

DC UPS

Operation Manual

(Leave with Customer)

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1 PRODUCT INTRODUCTION

1.1 General Description

The DC UPS (ONT Uninterruptable Power Supply with Battery Back-Up Unit) is designed to be mounted inside a customer premises. The DC UPS converts 120/230Vac to 12Vdc and provides four to eight hours of backup battery power for lifeline POTS and Ethernet services in the ONT.

Alarm outputs are available on the DC UPS to monitor the status of the backup battery (On/Low/Faulty/Missing). The DC UPS indicates its status to the resident with LEDs and audible alarms and to the outdoor ONT by a signal return connection.

1.2 Components

The DC UPS consists of a dedicated 120V/230ac to 12Vdc power supply with Battery Backup and dedicated support cables.

The DC UPS houses a dedicated battery charger to maintain a 12Vdc, 8.0Ah lead-acid sealed battery, battery monitoring and alarm circuitry. It contains four indicator LEDs to provide operational status at a glance, status audible alarms, and one customer-operation button to silence the audible alarm for 24 hours.

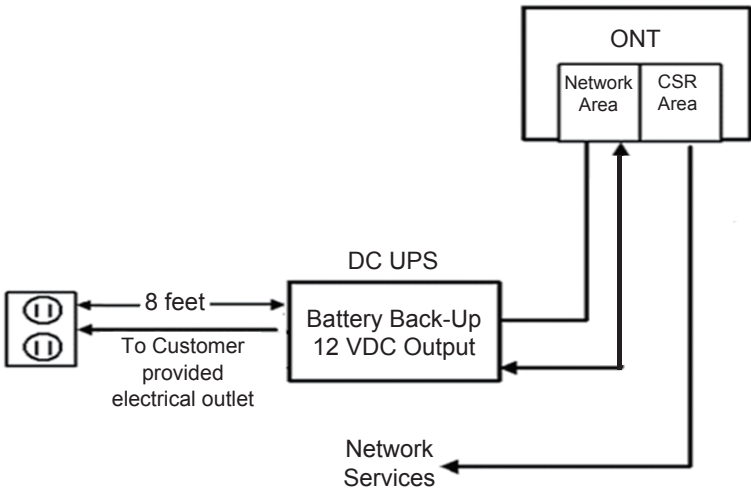


Figure 1: DC UPS Power Supply and ONT System Configuration

2 IMPORTANT SAFETY NOTES

- ONLY qualified installation and repair personnel should service this power supply.
- SAVE THESE INSTRUCTIONS - This manual contains important instructions for the DC UPS units that should be followed during maintenance.
- Batteries may produce hazardous currents and may present a burn hazard if damaged or shorted.
- ONT-UPS cables can be up to 100ft with 16AWG in certain deployment scenarios.
- The following precautions should be observed when working on the unit:
 1. Remove watches, rings, or other metal objects.
 2. Wear protective clothing and eye protection when working with batteries and installing this equipment.
 3. Always carry a water supply to wash eyes and/or skin if exposed to battery electrolyte.
 4. Use tools with insulated handles.
 5. Examine the packing container for damage. Notify the carrier immediately if damage is present.
 6. Do not disassemble the unit.
 7. Do not operate near water or excessive humidity.
 8. Keep liquid and foreign objects from getting inside the unit.
 9. Do not operate close to gas or fire.
 10. Do not operate unit near leaking liquid or if any liquid residue is present.
 11. Immediately unplug Power Supply from AC if you see liquid leaking
 12. ABP power source needs to use Alkaline battery (1.5V*12pcs)

2.1 Electrical Warnings

- Servicing this equipment may require working with protective covers removed and utility power connected. Use extreme caution during these procedures.
- Check that the power cord(s), plug(s), and outlets are in good condition.
- No user serviceable components other than the battery are present in the DC UPS.

