

TOSHIBA



TPX Series

INSTALLATION AND

OPERATION MANUAL

LINE INTERACTIVE

700VA/420W 120V UPS

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QUALIFIED PERSONNEL ONLY

Qualified Personnel are those who have the skills and knowledge relating to the construction, installation, operation, and maintenance of the electrical equipment and have received safety training on the hazards involved (Refer to the latest edition of NFPA 70E for additional safety requirements).

UNINTERRUPTIBLE POWER SUPPLY (UPS)

Please complete the following information and retain for your records.

Job Number: _____

Model Number: _____

Serial Number: _____

Application: _____

Shipment Date: _____

Installation Date: _____

Inspected By: _____

PURPOSE AND SCOPE OF MANUAL

This manual provides information on how to safely install your Toshiba International Corporation power electronics product. This manual includes a section of general safety instructions that describes the warning labels and symbols that are used throughout the manual. Read the manual completely before installing, operating, or performing maintenance on this equipment.

This manual and the accompanying drawings should be considered a permanent part of the equipment and should be readily available for reference and review. Dimensions shown in the manual are in metric and/or the English customary equivalent.

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Toshiba International Corporation's Customer Support Center can be contacted to obtain help in resolving any Uninterruptible Power System (UPS) problems that you may experience or to provide application information.

Customer Support Center

8 a.m. to 5 p.m. (CST) – Monday through Friday

Tel: (877) 867-8773

Email: TIC-UPSService@toshiba.com

You may also contact Toshiba International Corporation by writing to:

Toshiba International Corporation

Power Electronics Division - UPS

13131 West Little York Road

Houston, Texas 77041-9990

Attn: UPS Product Manager

For further information on Toshiba International Corporation's products and services, please visit our website at www.ToshibaUPS.com.

TABLE OF CONTENTS

1.	GENERAL SAFETY INSTRUCTIONS.....	1
2.	SAFETY ALERT SYMBOL	1
3.	IMPORTANT SAFETY INSTRUCTIONS.....	4
4.	INTRODUCTION	10
5.	PRODUCT DESCRIPTION	10
6.	INSTALLATION	10
6.1	PLACEMENT.....	10
6.2	CONNECT COMPUTER INTERFACE (OPTIONAL).....	11
6.3	CONNECT TO UTILITY	11
6.4	CHARGE THE BATTERY	11
6.5	CONNECT THE LOADS (DEVICES).....	11
6.6	FRONT PANEL VIEW	12
6.7	REAR PANEL VIEW.....	13
7.	OPERATION	15
7.1	TURN ON	15
7.2	TURN OFF	15
7.3	SILENCE/ALARM OFF	15
7.4	SELF-TEST	15
7.5	LOAD LEVEL / BATTERY CAPACITY BAR GRAPH	16
7.6	SHUTDOWN MODE.....	16
7.7	COLD START	16
8.	ALARMS	17

8.1	BACKUP MODE	17
8.2	LOW BATTERY	17
8.3	OVERLOAD.....	17
9.	SOFTWARE INSTALLATION AND USB PORT	18
9.1	MONITORING SOFTWARE OVERVIEW	18
9.2	INSTALLING SOFTWARE	18
9.3	FEATURES FOR MONITORING SOFTWARE.....	18
9.4	HOW TO START MONITORING SOFTWARE.....	19
10.	TROUBLESHOOTING	20
11.	SPECIFICATIONS	21
12.	INSPECTION/STORAGE/DISPOSAL	23
12.1	INSPECTION	23
12.2	UNPACKING.....	23
12.3	STORAGE CONDITIONS.....	23
13.	INSTALLATION PRECAUTIONS	25
14.	OPERATING PRECAUTIONS.....	26
15.	MAINTENANCE	27
15.1	REPLACING BATTERIES	29
16.	SERVICE AND WARRANTY	30
16.1	SERVICE	30
16.2	LIMITED WARRANTY	31

1. GENERAL SAFETY INSTRUCTIONS

DO NOT attempt to install, operate, maintain, or dispose of this equipment until this entire instruction manual has been read and all product warnings and user instructions are understood.

2. SAFETY ALERT SYMBOL

The **Safety Alert Symbol** indicates that a potential personal injury hazard exists. The symbol is comprised of an equilateral triangle enclosing an exclamation mark.



Signal Words

Listed below are the signal words that are used throughout this manual followed by their descriptions and associated symbols. When the words **DANGER**, **WARNING** and **CAUTION** are used in this manual they will be followed by important safety information that must be carefully adhered to.

The word **DANGER** preceded by the safety alert symbol indicates that an imminently hazardous situation exists that, if not avoided, will result in death or serious injury to personnel.



DANGER

The word **WARNING** in capital letters preceded by the safety alert symbol indicates that a potentially hazardous situation exists that, if not avoided, could result in death or serious injury to personnel.



