ONLINE UPS

Installation and
Operating Instructions

a-TroniX
UPS Edition One
6kVA, 10kVA

Model	Capacity (VA)	Article number
a-TroniX UPS Edition One 6kVA	6000	9885107
a-TroniX UPS Edition One 10kVA	10000	9885108

INTRODUCTION

AKKU SYS Akkumulator- und Batterietechnik Nord GmbH
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Thank you very much
for purchasing our a-TroniX series online UPS.
It is an intelligent, single-phase, high-frequency online UPS and meets the required safety standards.
Due to its excellent electrical performance with a power factor of cos phi 1.0, as well as perfect intelligent monitoring and network functions, it meets the world‘s most advanced level.
With the a-Tronix Series Edition One, your installations are safely protected from power supply problems and the functionality of your equipment is maintained.

Read carefully before use
Read this manual carefully before installation.
It contains important regulations and instructions for the use of this product and provides technical support for the operator of the unit.

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The information in this document is subject to change without notice, but there is no obligation to update it on an ongoing basis.
We reserve the right to make design and equipment changes to improve the production process or the product. AKKU SYS GmbH accepts no liability for errors in this operating manual and any consequences resulting therefrom.

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1. Important safety instructions

Be sure to observe all warnings and operating instructions in this manual. Keep this manual in a safe place and read the following instructions carefully before installing and operating the unit.
The system may only be installed and connected by trained electricians in compliance with the relevant safety regulations.
The operating instructions must be read and understood by all personnel and specialists who are responsible for the operation, cleaning as well as disposal of the unit.
Dangerous voltages and high temperatures are present inside the UPS. Observe the local safety instructions and the corresponding laws during installation, operation and maintenance, otherwise personal injury or damage to the unit may occur. The safety instructions in this manual serve as a supplement to the local safety instructions.
Our company accepts no liability for damage caused by failure to observe the safety instructions.
The UPS as well as the associated components may only be used for the purpose corresponding to their design - to supply electrical devices (230 V AC) which in total do not exceed the rated power. Any other use or use beyond this is considered improper and may result in personal injury, property damage and/or damage to equipment

Please note the following:

- Don’t use the UPS when the actual load exceeds the rated load.
- Internal short circuit of the UPS will cause electric shock or fire. So don’t place the containers equipped with liquid on the top of the UPS so as not to cause danger of electric shock.
- Do not place the UPS in a location with high temperature or humidity, corrosive gases or much dust.
- Ensure good air circulation between the inlet opening at the front and the outlet opening at the back to prevent excessive heating.
- Avoid direct sunlight or the proximity of heat-emitting objects.
- If smoke appears on the UPS, please switch off the power as soon as possible and contact your supplier.

- Work on accumulators is to be carried out and supervised only by personnel with appropriate expertise in the required safety rules. Unauthorised persons must be kept away from accumulators.
- There are high capacity batteries in the UPS. Do not open or destroy them. The released electrolyte is dangerous for people and the environment. There is a risk of explosion. If internal maintenance or battery replacement is required, contact your supplier.

- When changing batteries, always insert the same number and type of batteries.
- Batteries or their connections can cause electric shocks.
- If short circuits occur on batteries, touching the live parts can cause severe burns.
- Batteries must never be brought into contact with heat sources or flames.
- Do not attempt to dispose of the batteries by burning them.

Defective accumulators must be disposed of in an environmentally friendly manner. Do not throw them in the household waste under any circumstances and observe the local disposal regulations.

Use the certified and professional recycling service of our AkkuSys team. For more information, contact us on the order hotline +49 4101/376760, at info@akkusys.de or use the QR code.

1.1 Symbols used in this guide

In these operating instructions, the abbreviation **UPS** stands for:
Uninterruptible **P**ower **S**upply.

Accumulators are usually used as energy storage for a UPS system. These are also colloquially referred to as accumulators or batteries.

Warnings and notes are indicated by the corresponding symbols (pictograms) and must be observed:

WARNING!

Warning of dangerous electrical voltage.

General warning of danger points.

Warning when handling accumulators.

NOTE:

This symbol indicates texts, notes or tips. Failure to take precautionary measures may result in damage to the product and/or its functions or to an object in its vicinity.

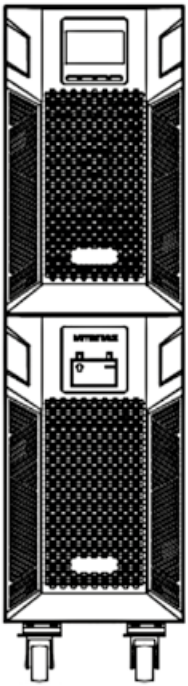
ENVIRONMENT:

Indicates recycling information.

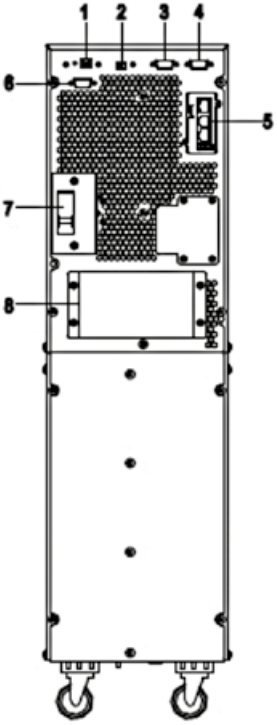
Indicates assemblies or parts that must be disposed of properly.
Do **not** dispose of them in the household waste.