2.2 Battery Warnings

- Battery Warranty is top-charge date plus thirty-six months. Replacement battery should be GT12080-HG. Replacement battery can be ordered by contacting GS Battery at 1-800-228-7078 or www.gsbattery.com.
- Danger of explosion if battery is incorrectly connected or replaced.
- Worn-out or damaged batteries are considered environmentally unsafe. Always recycle used batteries or dispose of the batteries in accordance with all federal, state and local regulations.
- Any gel or liquid emissions from the sealed lead-acid (SLA) battery contain sulfuric acid, which is harmful to the skin and eyes. Emissions are electrically conductive and corrosive.
- Batteries may produce explosive gases. Keep all open flames and sparks away from batteries.
- Batteries contain or emit chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. Battery post terminals and related accessories contain lead and lead compounds. Wash hands after handling (California Proposition 65).
- Wear protective clothing and eye protection whenever installing, maintaining, servicing, or replacing batteries.
- If any battery emission contacts the skin, immediately and thoroughly wash with water. Follow approved chemical exposure procedures.

- Neutralize any spilled battery emission with the special solution contained in an approved spill kit or with a solution of one pound Bicarbonate of soda to one gallon of water. Report chemical spills and seek medical attention if necessary.
- Never use un-insulated tools or other conductive materials when installing, maintaining, servicing or replacing batteries.
- A battery showing signs of cracking, leaking, or swelling should be replaced immediately with a battery of identical type and rating.

2.3 Safety Warning Label

The AC power cord is supplied with the warning label “DO NOT UNPLUG! – Power Supply for Voice, 911 Dialing, and Battery Charging” attached to the cord.

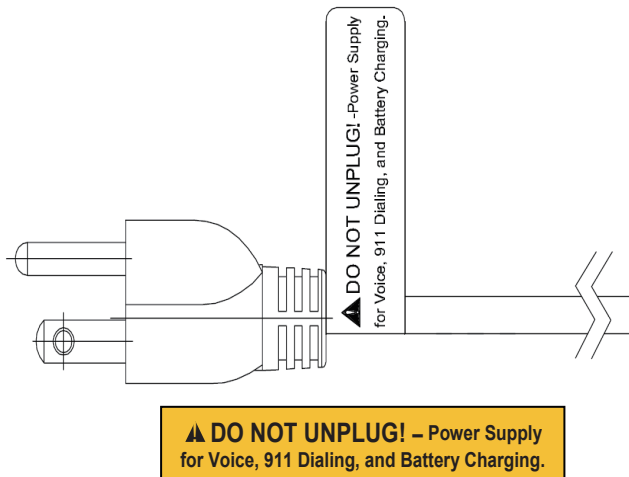


Figure 2: Warning Label

3 OPERATION

3.1 Control

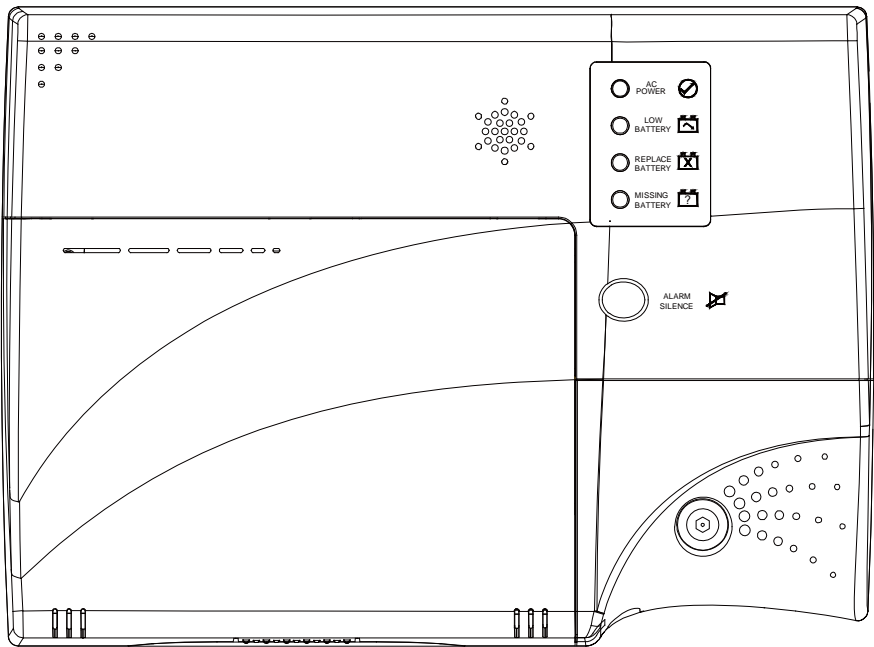


Figure 3: DC UPS Front Panel LEDs and Control

One user control is present in the form of one blue button on the front cover of the DC UPS. This alarm-silence button will quiet the audible alarm for 24 hours. After 24 hours the alarm will reactivate if the fault condition has not been corrected.