WARNING

The words **CAUTION** and **ATTENTION** in capital letters preceded by the safety alert symbol indicate a potentially hazardous situation exists which, if not avoided, may result in minor or moderate injury.



CAUTION/ATTENTION

The word **CAUTION** in capital letters without the safety alert symbol indicates that a potentially hazardous situation exists which, if not avoided, may result in equipment or property damage.

CAUTION

Special Symbols

To identify special hazards, other symbols may appear in conjunction with the **DANGER**, **WARNING** and **CAUTION** signal words. These symbols indicate areas that require special and/or strict adherence to the procedures to prevent serious injury to personnel or death.

Electrical Hazard Symbol



A symbol which indicates a hazard of injury from electrical shock or burn. It is comprised of an equilateral triangle enclosing a lightning bolt.

Explosion Hazard Symbol



A symbol which indicates a hazard of injury from exploding parts. It is comprised of an equilateral triangle enclosing an explosion image.

Equipment Warning Labels

DO NOT attempt to install, operate, maintain, or dispose of this equipment until this entire instruction manual has been read and all product warnings and user instructions are understood.

Labels attached to the equipment are there to provide useful information or to indicate an imminently hazardous situation that may result in serious injury, severe property and equipment damage, or death if the instructions are not followed.

3. IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during the installation, maintenance, and operation of the UPS and its batteries to assure safe and proper operation.

Qualified Personnel ONLY!

Qualified Personnel refer to individuals that have the skills and knowledge relating to the construction, installation, operation, and maintenance of the electrical equipment and have received safety training on the hazards involved (Refer to the latest edition of NFPA 70E for additional safety requirements).

For further information on workplace safety visit www.osha.gov.

Qualified Personnel shall:

- 1) Have read the entire operation manual.
- 2) Be trained and authorized to safely energize, de-energize, ground, lockout and tag circuits and equipment, and clear faults in accordance with established safety practices.
- 3) Be trained in the proper care and use of protective equipment such as safety shoes, rubber gloves, hard hats, safety glasses, face shields, flash clothing, etc., in accordance with established safety practices.
- 4) Be trained in rendering first aid.
- 5) Be knowledgeable of batteries and the required handling and maintenance precautions.



WARNING

Misuse of this equipment could result in injury and equipment damage. In no event will Toshiba Corporation be responsible or liable for either indirect or consequential damage or injury that may result from the misuse of this equipment.



CAUTION



Do not dispose of the batteries in a fire. The batteries may explode.



CAUTION

Do not open or mutilate the batteries. Released electrolyte is harmful to the eyes and skin and could also be toxic.



DANGER



A battery can present a risk of electrical shock and high short circuit current.



WARNING

Contact with any part of a grounded battery can result in electrical shock.

The likelihood of shock will be reduced if such grounds are removed prior to installation or maintenance.



CAUTION

- Risk of electric shock – Refer to cautionary markings at top, or rear, or bottom of UPS.
- Risk of electric shock – Heat-sinks are live. Disconnect unit before servicing.
- **(UPS has internal batteries):** Risk of electric shock – Hazardous live parts inside this unit is energized from the battery supply even when the input AC power is disconnected.
- **(No user serviceable parts):** Risk of electric shock – do not remove cover, no user serviceable parts inside. Refer service to qualified service personnel.
- **(Non-isolated battery supply):** Risk of electric shock – battery circuit is not isolated from AC input. Hazardous voltage may exist between battery terminals and ground. Test before touching.
- When replacing batteries, replace with the same type and number of batteries: **One Sealed lead acid battery, rated 12V, 9AH maximum.**
- To reduce risk of fire, use only No. 26 AWG or larger telecommunication line cable.
- With the installation of this equipment it should be prevented, that the sum of the leakage current of the UPS and connected consumer does not exceed 3.5 mA.
- Transformer core is not grounded. It may present risk of electric shock. Test before touching.
- A battery can present a risk of electric shock and high short circuit current. The following precaution should be observed when working on batteries
 - Remove watches, rings or other metal objects.
 - Use only tools with insulated handles.
 - Wear rubber gloves and boots.
 - Do not lay tools or metal parts on top of batteries.

-
- Disconnect charging source prior to connecting or disconnecting battery terminals.
 - To reduce risk of electric shock, disconnect the UPS from the mains supply before installing a computer interface signal cable. Reconnect the power cord only after signaling interconnections have been made.
 - Servicing of batteries should be performed or supervised by personnel with knowledge of batteries and the required precautions. Keep unauthorized personnel away from batteries.

The instructions contained within this safety manual are deemed important and should be closely followed at all times during installation and follow-up maintenance of the UPS and batteries.



CAUTION

To reduce the risk of fire. Connect only to a circuit provided with 20 amperes maximum branch circuit overcurrent protection in accordance with the National Electric Code, ANSI/NFPA 70”.

