

# ALCATEL-LUCENT OMNISWITCH BACKUP POWER SHELF (BPS)

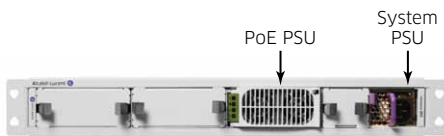
The Alcatel-Lucent OmniSwitch™ Backup Power Shelf (BPS) delivers power supply redundancy and resiliency for the OmniSwitch stackable product lines. It ensures uninterrupted operations and network resiliency for mission-critical applications.

With flexible configuration and advanced management capabilities the BPS can actively backup up to eight OmniSwitches simultaneously by supplying redundant power for system and power-over-Ethernet (PoE) power.

The OmniSwitch BPS is a powerful and cost-effective way to protect against primary power supply failure or AC line failure in addition to reducing the closet space used.

## ALCATEL-LUCENT OMNISWITCH BACKUP POWER SHELF

The OmniSwitch Backup Power Shelf comes in convenient 1RU or 1.5 RU configurations and can be mounted in a standard 19" rack. It has five power supply bays (three for PoE power supplies and two for system power supplies) for flexibility and increased availability.



OmniSwitch BPS with front plate (1.5 RU) with one PoE PSU and one system PSU installed – Front view



OmniSwitch BPS without front plate (1RU config) with three PoE PSU and two system PSUs installed – Front view



OmniSwitch BPS back view

FEATURES	BENEFITS
<p><b>Ease of use and deployment:</b></p> <ul style="list-style-type: none"> <li>• Modular power supplies supporting hot insertion</li> <li>• Seamless failover to BPS when primary supply of the switch fails</li> <li>• Automatic back-off when primary PSU is recovered</li> <li>• Managed by the OmniSwitch management interface</li> </ul>	<p>The OmniSwitch BPS ensures efficient power management, reduces operating expenses and lowers total cost of ownership (TCO). It offers excellent investment protection and flexibility, as well as ease of deployment, operation and maintenance.</p>
<p><b>High availability</b></p> <ul style="list-style-type: none"> <li>• Separate system and PoE power supplies allow for independent backup</li> <li>• Input power separation of PoE and system for added resiliency</li> <li>• Fast failover capability that prevents switch reboot in case of primary PSU failure</li> </ul>	<ul style="list-style-type: none"> <li>• Avoids costly network downtime by preventing switch reboot after a switch power supply failure</li> <li>• Protects against AC line failure if connected to a different power source</li> </ul>
<p><b>Flexible configuration options</b></p> <ul style="list-style-type: none"> <li>• User configurable options for full backup or single PSU backup mode</li> <li>• Allows for configurable connector priority</li> <li>• Accommodates up to two system power supplies and three PoE power supplies</li> <li>• Hot swappable power supplies</li> </ul>	<p>Allows for the most efficient power management that meets any customer need.</p>

## Modes of operation

The BPS can be used in two different modes of operation:

- Full backup (N+N) mode – also called managed
- Single backup (N+1) mode – also called unmanaged

When configured in single mode the OmniSwitch BPS power is unmanaged, meaning all the installed system and PoE power supplies act as a single redundant power source for all connected switches

and can backup one device at a time. No priority is given to any connectors on the BPS and multiple power failovers will only be supported if the total current draw is less than the available power on the OmniSwitch BPS. This configuration does not protect against AC power failure.

When operating in a full backup mode the OmniSwitch BPS power is managed. The connectors have assigned priorities and in case the power requirements of the switches become greater than what the OmniSwitch BPS can provide,

the OmniSwitch BPS will distribute the available power based on the priority of the connector. The maximum power limits per connector are dynamically allocated based on the attached device for most efficient power usage. This configuration protects against AC line failure. If primary AC line fails the BPS will become the only source of power for all switches connected to it without interrupting the operations of the switches. This is the recommended configuration for the OmniSwitch BPS.

## TECHNICAL SPECIFICATIONS

**Table 1. OmniSwitch BPS product matrix**

PRODUCT MATRIX	OMNISWITCH BPS
<b>PHYSICAL DIMENSIONS</b>	
Width	43.3 cm (17.05 in.)
Width (with brackets)	48.2 cm (19 in.)
Depth	46.04 cm (18.125 in.)
Height	4.4 cm (1.73 in.)
Height (with face plate attached)	6.6 cm (2.6 in.)
Wight (BPS only)	4.4 kg (9.68 lbs.)
Weight (BPS + one system PSU)	5.6 kg (12.35 lbs.)
Weight (fully populated)	12.85 kg (28.34 lbs.)
MTBF (hrs)	528,066
Airflow	Front-to-back
<b>ENVIRONMENTAL</b>	
Operating temperature	0°C to 45°C (32°F to 113°F)
Storage temperature	-10°C to +70°C (14°F to 158°F)
Humidity (operating)	5% to 95% non-condensing
Humidity (storage)	5% to 95% non-condensing
<b>CONFIGURATION MATRIX</b>	
Number of available bays for system PSU	2
Number of available bays for PoE PSU	3
DC output connectors	8
Maximum number of switches actively backed up by BPS	8
<b>AVAILABLE POWER*</b>	
System power with 1 PSU (@ 110/220V)	423.2 Watts
System power with 2 PSU (@ 110/220V)	872.8 Watts
PoE Power with 1 PoE PSU (@110V)	1121.6 Watts
PoE Power with 1 PoE PSU (@220V)	1921.6 Watts
PoE Power with 2 PoE PSU (@110V)	2321.6 Watts
PoE Power with 2 PoE PSU (@220V)	3921.6 Watts
PoE Power with 3 PoE PSU (@110V)	3521.6 Watts
PoE Power with 3 PoE PSU (@220V)	5921.6 Watts

\*The available power numbers are measured at the DB25 connectors of the BPS at 25C

### Fans

The OmniSwitch Backup Power Shelf chassis does not have any fans itself. The only fans present are those in the power supplies.