2. Product Introduction

2.1 Product view (UPS 6–10 kVA)

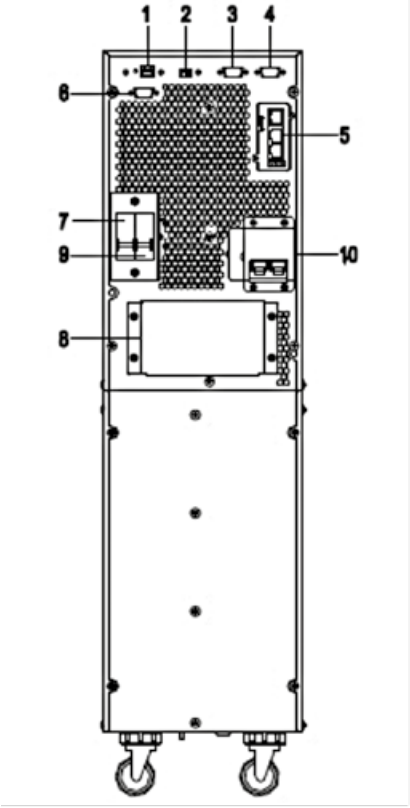


6/10kVA Front Panel view



6/10kVA Rear Panel view
(without maintenance)

1) USB (to connect the UPS to a PC)
2) EPO (for emergency shutdown)
3) Parallel port 1
4) Parallel port 2
5) Intelligent slot
6) RS232
7) Input switch
8) Terminals (covered)



6/10kVA Rear Panel view
(with maintenance)

1) USB (to connect the UPS to a PC)
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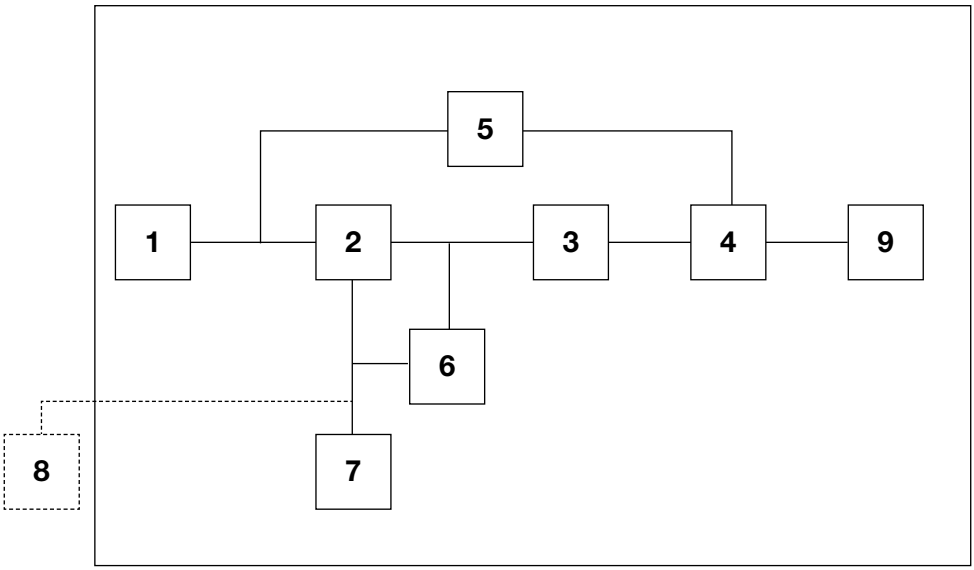
4) Parallel port 2
5) Intelligent slot
6) RS232
7) Input switch
8) Terminals (covered)
9) Output switch
10) Maintenance bypass switch (covered)

2.2 The principle of the product



UPS Principle Diagram

1. Mains input
2. Rectifier
3. Inverter
4. Bypass switch
5. Bypass
6. Charger
7. Battery bank
8. Extended Battery Pack (optional)
9. UPS output

2.3 Product Category

USV Type		Remark
Standard Unit	6 kVA	Internal batteries 16-20 PCS (12V/PCS)
	10 kVA	Internal batteries 16-20 PCS (12V/PCS)

3. Installation

3.1 Unpacking and inspection

- Do not tip the UPS when removing it from the packaging. A general risk of tipping always exists with units that have a high centre of gravity.
- Check whether the UPS has been damaged during transport and do not switch on the UPS if damage is detected. Please contact your supplier immediately.
- Remove the packaging with the utmost care to avoid any damage to the unit. Check all packaging materials to ensure that no parts are missing. Check the model number on the back of the UPS to ensure that your delivery is correct.

The packaging is recyclable. After unpacking, please keep it for reuse or dispose of it properly.

3.2 Installation Note

Observe the following when setting up / installing the UPS:

The system may only be installed and connected by trained electricians in compliance with the relevant safety regulations!

- All environmental and operating conditions requirements specified in the technical data must be complied with in order to ensure the correct functioning of the UPS.
- The unit may only be set up on its castors and on a firm, stable and horizontal surface.
- Make sure that the vents on the front and rear of the UPS are not blocked. Ensure that there is an appropriate flow channel. There should be a clearance of at least half a metre on each side to maintain ventilation and prevent the temperature inside the unit from becoming too high.
- Keep the UPS away from high temperatures, water, flammable gases, corrosive gases, dust, direct sunlight, and excessive humidity.
- Observe a vertical installation position.
- Load such as computers, linear loads and small inductive loads (in each case devices with residual current circuit breakers) can be connected to the UPS.