Attention –afin de réduire les risques d’incendie, ne raccordez qu’à un circuit muni d’une protection de surintensité du circuit de dérivation maximum de 20 ampères conformément au Code Électrique National (National Electrical Code) des états-unis, ANSI/NFPA 70.



CAUTION

The unit has a dangerous amount of voltage. If the UPS indicator is on, the unit's outlets may have a dangerous amount of voltage even when not plugged into the wall outlet because the battery may continue to supply power.

Ensure installation is indoors, free from electrically-conductive particles, temperature and humidity controlled in order to reduce the risk of electric shock.

It is best to disconnect the device using the power supply cord. Ensure that the equipment is placed in a position near the outlet where easily accessible.

Except when replacing the batteries, all service on this equipment must be carried out by qualified service personnel.

Before conducting any maintenance, repair or shipment, first ensure that all components turned off completely and disconnected.



ATTENTION

- Hazardous through electrical shock. Also with disconnection of this unit from the mains, hazardous voltage still may be accessible through supply from the batteries. The battery supply should therefore be disconnected in the plus and the minus pole when maintenance or service work inside the battery cabinet or UPS is considered.



WARNING

To reduce risk of fire, replace only with the same type and rating of fuse.

- Intended for installation in a controlled, indoor environment free of conductive contaminants. Maximum ambient temperature 40°C.

Special Symbols

The following are examples of symbols used on the UPS to alert nearby personnel to important information:

-  **RISK OF ELECTRIC SHOCK** – Please observe the warning that a risk of electric shock is present.
-  **CAUTION: REFER TO OPERATOR'S MANUAL** – Refer to the operator's manual for additional information, such as important operating and maintenance instructions.
-  **SAFE GROUNDING TERMINAL** - Indicates primary safe ground.
-  **LOAD ON/OFF** - Pressing this button turns on/off the output receptacles and the Indicator light.
-  **RJ-45 RECEPTACLE** – The receptacle provides network interface connections and telephone or telecommunications equipment should not be plugged into it.
-  Please do not discard the UPS or UPS batteries as the UPS may have valve regulated, lead–acid batteries. Please recycle batteries.

4. INTRODUCTION

The information provided in this manual covers single phase 700 VA, uninterruptible power supplies, their basic functions, operating procedures, and emergency situations, also including information on how to ship, store, handle and install the equipment. Only detailed requirements of the UPS units are described herein, and installation must be carried out in accordance with this manual. Electrical installations must also carefully follow local legislation and regulations. Only qualified personnel should conduct these installations as failure to acknowledge electrical hazards could prove to be fatal.

5. PRODUCT DESCRIPTION

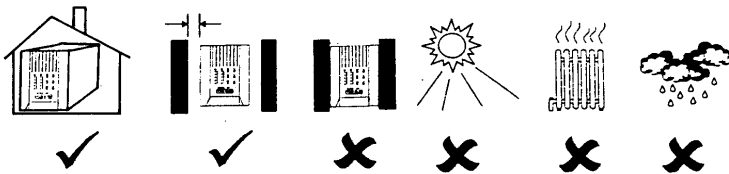
Toshiba's TPX Series, line-interactive pure sine wave UPS system protects computers, servers, networking accessories and telecommunication equipment from blackouts, voltage fluctuations and transient surges. It includes 6 protected NEMA 5-15R output receptacles total, 3 of which offer surge suppression only for less critical desktop accessories.

6. INSTALLATION

Inspect the UPS upon receipt. The packaging is recyclable; keep it for reuse or be disposed of properly.

6.1 PLACEMENT

Install the UPS in a protected area with adequate flowing air and free of excessive dust. Do not operate the UPS where the temperature and humidity is out of the specified limits



6.2 CONNECT COMPUTER INTERFACE (OPTIONAL)

This UPS is supplied with local monitoring software. If used, connect the computer interface port and the USB port of the UPS using the supplied cable.

Note: Computer interface connection is optional. The UPS works properly without a computer interface connection.

CAUTION: Use only factory supplied or authorized UPS monitoring cable!

6.3 CONNECT TO UTILITY

Connect the power cord on the UPS to a properly grounded AC power outlet. Do not use surge protectors or extension cords. Please notice the voltage of utility power should match with the UPS. For example, the rating voltage of UPS is 120V, the input utility power should be the same as 120V.

6.4 CHARGE THE BATTERY

The UPS charges its battery whenever it is connected to utility power. For best results, charge the battery for 8 hours in the initial use.