Function	Symbol	Type	Location	Function
Alarm Silence		Push	Front Cover	Press & hold 1~2 seconds to mute alarm for 24hrs.

Table 1: Customer Button Operation

3.2 Operational LEDs

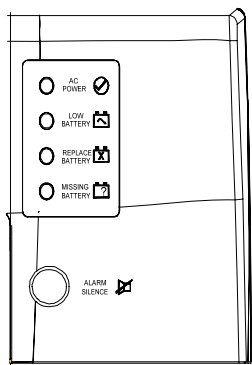


Figure 4: DC UPS Front Panel LEDs

Four status LEDs are displayed on the front panel of the DC UPS. The operation of the DC UPS can be assessed using these LEDs.






LIGHT INDICATOR DEFINITIONS: 		LIGHT ON	LIGHT OFF/BLINKING
	 AC POWER	NORMAL OPERATION	AC POWER FAILURE
	 LOW BATTERY	USING BATTERY POWER	LOW BATTERY CAPACITY (REACHED ABOUT 90% DISCHARGE)
	 REPLACE BATTERY	REPLACE BATTERY (SEE INSTRUCTIONS)	BATTERY OK
	 MISSING BATTERY	WITHOUT BATTERY INSTALLATION	BATTERY OK

Table 2: LED Indicators

3.3 Alarms

There are audible and visual alarm signals to alert the customer to abnormal and/or service affecting conditions present in the DC UPS.

3.4 Alarm LEDs and Corresponding Audible Alarms

TYPE	Condition	Buzzer
ON Battery	Battery being discharged	Beeps ONCE during switchover to battery back-up
Low Battery	Reached about 90% discharge	Beeps 4 times per minute
Replace Battery	Battery failed self test	Beep once every 15 minutes
Missing Battery	No battery installed or battery disconnected	None

Table 3: Audible Alarm

3.5 Audible Alarm

TYPE	Condition	Buzzer
Input Power Fail	Loss of input power	1 second beep at power loss
Replace Battery	Battery failed self test	Beep once every 15 minutes
Low Battery	Reached about 90% discharge	Beeps 4 times/minute

Table 4: Audible Alarm Actions

4 MAINTENANCE

4.1 Maintenance Mode

Every 45 days the DC UPS automatically self tests the battery to determine its remaining useful life. No user intervention is needed. If the unit detects a failed battery, the "Replace Battery" LED indicator on the unit will light and the audible alarm will beep once every 15 minutes.

4.2 Customer Battery Replacement

Battery replacement is detailed on a label located inside the front cover of the DC UPS.

Remove the Battery:

1. Open the front cover of the DC UPS by depressing the tab located at bottom of unit.
2. Detach the Velcro and pull out the old battery.
3. Disconnect the battery terminals ("+" & "-") of DC UPS.
4. Remove the battery.

Install the Battery:

1. Reconnect "+" & "-" terminals to the new identical type battery.
2. Install the new battery.
3. Attach the Velcro and make sure the wires of the battery are free and not pinched by the battery or door.
4. Close the door of the DC UPS.

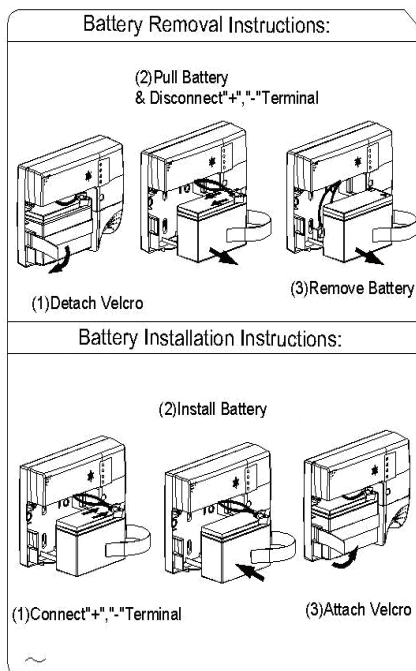


Figure 5: Battery Replacement