AT&T - DELTA OPSU/BBU

Operation Manual

(Leave with Customer)

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1 PRODUCT INTRODUCTION

1.1 GENERAL DESCRIPTION

The OPSU/BBU (ONT Power Supply Unit/Battery Back-Up Unit) is designed to be mounted inside a customer premise. The OPSU/BBU converts 120Vac 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 OPSU/BBU to monitor the status of the backup battery (On/Low/Faulty/Missing). The OPSU/BBU 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 OPSU/BBU consists of a dedicated 120Vac to 48Vdcpower supply (OPSU), a Battery Backup Unit (BBU) and dedicated support cables.

The user interface for the dedicated power supply consists of a single LED to indicate correct DC output.

The BBU houses a dedicated battery charger to maintain a 12Vdc, 7.2AH 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 two customer-operation buttons, one to silence the audible alarm for 24 hours and the second to cause the unit to re-start when a new battery is installed.

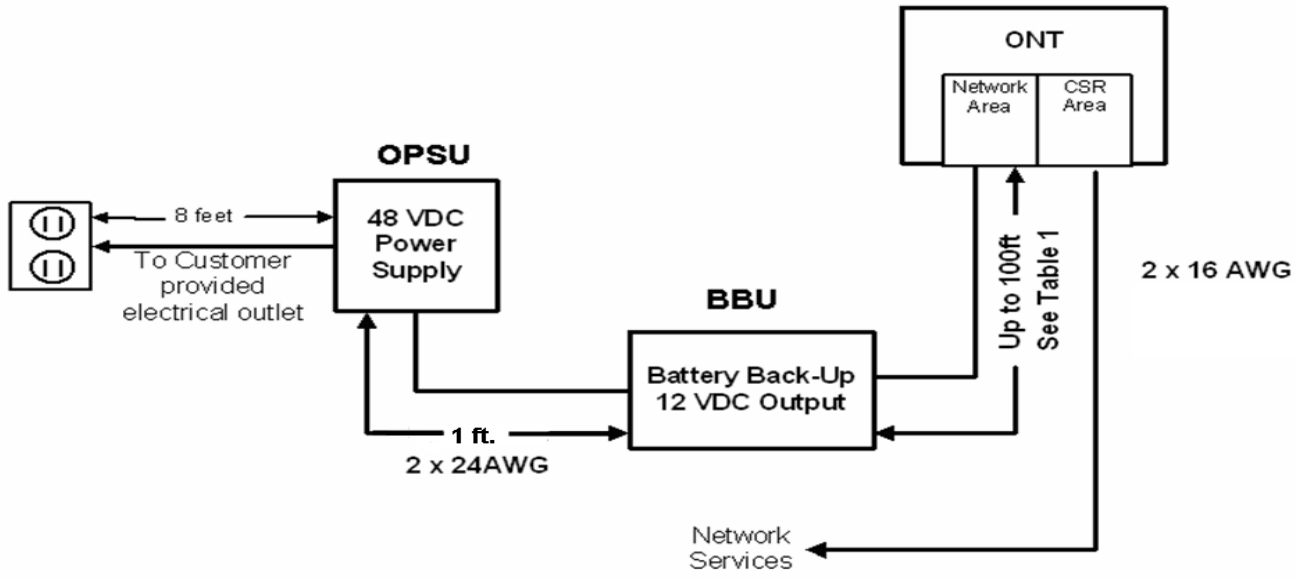


Figure 1: OPSU/BBU Power Supply and ONT System Configuration

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 OPSU/BBU units that should be followed during installation and maintenance.
- Verify the supplied AC line voltage prior to installation using an AC voltage meter.
- Verify branch circuit breaker or fuse on the service feed is correct for the equipment being installed.
- Batteries may produce hazardous currents and may present a burn hazard if damaged or shorted.
- 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

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 then the battery are present in the OPSU/BBU.

2.2 Battery Warnings

- Danger of explosion if battery is incorrectly connected or replaced. Replacement battery should be PX12072F2-HG. Replacement battery can be ordered by contacting 1 (800) 472-2879 or www.gsbattery.com.
- 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 two warning labels “Telco Equipment – Do Not Remove” on the plug and “DO NOT UNPLUG! – Power Supply for Voice, 911 Dialing, and Battery Charging” attached to the cord.