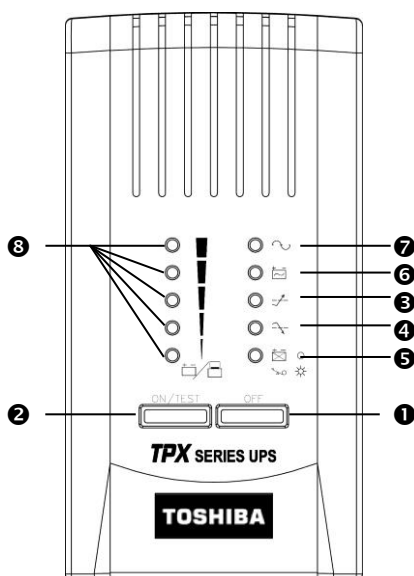
6.5 CONNECT THE LOADS (DEVICES)

The employed equipment's power cords (such as computer) are plugged into the sockets on the rear panel.

CAUTION: Do not plug high-draw equipment such as laser printer or plotter to the "UPS outlets". A laser printer or plotter periodically draws significantly more power than when it is in idle status, and may overload the UPS.

Note: The Toshiba UPS is designed to support electronic equipment only. The UPS will be overloaded if the total VA rating for all equipment connected through the battery backup/surge protection outlets exceeds the UPS's Output Capacity.

6.6 FRONT PANEL VIEW

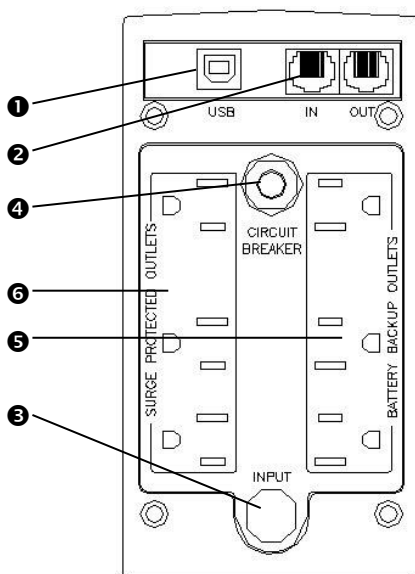


- ❶ **“OFF” button:** Press the OFF button to turn off the UPS and the loads.
- ❷ **“ON/TEST” button:** With the UPS plugged in, press the ON/TEST button to turn on the UPS and power the loads. ON/TEST button also activates the UPS's self-test function and silences the buzzer when working at backup mode.
- ❸ **“BOOST AVR (VOLTAGE BOOST)” indicator (YELLOW LED):** The LED illuminates when the UPS is correcting a lower utility voltage input. The loads will continue to receive clean power from the UPS.
- ❹ **“BUCK AVR (VOLTAGE REDUCTION)” indicator (YELLOW LED):** The LED illuminates when the UPS is correcting a higher utility voltage input. The loads will continue to receive clean power from UPS.
- ❺ **“OVERLOAD / REPLACE BATTERY” indicator (RED LED):** The LED flashes when the loads connected to the UPS exceed the UPS's capacity. The LED will be lit steadily when the UPS's battery is no longer useful and must be replaced.
- ❻ **“BACK UP” indicator (YELLOW LED):** The LED illuminates when the UPS is supplying battery power to the loads

⑦ **“LINE NORMAL” indicator (GREEN LED):** The LED illuminates when the utility input voltage is normal.

⑧ **“LOAD LEVEL / BATTERY CAPACITY” bar graph:** When utility power is normal, the LED bar shows the load level. When in back up mode, it shows the battery capacity.

6.7 REAR PANEL VIEW



① USB PORT

USB Port enables local UPS monitoring when connected to a PC installed with the local monitoring software that comes free with the UPS.

② NETWORK PROTECTION PORTS (RJ45)

These ports protect equipment against surges over a network data line. Connecting equipment to these ports is optional.

Caution: To reduce the risk of fire, use only No. 26AWG or larger wire.

③ INPUT LINE CORD/POWER CORD

The input power cord needs to connect into a socket on the wall. Please notice the voltage of utility power should match with the UPS. For example, the rated voltage of the UPS is 120V so the input utility power should also be 120V.

④ INPUT CIRCUIT BREAKER/FUSE

The breaker trips when the connected loads exceed the protected receptacle's capacity. The center plungers of the circuit breakers/fuse enable when tripped. If the breaker trips, remove some of the load, then reset it by pressing the breaker in.

⑤ UPS (BATTERY BACKUP) OUTLETS (NEMA 5-15R)

When utility power is normal, the UPS outlets are powered by utility power without the AVR function. Any higher or lower utility power would be rectified by the AVR function. When utility power fails, the UPS outlets are powered from battery.

⑥ SURGE SUPPRESSION OUTLETS (NEMA 5-15R)

These outlets offer surge suppression only for less critical desktop/computer accessories.

7. OPERATION

7.1 TURN ON

While utility input is connected to the UPS, press the "ON/TEST" button for over 2 seconds to turn on the UPS. After that, connect the electrical cords of the load equipment to the outlets on the rear panel of the UPS.

Do not exceed rated load of the UPS with connected equipment. The buzzer will beep continuously to indicate overload status. UPS will shut down automatically to protect the machine.