- If the UPS is unpacked in an environment with very low temperatures, condensation may occur and water droplets may form. In this case, wait until the UPS is completely dry inside and out before continuing installation and commissioning, otherwise there is a risk of electric shock.

3.3 UPS input and output connection

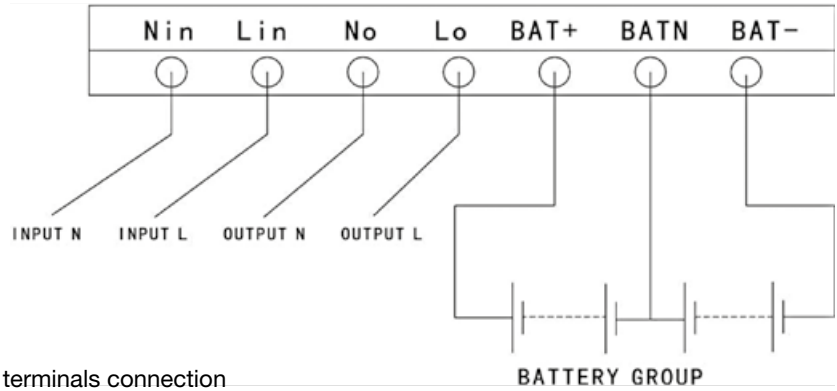
Installation and wiring must be carried out in accordance with local electrical safety regulations and in compliance with the following instructions by trained electricians.

- For safety reasons, switch off the mains switch before connecting cables.
- Remove the terminal cover on the back panel of the UPS and connect the cables.
- It is recommended to use a cable of at least 6mm² for the a-TroniX UPS Edition One 6kVA and a cable of at least 10mm² for the 10kVA.

Do not use a wall socket as an input power source for the UPS, as its rated current is lower than the maximum input current of the UPS. The wall socket could otherwise burn and be destroyed.

- Connect the input and output cables to the corresponding input and output terminals.
- The protective earth conductor refers to the cable connection between the parts that consume electrical current and the earth cable. The cable diameter of the earth protection conductor should have at least the dimensions of the cables mentioned above for the respective models.
- After completing the installation, check that all the wiring is correct.
- Please install the output disconnector between the output terminal and the load. The disconnector should be equipped with a residual current protection function.
- To connect the load to the UPS, switch off all loads first, then make the connection and switch on each load in turn.

- Regardless of whether the UPS is connected to the utility mains or not, the output of the UPS may be live. The parts inside the unit may carry dangerous voltage even after the UPS has been switched off. To make sure that the UPS is not emitting voltage, first switch off the UPS and then disconnect it from the power supply.



I/O terminals connection

It is recommended to charge the batteries for 24 hours before use. Turn the input disconnect switch to „ON“ after connection; the UPS will charge the batteries automatically. You can also start using the UPS immediately without charging the batteries first, but the backup period may be shorter.

3.4 Communication cable connection

USB/RS-232:

The RS-232 or USB cable included in the accessories can be used to connect the UPS to the PC.
If an appropriate cable is connected, the software can exchange data with the UPS. The software obtains detailed information from the UPS about the status of the power supply. In the event of a supply emergency, the software ensures that all data is saved and the units are shut down properly.

Communication port SNMP (Optional):

Optionally, the UPS can be equipped with an SNMP communication interface.
It integrates the UPS into a network and after assigning an individual IP address, the UPS can be accessed from any location. This is particularly interesting for remote administration and maintenance.

Parallel card (Optional)

Optionally, the UPS can also be equipped with a parallel card. It is an optional expansion card and enables parallel operation of up to 4 UPS systems until the desired capacity or autonomy duration is reached.

Extended Battery Pack (Optional)

To achieve a longer bridging time, several battery cabinets can be connected.
Only use a compatible battery cabinet and the corresponding connection cable.
The battery voltage should be around 240VDC after connection.

4. Panel display, operation and running

4.1 Start up and turn off UPS

4.1.1 Start up operation

Before switching on, check all connections of the UPS and whether all loads are correctly connected.

1) Switch on the UPS in line mode:

Once the AC power cable is plugged in, the UPS will start automatically and the LCD display of the UPS will light up.
You can see the data and set parameters on the LCD display.

2) Switch on the UPS in battery mode:

Press the „ENTER /ON“ button on the control panel to start the UPS. The LCD display lights up. You can see the data and set parameters on the LCD display. The LED display of the UPS shows the current status of the UPS.

4.1.2 Turn off operation

1) Turn off the UPS in line mode (without batteries):

a) Press and hold the ESC/OFF button for 2 seconds to switch off the inverter. The UPS is now in bypass mode. Conversely, you can press and hold the ENTER /ON button for 2 seconds to switch back to inverter mode.
b) To completely shut down (turn off) the UPS, you need to turn off the input switch.