### Indicators

- OK Dual color System LED - indicates the BPS status

- C1-C8 Dual color connector LED - indicates the power supply status

### Mounting options

- 19' rack mounting
- Mid-chassis rack mounting

### Power supplies

OmniSwitch BPS has five power supply bays which accommodate three PoE power supplies and two system power supplies. The system power supplies only backup the operation of the switch. In case PoE backup is required, one or more PoE power supplies have to be installed in the BPS.

**Table 2. OmniSwitch BPS power supplies**

	OS-BPS-S	OS-BPS-P
Description	Modular 450W AC power supply (OS-PS-450W-A) for OmniSwitch BPS. It provides a backup for system power only.	Modular PoE AC power supply for OmniSwitch BPS. It provides PoE power only. Must be installed along with OS-BPS-S system power supply.
Dimensions (W x L x H)	5.1 x 30 x 4.1 cm (2 x 11.8 x 1.6 in.)	10.2 x 35.2 x 4.2 cm (4 x 13.85 x 1.7 in.)
Weight	1.2 kg (2.6 lb)	2.15 kg. (4.72 lb)
Max power (W)	450W	1200W (@ 110V); 2000W (@ 220V)
Input voltage (V)	100-240 VAC, 50-60Hz	100-132 VAC; 180-264 VAC
Input current (A)	8A (100-132V); 4A (180-264V)	15A - 11A (@100VAC-240VAC)
Output Rating	12V, 37A	54.5V
MTBF	312,015	950,217
Indicators	Dual color LED indicating the status of an individual PSU	Four LEDs to indicate status, temperature condition or fault for an individual PSU
Operating temperature	0°C to 50°C	-5°C to +50°C
Storage temperature	-40°C to +70°C	-40°C to +85°C
Humidity	5% to 95% non-condensing	5% to 95% non-condensing

### SUPPORTED PRODUCTS

The following OmniSwitch 6850E models are supported with the BPS:

- OS6850E-24
- OS6850E-24X
- OS6850E-48
- OS6850E-48X
- OS6850E-P24
- OS6850E-P24X
- OS6850E-P48
- OS6850E-P48X

### OmniSwitch 6450 models\*:

- OS6450-P24
- OS6450-P48
- OS6850E-U24X is not currently supported with the BPS.

\* Note: Future availability

### COMPLIANCE AND CERTIFICATIONS

#### Commercial

#### EMI/EMC

- FCC Part 15 (CFR 47) Class A
- ICES-003 Class A
- EN 55022 Class A
- CISPR 22 Class A
- AS/NZS 3548 Class A
- VCCI Class A; A1 and A2
- EN 55024 (Immunity)
- EN 61000-3-2
- EN 61000-3-3
- EN 61000-4-2
- EN 61000-4-3
- EN 61000-4-4
- EN 61000-4-5
- EN 61000-4-6
- EN 61000-4-8
- EN 61000-4-11

### Safety agency certifications

- UL 60950-1, 2nd Edition
- CAN/CSA-C22.2 No. 60950-1-07, 2nd Edition
- EN 60950-1 with Amendment II
- IEC 60950-1 2nd Edition
- AS/NZS TS-001 and 60950, Australia
- UL-AR, Argentina
- TUV,UL-GS Mark, Germany
- NOM-019 SCFI, Mexico
- EN 60825-1 Laser
- EN 60825-2 Laser
- CDRH Laser
- CB Certification per IEC 60950-1, Second Edition

## ORDERING INFORMATION

**Table 3. Backup Power Shelf ordering information**

### BACKUP POWER SHELF BUNDLES

OS-BPS	The OmniSwitch backup power shelf (OS-BPS). Protects against primary power supply and AC circuit failure. Actively backs up to 8 devices. It has total of 5 power supply bays to accommodate up to three PoE power supplies (OS-BPS-P) and two 450W system power supplies (OS-BPS-S). By default the OS-BPS comes with one 450W AC power supply
OS-BPS-S	Modular 450W AC power supply for OmniSwitch BPS. Provides a backup for system power only. Maximum of 2 to be installed in one OS-BPS .
OS-BPS-P	Modular Power Over Ethernet (PoE) AC power supply for OmniSwitch BPS. It provides up to 1200W @110V/2000W @220V of PoE power. Must be installed along with OS-BPS-S system power supply. Maximum of 3 to be installed in one OS-BPS .
OS-BPS-CBL4	A pack of four DB25 1m. long cables. Used to connect the backup power shelf and the Omniswitch.