7.2 TURN OFF

Turn off the UPS by pressing and holding the "OFF" button until the "LINE NORMAL" or "BACK UP" LED is off.

7.3 SILENCE/ALARM OFF

When UPS is in "BACKUP" mode, press and hold "ON/TEST" button for 1 second to silence the audible alarm. (The function is disabled when UPS is under condition of "LOW BATTERY" or "OVERLOAD")

7.4 SELF-TEST

Use the self-test to verify both the operation of the UPS and the condition of the battery.

With the normal utility power connected, press and hold the "ON/TEST" button for 1 second to perform the self-test function. During the self-test, the UPS operates in back up mode. The load is supplied with power from the internal battery during this time and the on-battery LED is lit.

If the UPS passes the self-test, it returns to line-interactive operation. The on-battery LED goes off and the line-interactive LED is lit. If the UPS fails to pass the self-test, it returns to line-interactive operation and lights the replace battery LED. The loads are not affected.

Recharge the battery overnight and perform the self-test again. If the replace battery LED is still on, the battery will need to be replaced.

7.5 LOAD LEVEL / BATTERY CAPACITY BAR GRAPH

When line voltage is normal, the 5-LED display shows the power drawn from the UPS by load. The display indicates the percentage of the UPS's rated capacity. For example, if three LEDs are lit, the load is drawing between 41% and 60% of the UPS's capacity. If the UPS is overloaded, the overload LED lights and alarm sounds. When in back up mode, the 5-LED display shows the percentage of the battery capacity. When only one LED lights, the battery is in battery low situation and will shut down soon.

7.6 SHUTDOWN MODE

In shutdown mode the UPS stops supplying power to the load, waiting for return of utility power. UPS will shut down when battery is too low to protect the life of battery. And if the "Green mode" is set, UPS will shut down automatically if there is no utility power present. This is normally done to preserve battery capacity after the graceful shutdown of protected servers. The line LED (Green) will flash every 4 seconds to indicate shutdown mode. After 180 seconds, the LED (Green) will turn off.

Note: The "Green mode" of UPS can be set by UPSMON.

7.7 COLD START

When the UPS is off and no utility power exists, the cold start feature enables the UPS to start up and apply power to the loads from just UPS battery power. Press and hold the "ON/TEST" button for 2 seconds to cold start the UPS.

8. ALARMS

8.1 BACKUP MODE

When the UPS is working under “BACKUP” mode, the UPS emits an audible alarm. The alarm stops when the UPS returns to “ONLINE” operation. The alarm can be stopped by pressing the “ON/TEST” button during backup mode.

Attention: The alarm of “BACKUP” is going to beep every four seconds.

Attention: The UPS has option to turn off the alarm sound. When the beeping sound occurs, press "ON/TEST" button to stop it; and press "ON/TEST" button again to regain the sound.

8.2 LOW BATTERY

In the “BACKUP” mode, when the energy of battery reaches “LOW BATTERY” level (about 20% ~ 30%) the UPS beeps rapidly until the UPS shuts down from battery exhaustion or returns to “ONLINE” operation.

Attention: The alarm of the batteries caused by low voltage beeps every second.

Attention: The rapid alarm under “LOW BATTERY” condition can't be muted.

8.3 OVERLOAD

When the UPS is working under overload condition (the connected loads exceed the maximum rated capacity), the UPS will emit a continuous alarm. In order to protect the unit and the loads, the UPS will shut down automatically. Disconnect nonessential devices from UPS to eliminate the overload alarm.

9. SOFTWARE INSTALLATION AND USB PORT

9.1 MONITORING SOFTWARE OVERVIEW

The UPS comes with local monitoring software. The UPS should be connected to the computer that will be monitoring the UPS using the supplied USB cable. It can provide a graceful shutdown of the computer in the event of power failure. Moreover, it simultaneously monitors the UPS and displays all the diagnostic symptoms on the monitor such as voltage, frequency, and battery level. For UPS with USB communication port, the software is compatible with Windows XP/Vista/7/8/10, Server-2000/2003/2008/2012/2016

9.2 INSTALLING SOFTWARE

To perform monitoring functions, the accompanying monitoring software must be installed.

Please perform the following steps to complete installation of UPS monitoring software.

- 1) Insert the UPS Monitoring Software CD into a PC's CD-ROM drive. The installation program should start automatically and installation menu appears. Please select the operating system applied for the PC and then continue. (For example if the installed operating system is Windows 98, please click select item **Windows 95/ 98/ Me/ 2000/NT/ XP/Vista/7/8/10**).

Note: If a CD-ROM drive is not available, the monitoring software can also be downloaded from www.toshibaups.com.

9.3 FEATURES FOR MONITORING SOFTWARE

The communication port on the back of the UPS may be connected to a host computer.