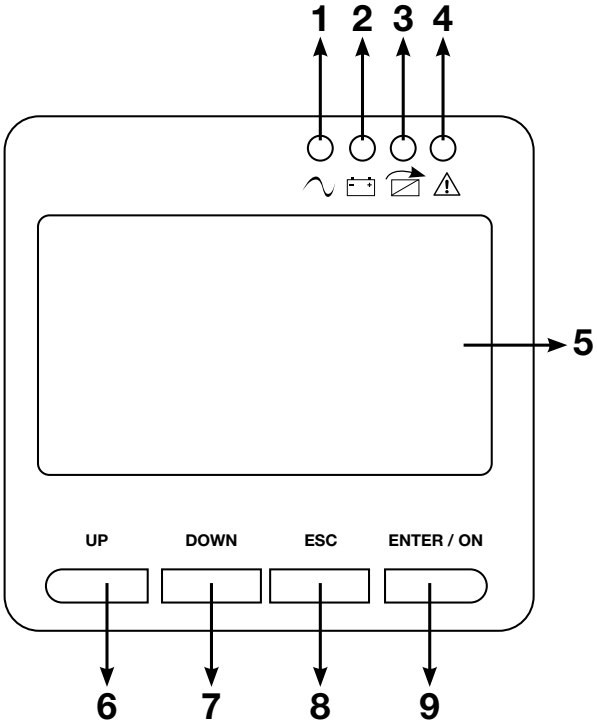
2) Switch off the UPS with the batteries connected:

a) Press and hold the ESC/OFF button for 2 seconds to switch off the UPS.
b) After switching off the UPS, all LEDs as well as the LCD display go out and there is no more output.

NOTE:
When the UPS is switched off from inverter mode, it discharges the DC bus to 80 V and then switches off completely; therefore, it sometimes takes a few seconds longer to complete the process.

4.2 Faceplate display

4.2.1 Faceplate display illumination



Overview of the operating panel of the UPS

(1) INVERTER LED
(2) BATTERY LED
(3) BYPASS LED
(4) ALARM LED
(5) LCD display
(6) UP button
(7) DOWN button
(8) ESC/OFF button
(9) ENTER/ON button

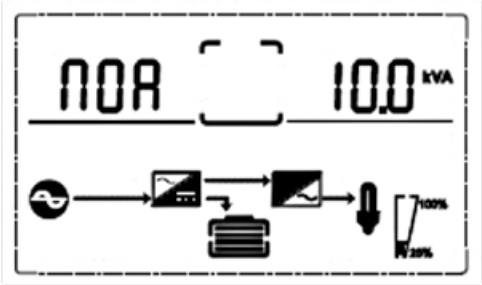
4.2.2 LCD display

NOTE:
The display offers more functions than described in this manual.

The following parameters are available in the LCD display:

ITEM	Interface Description	Content Displayed
01	Input	Voltage & Frequency
02	Output	Voltage & Frequency
03	Bat.+	Voltage & Current (pos.)
04	Bat. -	Voltage & Current (neg.)
05	Temp.	Ambient temperature
06	Load	Load
07	Bus voltage	Bus voltage ±
08	UEA	Version of software
09	Model	Model

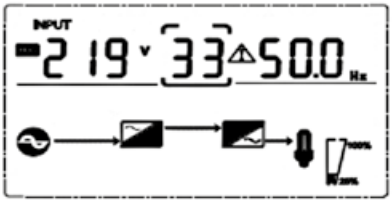
When the UPS connects to the power supply or battery in cold start mode, this is shown in the following figure:



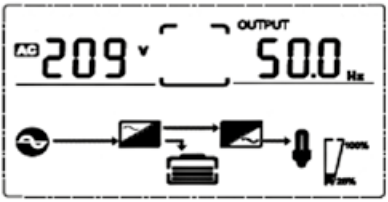
(1) Operational Status and mode

(1) Operating status and mode:
When the UPS is in single mode, „NOA“ (normal) or „CF“ (Frequency Converter Mode) is displayed. In parallel mode, „PAL“ is displayed instead.

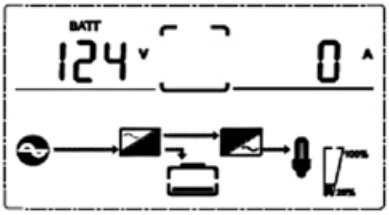
(2) Press the „DOWN“ button and the UPS goes to the next page each time, as shown below:



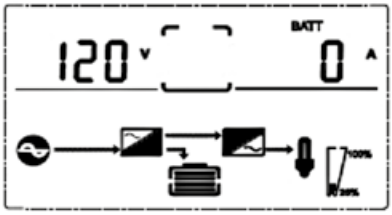
(2) Input voltage



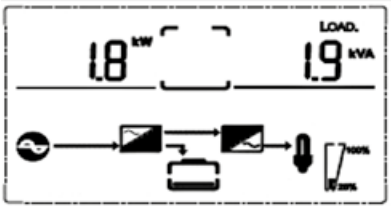
(3) Output voltage



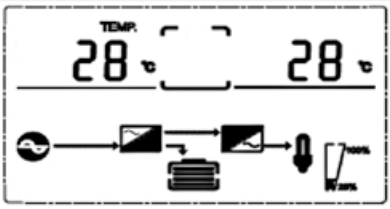
(4) Bat + voltage (positive)



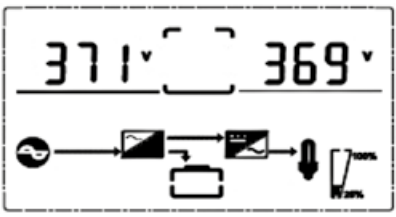
(5) Bat–voltage (negative)



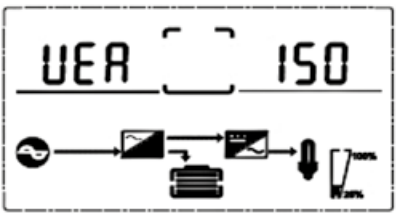
(6) Load



(7) Ambient temperature



(8) Bus voltage



(9) Software version

4.3 Parameter settings

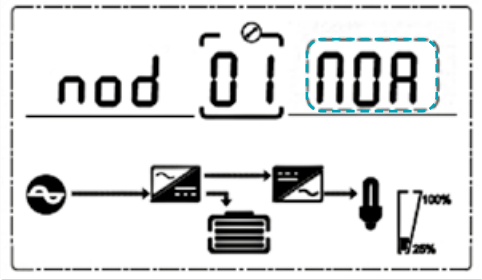
The setting function is controlled by 4 keys (ENTER/ON, ESC/OFF, UP, DOWN):

- ENTER/ON – goes to the setting page and value setting;
- UP & DOWN – to select different pages.

