare, incarcati UPS-ul cel putin 7 ore. Depozitati-l acoperit, in pozitie verticala, in mediu uscat si racoros. In timpul depozitarii, incarcati bateriile respectand indicatiile din tabelul de mai jos:

Temperatura de depozitare	Frecventa la care se vor incarca	Durata de incarcare
25°C - 40°C	La fiecare 3 luni	1-2 ore
40°C - 45°C	La fiecare 2 luni	1-2 ore

5.2 Mentenanta

 Sistemul UPS utilizeaza tensiuni periculoase. Reparatile trebuie realizate de personal autorizat.

 Chiar si dupa deconectarea de la retea componentele interne ale UPS-ului sunt conectate la cabinete de baterii care pot fi potential periculoase.

 Inainte de a realiza orice operatiune de mentenanta, deconectati bateriile si verificati sa nu mai existe tensiuni periculoase la terminale sau capacitori, cum sunt capacitorii BUS.

 Doar tehnicienii cu experienta pot inlocui baterii si supraveghea alte lucrari. Persoanele neautorizate nu ar trebui sa aibe acces la baterii.

 Verificati sa nu existe tensiuni intre terminalele bateriei si impamantare inainte de mentenenta sau reparatii. In acest produs circuitul bateriei nu este izolat de tensiunea de intrare. Tensiuni periculoase pot aparea intre terminalele bateriei si impamantare.

 Bateriile pot provoca soc electric. Indepartati ceasul, inelele sau orice alt metal conductor inainte de reparatii si utilizati doar instrumente izolate.

 La inlocuirea bateriilor, instalati acelasi numar si tip de baterie.

 Nu incercati sa aruncati bateriile nediscriminatoriu si nu incercati sa le ardeti. Se pot provoca explozii. Reciclati bateriile in conformitate cu reglementarile locale.

 Nu deschide si nu deteriorati bateriile. Scurgerea electrolitului poate cauza arsuri si este toxic.

 Inlocuiti siguranta cu acelati tip si amperaj pentru a evita pericolul de incendiu.

 Nu dezasamblati UPS-ul.



Dezafectarea echipamentelor electrice si electronice vechi

(Se aplica pentru țările membre ale Uniunii Europene si pentru alte țări europene cu sisteme de colectare separata)

Acest simbol aplicat pe produs sau pe ambalajul acestuia indica faptul ca acest produs nu trebuie tratat ca pe un deseu menajer.

El trebuie predat punctelor de reciclare a echipamentelor electrice si electronice.

Asigurandu-va ca acest produs este dezafectat in mod corect, veți ajuta la prevenirea posibilelor consecinte negative asupra mediului si a sanatatii umane, care ar fi putut surveni daca produsul ar fi fost dezafectat in mod necorespunzator.

Reciclarea materialelor va ajuta la conservarea resurselor naturale.



Memo

Handwriting practice area with 20 horizontal dotted lines.



Memo

A series of horizontal dotted lines for writing a memo.