This port allows the computer to monitor the status of the UPS and control the operation of the UPS. Its major functions normally include some or all of the following:

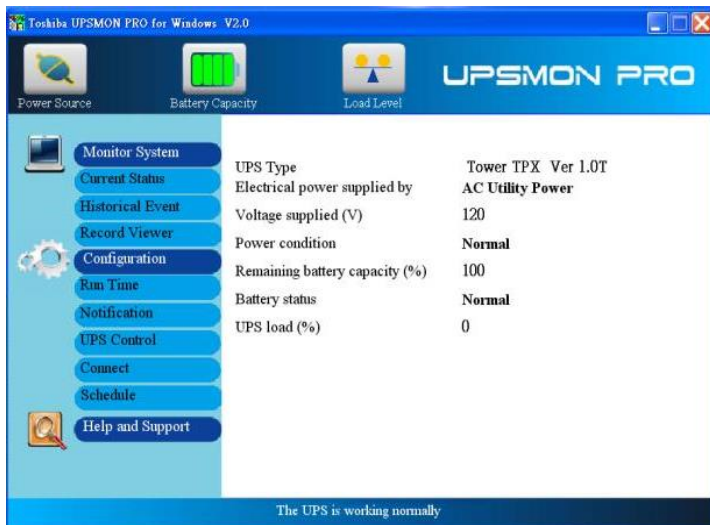
- Send a warning message when power fails.
- Back up opened files before operating system shutdown.
- Turn off the UPS.

Note: for more detailed information on how to use the monitoring software, please visit www.toshibaups.com.

9.4 HOW TO START MONITORING SOFTWARE

After installation of the monitoring software is completed, launch the software by clicking on the icon  on the system tray from the Operating System.

The main menu of the monitoring software will appear. Example below:



The main menu contains tools and features for monitoring UPS operation and controlling the UPS. For details on each tool and function of the monitoring software, please click on **Help** button on the main menu as show below.



10. TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTIONS
- UPS can't operate after pressing "ON/TEST" switch - No lights on, no warning sounds	Input power source issue	Check out the power source
	Duration of button press too short	Keep pressing the "ON/TEST" button over 2 seconds
	Output short circuit or overload on UPS	Turn off UPS, take off all load to make sure there are no problems on it or any internal short circuit. Keep pressing the ON/TEST button over 2 seconds
Indicates no utility, and it warns every several seconds	No power source input	Check the input power source
	Fuse or Circuit breaker open.	Check Fuse or Circuit breaker
Buzzer keeps beeping	Overload	Reduce load on UPS
Utility Indicating light is shining	Fuse or Circuit breaker open.	Press on the circuit or replace the fuse (spare in inlet).
	The voltage of utility is exceeding UPS input range	Save the digital data and shutdown the applying program to make sure utility is within UPS range
Battery runtime shorter than expected	- Batteries haven't been charged - UPS overload - Batteries are aged and can't be charged fully	Keep UPS "ON" for over 6 hours to recharge the batteries. Check the load level and take off any non-crucial load equipment
	The charger is out of order	Contact the dealer or service center for help
The battery's light is flashing when the UPS is supplied by utility power.	The voltage of batteries is too low or the batteries haven't been connected	Check out the batteries part of UPS, make sure they are well connected. If there is any damage on battery packs, replace them.

11. SPECIFICATIONS

Model Number		TPS0A0700AXA
Capacity		700VA/420W
Input	Voltage	120V +/-25% of nominal at line input
	Frequency	50 or 60Hz +/-10% (auto sensing)
Output	Voltage (battery mode)	120V +/-5%
	Frequency	50 or 60Hz +/-0.5%
	Waveform	Pure Sine Wave
Protection	Surge	890 Joules, 10/1000us
	Unit Input	Fuse or Circuit breaker for overload & short circuit protection
	EMI/RFI filter	100 kHz to 10MHz
	Overload protection	UPS automatic shutdown if overload exceeds 110% of nominal for 20 seconds and 125% for 2 seconds.
	Transfer Time	4 milliseconds including detection time (typical)
	Short Circuit	UPS output cut off immediately or protected by input circuit breaker
	Fuse	Yes
	Alarm	Buzzer beeps under backup mode, battery low, battery charging fault, and overload
	Telecommunication	RJ45
Battery	Type	Sealed, Maintenance-free lead acid / 12V 9AH
	Battery Quantity	1
	Recharge Time	4 hours (to 90% of full capacity) - typical
	Protection	Automatic self-test & over-discharge and short circuit protection by fuse
General	Dimensions	102 x 166 x 326mm (W x H x D)
	Weight	15.6 lbs.
	Communication Interface	Standard USB
	Audible Noise	<45dBA (1 meter from surface)
	Ambient Operation	0° to 40° C; 0%-95%(non-condensing)

Estimated Runtime

Full Load (W)	BATT	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
420	12V/9AH*1	60	31	19	12.5	8	6	4.5	4	3.5	3

*Runtime shown in minutes. Runtimes are approximate as battery performance is affected by many factors including age, number of discharges, depth of discharges, and ambient temperature.