After switching on the UPS, press the UP and DOWN buttons for 3 seconds and then switch to the settings page. Press the UP or DOWN button to select the desired setting parameter.

Press Enter/On to enter the value setting status, press the UP or DOWN key to set the value. Press the ON key to confirm. Press and hold the DOWN key until the setting parameter is exited and saved.

4.3.1 Mode-setting



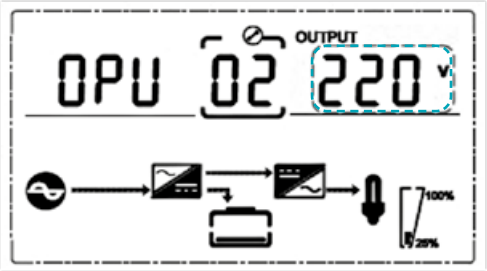
Mode setting:
(**NOTE:** Inside the broken-line is the flashing part)

After confirming the settings menu, the mode setting is preset as shown in the picture above.

- Press ENTER/ON to enter the value setting status, press UP & DOWN to select different modes and press ENTER/ON to confirm.
- Use the UP & DOWN keys to access the setting of the output voltage or the setting of the parallel redundancy quantity.

4.3.2 Output voltage class setting

Output voltage setting
(**NOTE:** Inside the broken-line is the flashing part)



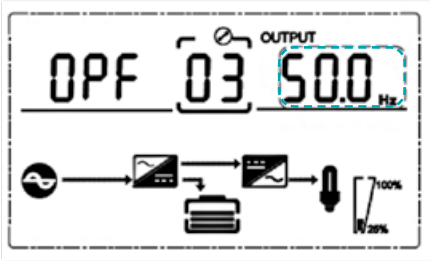
If you press the DOWN key under the mode setting or the UP key under the frequency setting, you will reach the output voltage setting. To select the output voltage setting, proceed as follows:

- Press ENTER /ON to enter the value setting status, press UP & DOWN to select the different output voltage and press ENTER/ON to confirm. There are 4 different voltages – 208,220, 230, 240.
- Use the UP & DOWN keys to go to the mode setting or the frequency setting.

NOTE:
When powered by inverter, it is necessary to turn off the inverter before setting voltage and frequency level.

4.3.3 Output frequency setting

Frequency setting
(**NOTE:** Inside the broken-line is the flashing part)

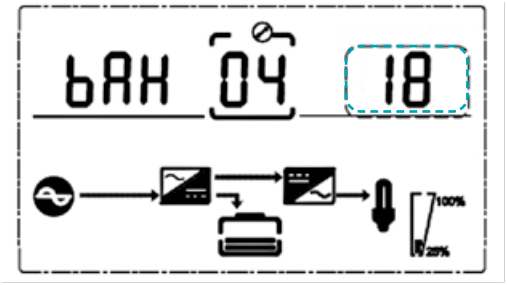


If you press the DOWN key when setting the output voltage or the UP key when setting the battery capacity, you will reach the frequency setting. You can select this as follows:

- Press ENTER/ON to enter the value setting status.
  Press UP & DOWN to select another frequency and press ENTER/ON to confirm.
  There are 2 different frequencies – 50/60 Hz.
- Use the UP & DOWN keys to access the setting of the output voltage or the battery capacity.

NOTE:
When powered by inverter, it is necessary to turn off the inverter before setting voltage and frequency level.

4.3.4 Battery capacity setting



Battery capacity setting
(**NOTE:** Inside the broken-line is the flashing part)

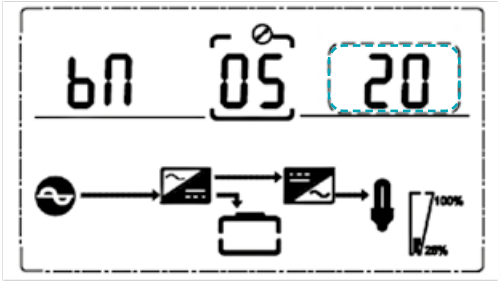
If you press the DOWN key under the frequency setting or the UP key under the battery quantity setting, you will reach the battery capacity setting. You can select the battery capacity setting as follows:

- Press ENTER /ON to enter the value setting status.
  Press UP & DOWN to select the different battery capacities and press ENTER/ON to confirm. The battery capacity range is 1-200Ah.

NOTE:
By pressing UP or DOWN for a long time, the battery capacity can be quickly reduced.

- Use the UP & DOWN keys to go to the frequency setting or to set the battery quantity.