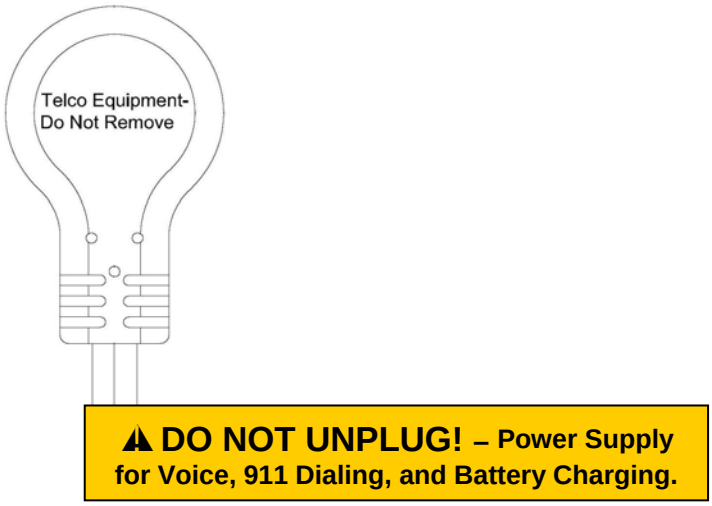


Figure 2: Warning Labels

- If the labels are missing or are not provided for field installation, do not install the equipment.

3 START-UP

The OPSU/BBU starts once the AC power cord is plugged in. Connecting only the battery will not start the power supply; the AC supply must be connected. Once the power supply has started, the unit will operate on the battery if the AC supply voltage fails or the power cord is disconnected.

3.1 Controls

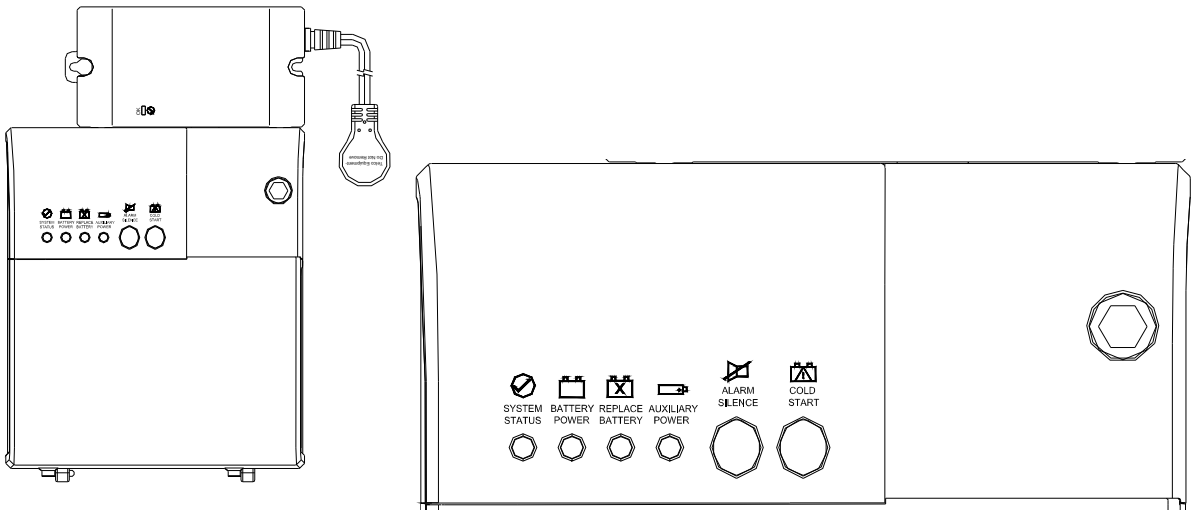


Figure 3: Front Panel LED and Controls

Two user controls are present in the form of two blue buttons on the front cover of the BBU. The 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.

The Cold Start button will reconnect the battery to re-start when a new battery is installed.

Function	Symbol	Type	Location	Function
Alarm Silence		Push	Front Cover	**Press and hold 1~2 seconds to mute alarm for 24hrs. To restore alarm, press and hold again for 3~5seconds.**
Cold Start		Push	Front Cover	**Press and hold until all 4 LEDs light then release to re-start with new battery. If held more than 5 seconds, operation will be disabled. If released after 4 LEDs light, battery operation will remain enabled.**

Table 1: Customer Button Operation

3.2 Operational LEDs

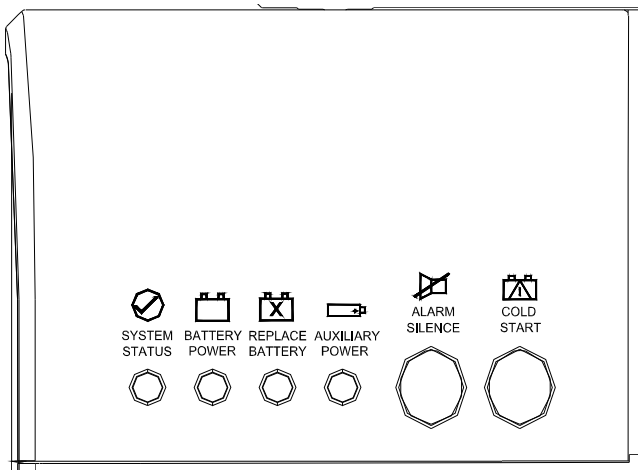


Figure 4: BBU Front Panel LEDs

Four status LEDs are displayed on the front panel of the BBU. The operation of the OPSU/BBU can be assessed using these LEDs.