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**WARNING!**

It is strongly advisable not to open the UPS cabinet as the components have very high voltage and touching them may be fatal. Only a technician from the manufacturer or an authorized agent may service the unit. This UPS unit's output receptacles carry live voltage even when not connected to a power supply as it has its own energy source.

User's operations:

The only operations that users are permitted to do are:

- Turn the UPS unit on and off.
- Operate the users interface.
- Connect data interface cables.
- Change the batteries.

All such operations are to be performed exactly as instructed in this manual. The greatest care possible must be taken for any of these operations and any change thereof may prove very hazardous to the operator.

12. INSPECTION/STORAGE/DISPOSAL

12.1 INSPECTION

Upon receipt of the UPS, an inspection for shipping damage should be performed. Use caution when removing the unit from the box. Refer to labels or documentation attached to packing material.

12.2 UNPACKING

Check the unit for loose, broken, bent or otherwise damaged parts. If damage has occurred during shipping, keep all original packing materials for return to the shipping agent. The warranty does not apply to damage incurred during shipping.

Ensure that the rated capacity and the model number specified on the nameplate conform to the order specifications.

12.3 STORAGE CONDITIONS

- For best results, store the UPS in the original packing material.
- Storage temperature: 5 – 113 °F (-15 to 45 °C).
- The recommended storage temperature is 59 to 77 °F (15 to 25 °C). A higher ambient temperature will require recharging the batteries more frequently during storage.

Avoid the following storage locations:

- Locations that are subject to extreme temperature changes or high humidity.
- Locations that are subject to high levels of dust or metal particles.
- Locations that are subject to excessive vibration.
- Inclined floor surfaces.

Storage Maintenance

- If stored at an ambient temperature of 5 to 86 °F (-15 to +30 °C), recharge the UPS battery every 6 months.
- If stored at an ambient temperature of 86 to 113 °F (+30 to +45 °C), recharge the UPS battery every 3 months.

Disposal

Please contact local or state environmental agency for details on disposal of electrical components and packaging in the particular area.

It is illegal to dump lead-acid batteries in landfills or dispose of improperly.

Please help the environment by contacting the environmental protection agencies in your area, the battery manufacturer, or call Toshiba toll-free at (877) 867-8773 for more information about recycling.

13. INSTALLATION PRECAUTIONS



CAUTION

1. Install the unit in a well-ventilated location; allow at least 4 inches (10 cm) between the rear panel and the wall for air ventilation.
2. Install the unit in a stable, level and upright position that is free of excessive vibration.
3. Install the unit where the ambient temperature is within the range specified.
4. Do not install the UPS in areas that are subject to high humidity.
5. Do not install the UPS in areas that allow exposure to direct sunlight.
6. Do not install the UPS in areas that allow exposure to high levels of airborne dust, metal particles, or flammable gases.
7. Do not install the UPS in areas near sources of electrical noise. Ensuring a proper earth ground will reduce the effects of electrical noise and will reduce the potential for electrical shock.
8. Do not install the UPS in areas that would allow fluids or any foreign object to get inside the UPS.

14. OPERATING PRECAUTIONS



CAUTION

1. The UPS should not be powered up until the entire operation manual has been read.
2. The input frequency must be within the rated input frequency range. Voltages and frequencies outside of the permissible range may activate the internal protection devices.
3. The UPS should not be used with a load that has a rated input that is greater than the rated output of the UPS.
4. Do not use the UPS to provide power to motors that require high starting current or with motors that require a long starting time, such as vacuum cleaners and machine tools (oversizing the UPS for lock rotor current would be required).
5. Do not insert metal objects or combustible materials in the ventilation slots of the UPS.
6. Do not place, hang, or paste any objects on the exterior surfaces of the UPS.
7. Do not attempt to disassemble, modify, or repair the UPS. Call a local Toshiba representative for repair information.
8. Turn the power on only after attaching ALL of the covers.
9. If the UPS should emit smoke or an unusual odor or sound, turn the power off immediately.

15. MAINTENANCE

The TPX Series UPS is not designed for field-level service. All repairs will be done at the Depot-level.

All Toshiba UPS Systems function with a minimal amount of maintenance. Changing the batteries at the recommended intervals will help ensure the full life of the battery and reduced chance of failure.

The most critical issues affecting UPS reliability are environmental issues. Ensure that the temperature and humidity are always according to specifications and keep the area around the unit clean and dust free.

The backup batteries will degrade with time. The rate of degradation, or wearing out, is affected by the environment and usage in backup mode. Check the back-up battery at regular intervals of 6 to 12 months to determine whether the back-up time of the battery is adequate for its intended purpose.

- Keep the unit clean and vacuum the ventilation intake periodically.
- Wipe with soft loose and damp cloth.
- Check for loose or bad connections periodically.
- Never leave the unit on an uneven surface.
- Avoid direct sunlight, rain and high humidity.
- Stay away from fire and extremely hot locations.
- Do not stack materials on top of the unit.
- The unit should not be exposed to corrosive air.