4.3.5 Battery quantity setting

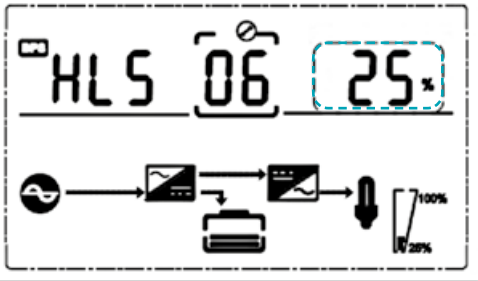


Battery quantity setting
(**NOTE:** Inside the broken-line is the flashing part)

If you press the DOWN button under the battery capacity setting or the UP button under the bypass voltage cap setting, you will reach the battery quantity setting.
You can select the battery quantity setting as follows:

- Press ENTER /ON to enter the value setting status.
  Press UP & DOWN to select another battery quantity and press ENTER/ON to confirm. The battery quantity range is selectable between 16, 18, or 20.
- Use the UP & DOWN key to access the battery capacity setting or to set the upper limit of the bypass voltage.

4.3.6 Bypass Volt-Hi setting

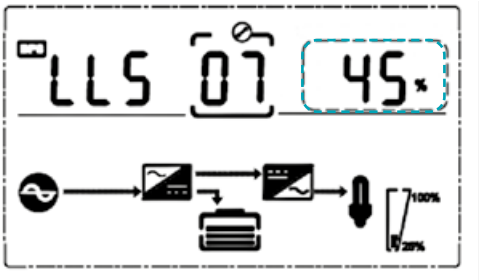


Bypass voltage upper limit setting
(**NOTE:** Inside the broken-line is the flashing part)

Pressing the DOWN button under the battery quantity setting or the UP button under the bypass voltage setting will take you to the bypass upper limit setting. You can select the upper bypass limit setting as follows:

- Press ENTER/ON to enter the value setting status. Press UP & DOWN to set the different bypass voltage upper limits and press ENTER /ON to confirm. The range for the bypass voltage upper limit is 5%, 10%, 15% or 25% (25% only for 220V output).
- Use the UP & DOWN key to access the battery quantity setting or to set the lower limit of the bypass voltage.

4.3.7 Bypass Volt-Lo setting

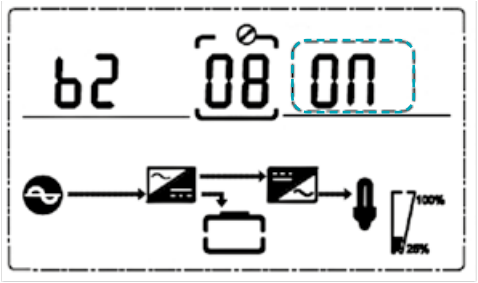


Bypass voltage lower limit setting
(**NOTE:** Inside the broken-line is the flashing part)

If you press down under the bypass voltage upper limit setting or if you press up under the buzzer mute setting, the bypass lower limit setting is activated. You can select the lower bypass limit setting as follows:

- Press ENTER/ON to enter the value setting status.
  Press UP & DOWN to set the different bypass voltage lower limits and press ENTER/ON to confirm. The range for the bypass voltage lower limit is 20%, 30% and 45%.
- Press the UP and DOWN buttons to bypass the upper limit setting or to mute the buzzer.

4.3.8 Buzzer Mute Setting



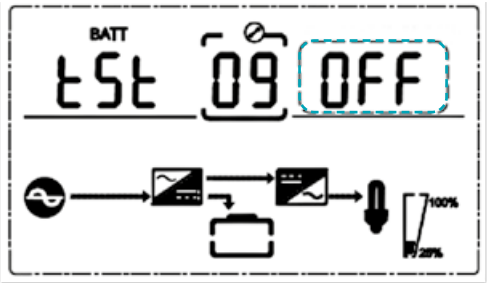
Buzzers mute setting
(**NOTE:** Inside the broken-line is the flashing part)

Press DOWN under the bypass voltage lower limit setting or press UP under the battery self-test setting to access the buzzer setting. Now the setting status flashes as shown in the figure.
The selection includes ON and OFF.

NOTE:
ON = mute;
OFF = no mute.

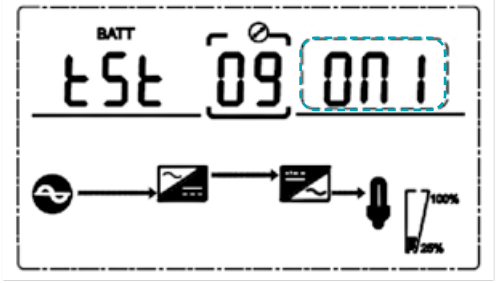
Press the UP or DOWN button to stop muting and save the muting status and to switch to the lower bypass voltage limit setting or the battery self-test setting.

4.3.9 Battery Test Setting

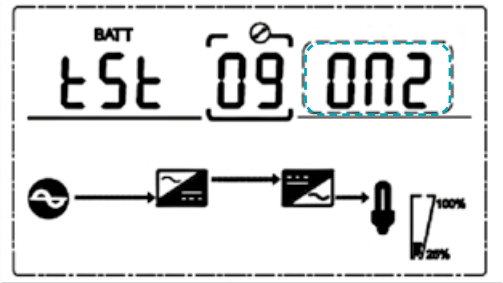


Battery self-test setting

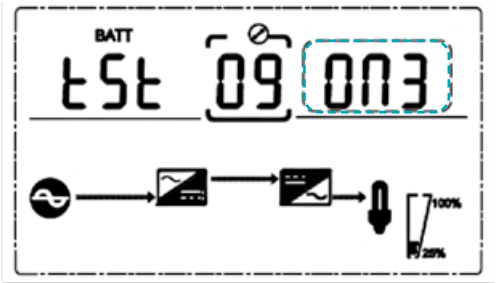
This is the introduction to the battery self-test setting.
The default setting is „OFF“ when the UPS has no need for the battery self-test function.
If you switch to „ON“, the UPS can automatically perform a battery self-test every 30 days.
Three types of battery self-test times can be selected (see below).