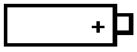
TYPE	Symbol	Condition	Alarm Action
System Status		System ON and normal, idle or discharging	ON GREEN
Battery Power		Battery Charging	OFF
		Battery discharging	ON GREEN
		<45% capacity remaining	FLASH GREEN
Replace Battery		Battery failed self test	ON RED
Auxiliary Power		Aux source connected to unit.	ON GREEN

Table 2: LED Indicators

3.3 Alarms

There are audible and visual alarm signals to alert the customer to abnormal and or service effecting conditions present in the OPSU/BBU.

3.4 Alarm LEDs

TYPE	Condition	Buzzer
ON Battery	Battery being discharged	Beeps ONCE during switchover to battery back-up
Replace Battery	Battery failed self test	Beep once every 15 minutes
Battery Missing	No battery installed or battery disconnected	None
Low Battery	<45% capacity remaining	Beeps 4 times per minute

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	<45% capacity remaining	Beeps 4 times/minute

Table 4: Audible Alarm Actions

4 MAINTENANCE

4.1 Maintenance Mode

Every 45 days the OPSU/BBU 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.

4.2 Customer Battery Replacement

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

1. Open the front cover of the BBU.
2. Disconnect the jack connecting the battery harness to the BBU.
3. Push the tabs retaining the battery, one above and one below, outward and remove the battery.
4. Disconnect the battery harness from the battery terminals.
5. Reconnect the battery harness to a new, identical type battery.
6. Reconnect the jack of the battery harness to the BBU.
7. Push the battery retaining tabs outward and insert the battery into the BBU. Make sure the wires of the battery harness are free and not pinched by the battery or the door.
8. Close the door of the BBU.
9. Press “Cold Start” button until all 4 LEDs are lit then release to restart operation.

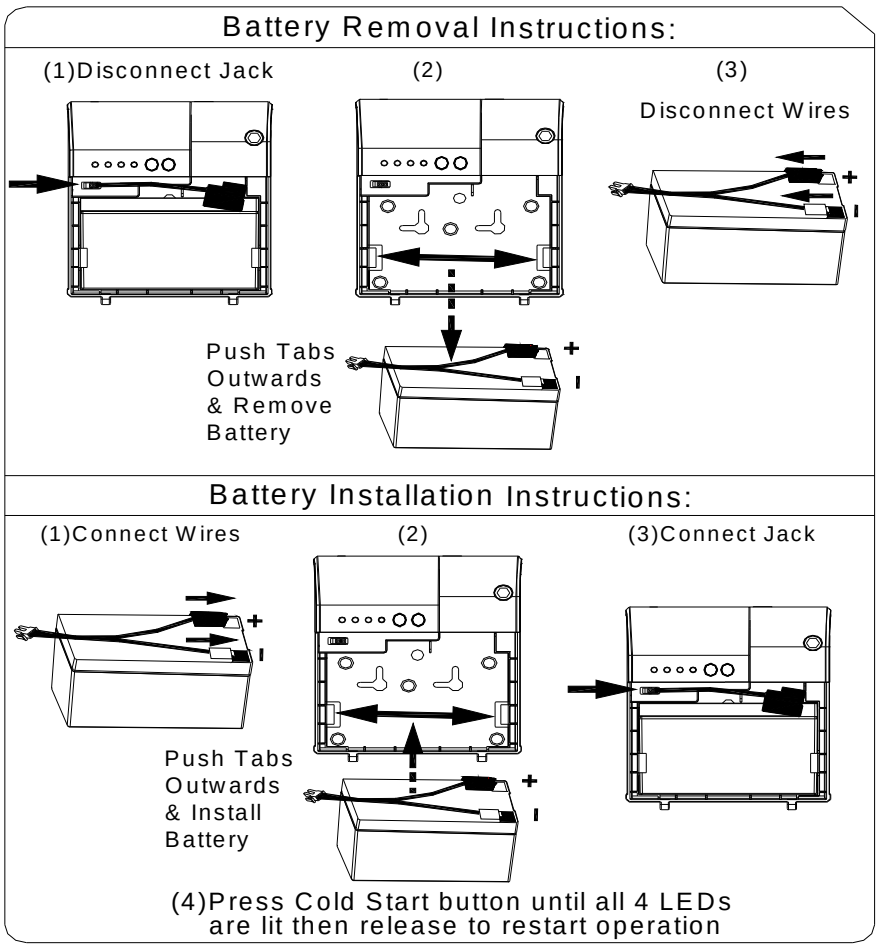


Figure 5: Battery Replacement Label