WARNING!

Batteries may cause electrical shock or burns from high short circuit currents.

Please observe the following precautions: 1. Remove jewelry and metal objects such as watches and rings. 2. Use tools that have insulated handles. 3. Keep tools and other metal objects from contacting and away from the batteries.

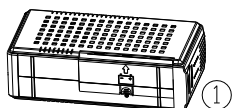
ELECTRIC ENERGY HAZARD: Do not attempt to rewire, alter, or change any battery wiring or connectors. Attempting to make such alterations can cause injury.

Replace the batteries with the same number and type as originally installed batteries.

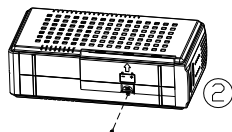
15.1 REPLACING BATTERIES

Before replacing batteries, ensure that the UPS has been turned off and the input power cord is unplugged.

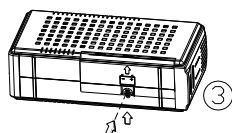
Replacing batteries (700 VA)



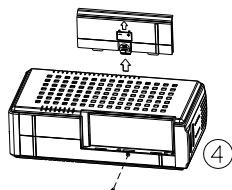
- 1) Position the unit sideways and keep it stable.



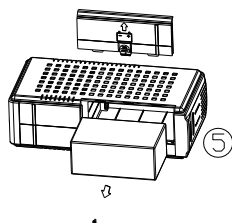
- 2) Remove the screw.



- 3) Press down the battery cover hook and push the cover upward.



- 4) Push the battery cover upward to remove the cover.



- 5) Remove the battery from the unit.
- 6) Unplug wires from battery terminals.

16. SERVICE AND WARRANTY

16.1 SERVICE

If the unit requires service, do not return it to the dealer. Follow these steps:

- Review the 'Troubleshooting' section of the manual to resolve common problems.
- If the problem persists, contact Toshiba International Corporations support group for further assistance. See Contact Customer Support section for contact numbers or visit www.toshibaups.com.
 - Note the model number and serial number and the date of purchase. The model and serial numbers are located on the top of the unit.
 - If the unit is under warranty, the repair is free.
- If it is determined that unit is under warranty and needs to be repaired, please submit a Return Authorization (RA) Form from www.toshibaups.com. A Return Authorization representative will provide an RA# to allow unit return for repair. All returns must have an RA#.
- Pack the unit in the original packaging whenever possible to avoid damage in transit. Damage sustained in transit is not covered under warranty. Please be sure to disconnect all devices from the unit before returning it for repair.
- Write the RA# clearly on the outside of the packaging/box.
- Return the unit by to the address provided by the Return Authorization representative.

16.2 LIMITED WARRANTY

Toshiba International Corporation (TIC) warrants its products to be free from defects in materials and workmanship for a period of three (3) years excluding the batteries, which are warranted for two (2) years from the date of purchase. TIC's obligation under this warranty is limited to repairing or replacing, at its own sole discretion, any such defective products. Repair or replacement of a defective product or part(s) does not extend the original warranty period.

TIC shall not be liable under the warranty if inspection of the product discloses that the alleged defect in the product does not exist or was caused by end user's or any third person's misuse, negligence, improper installation, testing, operation or use of the product contrary to TIC's recommendations or specifications. Further, TIC shall not be liable for defects resulting from: misuse, improper application, wrong or inadequate electrical current/voltage/frequency, inadequate connections, user negligence, repair by non-Toshiba designated personnel, shipping damage, tampering, or unauthorized alterations to product sold, change of location or application, exposure to the elements, acts of God, force majeure, theft, sabotage, installation contrary to TIC's recommendations or specifications or if serial numbers have been altered, defaced, or removed.

This limited warranty does not cover the batteries, internal or external during the warranty period, if storage, maintenance, installation, operating conditions, number of discharge and recharge cycles per the battery manufacturers published recommendations are not met.

This warranty shall constitute the sole and exclusive remedy of all purchasers and users of the UPS, and/or UPS System Components. TIC's responsibility shall not exceed the net purchase price of the product for which the warranty applies.

Replacement of defective product/unit does not include cost of removal, shipping, or any charges or cost associated with unit replacement.

TIC HEREBY EXPRESSLY DISCLAIMS ALL OTHER EXPRESS, STATUTORY AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

TOSHIBA

TOSHIBA INTERNATIONAL CORPORATION

**SOCIAL INFRASTRUCTURE SYSTEMS GROUP
POWER ELECTRONICS DIVISION**

13131 West Little York Rd., Houston, TX 77041

Tel: 855-803-7087 Fax 713-896-5212

US 800/231-1412 Canada 800/872-2192 Mexico 01/800/527-1204

www.toshibaups.com

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