If you select ON1, the UPS can automatically switch to battery mode every 30 days.
The battery self-test time is 10 seconds.

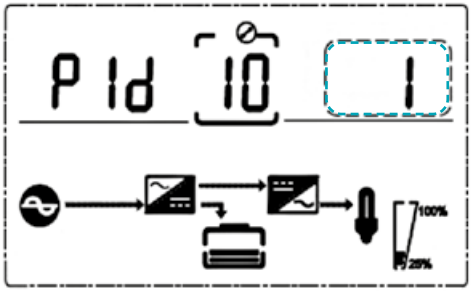


If you select ON2, the UPS can automatically switch to battery mode every 30 days.
The battery self-test time is 10 minutes.



If you select ON3, the UPS can automatically switch to battery mode every 30 days.
The battery self-test time is EOD (**E**nd **O**f **D**ischarge).

4.3.10 Parallel ID setting



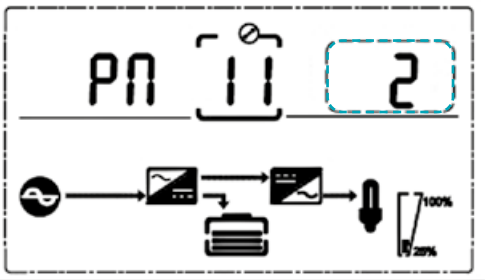
Parallel ID setting
(**NOTE:** Inside the broken-line is the flashing part)

If you are in the battery self-test setting, press DOWN or press UP if you are in the parallel quantity setting. This will take you to the parallel ID setting. You can set this as follows:

- Press ENTER/ON to enter the value setting status.
  Press UP & DOWN to set the different parallel IDs and press ENTER/ON to confirm.
  The range for the parallel ID is 1~4.
- Pressing the UP & DOWN buttons takes you to the battery self-test setting or parallel quantity setting.

NOTE:
No parallel cable can be connected when setting the parallel parameters.

4.3.11 Parallel quantity setting



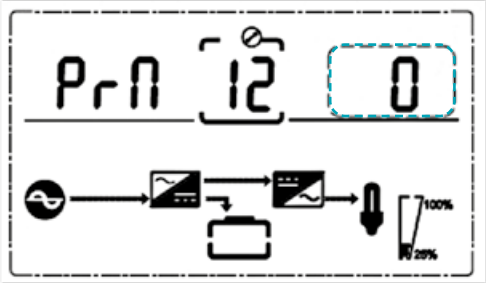
Parallel quantity setting
(**NOTE:** Inside the broken-line is the flashing part)

Press the DOWN key when setting the parallel ID or the UP key when setting the parallel redundancy quantity to move to the parallel quantity setting. You can set the parallel quantity as follows:

- Press ENTER/ON to enter the value setting status.
  Press UP & DOWN to set the parallel quantity and press ENTER/ON to confirm.
  The range for the parallel quantity is 2~4.
- Use the UP & DOWN keys to move to the parallel ID setting or the parallel redundancy quantity setting.

4.3.12 Parallel redundancy quantity setting

Parallel redundancy quantity setting
(**NOTE:** Inside the broken-line is the flashing part)



If you press the DOWN key under the parallel quantity setting, you will get to the parallel redundancy quantity setting. You can set the parallel redundancy quantity as follows:

- Press ENTER/ON to enter the value setting status.
  Press UP & DOWN to set the parallel redundancy amount and press ENTER/ON to confirm.
  The range for the parallel redundancy quantity is 0~1.
- Press UP& DOWN to go to the parallel quantity setting or exit the mode setting.
  Then the setting of the UPS LCD control panel is performed.

4.4 Alarm Information

Item	USV Alarm Warning	Buzz	LED
1	Rectifier Fault	Beep continuously	Fault LED lit
2	Inverter fault (Including Inverter bridge is shorted)	Beep continuously	Fault LED lit
3	Inverter Thyristor short	Beep continuously	Fault LED lit
4	Inverter Thyristor broken	Beep continuously	Fault LED lit
5	Bypass Thyristor short	Beep continuously	Fault LED lit
6	Bypass Thyristor broken	Beep continuously	Fault LED lit
7	Fuse broken	Beep continuously	Fault LED lit
8	Parallel relay fault	Beep continuously	Fault LED lit
9	Fan fault	Beep continuously	Fault LED lit
10	Reserve	Beep continuously	Fault LED lit
11	Auxiliary power fault	Beep continuously	Fault LED lit
12	Initialization fault	Beep continuously	Fault LED lit
13	P-Battery Charger fault	Beep continuously	Fault LED lit
14	N-Battery Charger fault	Beep continuously	Fault LED lit
15	DC Bus over voltage	Beep continuously	Fault LED lit
16	DC Bus below voltage	Beep continuously	Fault LED lit
17	DC bus unbalance	Beep continuously	Fault LED lit
18	Soft start failed	Beep continuously	Fault LED lit

Item	USV Alarm Warning	Buzz	LED
19	Rectifier Over Temperature	Twice per second	Fault LED lit
20	Inverter Over temperature	Twice per second	Fault LED lit
21	Reserve	Twice per second	Fault LED lit
22	Battery reverse	Twice per second	Fault LED lit
23	Cable connection error	Twice per second	Fault LED lit
24	CAN comm. Fault	Twice per second	Fault LED lit
25	Parallel load sharing fault	Twice per second	Fault LED lit
26	Battery over voltage	Once per second	Fault LED blinking
27	Mains Site Wiring Fault	Once per second	Fault LED blinking
28	Bypass Site Wiring Fault	Once per second	Fault LED blinking
29	Output Short-circuit	Once per second	Fault LED blinking
30	Rectifier over current	Once per second	Fault LED blinking
31	Bypass over current	Once per second	BPS LED blinking
32	Overload	Once per second	INV or BPS blinking
33	No battery	Once per second	BATTERY blinking
34	Battery under voltage	Once per second	BATTERY blinking
35	Battery low prewarning	Once per second	BATTERY blinking
36	Overload Delay	Once per second	Bypass LED blinking
37	DC component over limit	Once per 2 seconds	INV blinking
38	Parallel Overload	Once per 2 seconds	INV blinking
39	Mains volt. Abnormal	Once per 2 seconds	BATTERY LED lit
40	Mains freq. abnormal	Once per 2 seconds	BATTERY LED lit
41	Bypass Not Available		BPS blinking
42	Bypass unable to trace		BPS blinking
43	Inverter on invalid		
44	Reserve		
45	EPO	Beep continuously	Fault LED lit

NOTE:
The following procedure must be carried out when the UPS is connected to the generator:

- First switch on the generator after it is running stably, connect the output power of the generator to the UPS input terminal, and then switch on the UPS. After switching on the UPS, please connect the load one by one.
- It is recommended that the generator power is twice the rated power of the UPS.

5. Maintenance

UPS systems operate with dangerous voltages. Repairs and maintenance may therefore only be carried out by qualified personnel who are sufficiently familiar with accumulators and the necessary precautions. Unauthorised persons must be kept away from the accumulators.

5.1 Battery maintenance

1. It is recommended to charge or discharge the batteries manually. This procedure should be carried out every three to four months when the UPS has not been used for a long time or the power supply has been uninterrupted for a long time. The battery is completely discharged until the under voltage protection switches off. It has to be fully recharged immediately.
2. In areas with high temperatures, the batteries should be manually charged and discharged every two months. The process is the same as described above.
3. When replacing the batteries, always use the same battery type and the same number of batteries or battery packs.

Use the service of our AkkuSys team for this. For more information, contact us on the hotline +49 4101/376760, at info@akkusys.de or use the QR code.

WARNING:
Before replacing the batteries, please first switch off the UPS and disconnect the mains. Remove your metallic jewellery such as finger rings, watches, etc.

When replacing the batteries, please use tools with an insulating handle and do not place any tools or metallic objects on the batteries.

6. Troubleshooting

If the UPS system is not working properly, please solve the problem using the following troubleshooting table.

If you need help with this, please contact our service department. The following information should be provided for analysis:

- UPS MODEL and serial number
- Date on which the fault occurred
- Detailed description of the problem (include indicator statements on the board

Fault	Cause	Solution
Battery LED flashes	Battery low voltage or battery disconnected	Contact your supplier
Mains normal, but UPS has no input	UPS input breaker open circuit	Press the breaker for reset
Short back up time	Battery not fully charged	Keep UPS connecting with mains power for more than 8 hours, recharge battery
	UPS overload	Check the usage of loads, remove some redundant devices
	Battery aged	Contact your supplier
No AC power, UPS can't Start up after pressing the ON key	Press the ON key for a short time	Press and hold the ON key for more than one second to start the UPS
	UPS has no battery connected or battery voltage low and too many loads connected	Connect UPS battery well, if battery voltage low, please turn off UPS and remove some loads, then start UPS
	Fault occurs inside UPS	Contact your supplier

7. Spezification

Model	UPS Edition One 6 kVA	UPS Edition One 10 kVA
Capacity		
Phases	1:1	
Capacity (KVA)	6	10
Capacity (W)	6000	10000
Power factor output (cos phi)	1,0	
Transfer Time (ms)	Mains mode to battery mode: 0 ms Inverter mode to bypass mode: 5 ms	
Input		
Rated voltage (V AC)	208 / 220 / 230 / 240	
Voltage range (without battery) (V AC)	110~286	
Frequency (Hz)	40~70 Hz	
Power factor input	≥0.99	
Nominal voltage (V DC)	240	240
Standard battery (pcs x Ah) (not included)	20 x 9	20 x 9
Charging current max (Default)	1	
Output		
Voltage (V AC)	208 / 220 / 230 / 240	
Frequency (Hz)	Mains mode: ± 10% of nominal voltage Battery mode: (50/60 ± 0.1%) Hz	
Waveform	Pure Sinewave	
Crest factor	3:1	
Others		
Dimensions (mm) w x d x h	191 x 460 x 720 (incl. wheel)	
Net weight (kg)	60	61
Noise level (dB (A))	<55 db 1 Meter	
Operating temperature	0°C~40°C	
Storage temperature	-25°C~55°C	
Relative humidity (non condensing)	20~95%	
IP rating	I	
Standards	IEC/EN62040-1, IEC/EN62040-2 IEC61000-4-2, IEC61000-4-3,IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-8	