

BPS12 Battery Power Supply

Overview

The BPS12 provides a reliable -48 V dc supply. It can be the sole power source for various network elements in your enterprise and power those elements that need to remain active when ac power fails. During normal operation an ac power input charges the batteries in the BPS12. When there is a failure in the ac power source the BPS12 immediately provides power from its internal batteries. Unlike traditional ac uninterruptible power supplies that are unreliable and complex to install, the BPS12 is an industrial backup power supply intended for use with communications and networking equipment.

Capacity

The capacity of the BPS12 is 12 Ah with a nominal output voltage of -48 V dc. There are six separately fused outputs, each capable of delivering a maximum current of 8 A. The BPS12 can therefore provide power to one or more devices at the same time. The total output current is limited to 12 A and is protected with a master fuse.

A single BPS12 can provide backup power for a minimum of one hour for a 500 W device and a minimum of 6 hours for a 100 W device. To provide backup power for a longer period of time BPS12 systems can be concatenated.

Installation and Use

The BPS12 can be front, mid, or rear mounted in a 19" rack. Connection to ac power is made with a normal plug. This means that you can use the standard ac supply in your network room without specialized wiring. An inhibit switch on the BPS12 allows the outputs to be disconnected while you safely connect to your network devices.

Low voltage protection is provided which disconnects the ac input when it falls out of the universal ac input range. This means that the BPS12 will sustain no damage, performance degradation, or change in settings as a result of a low ac voltage condition. Fused outputs are provided on the BPS12 to protect against short circuit and over current conditions generated external to the system.

The BPS12 has 3 LEDs to indicate its operating condition. The Power LED shows whether the BPS12 is charging or discharging. The Load LED indicates the overall power draw on the system. The Status LED shows multiple conditions, such as when the inhibit switch is active. A buzzer provides audible alarms to indicate critical events on the BPS12.

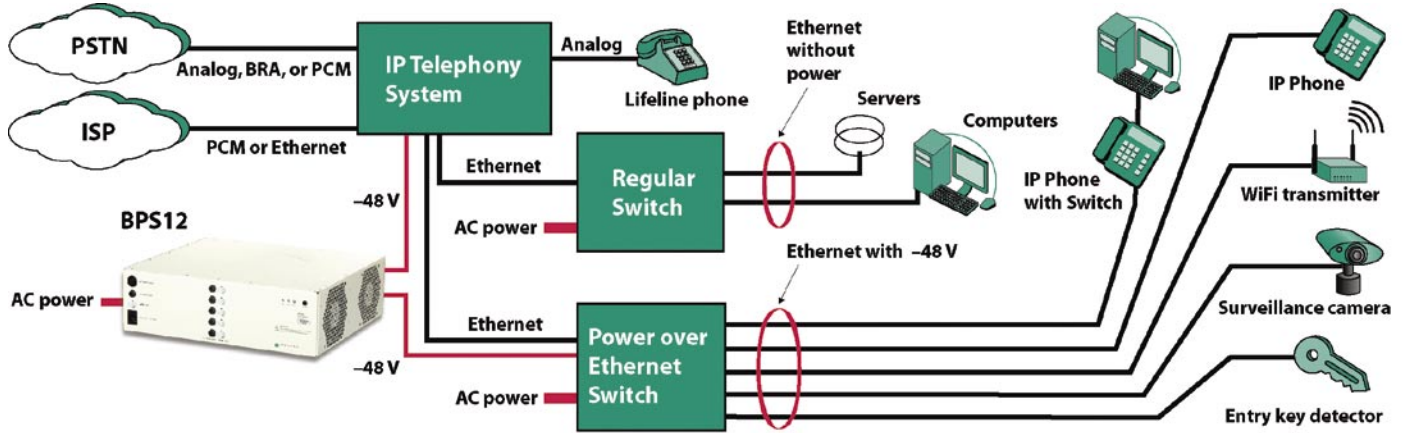


Key Features

- *-48 V dc, 12 A output*
- *Universal ac input*
- *Inhibit switch to disable outputs before connecting equipment*
- *Unique charging scheme ensures long battery life*
- *Automatic cutoff on discharge to prevent damage to batteries*
- *Forced air cooling*
- *Current limiting protection*
- *Separately fused outputs*
- *Concatenate multiple BPS12 systems*
- *LEDs indicate system status*
- *Audible alarm to indicate critical conditions*
- *19" rack mountable*
- *3 year warranty*

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Application

The drawing shows how the BPS12 can be deployed in a typical network. The company has an IP Telephony System and uses the BPS12 to ensure that telephone service remains active when ac power fails. No UPS is used in this scenario because reliability is paramount.

The Ethernet ports of the VoIP system connect to two switches: one supplies IEEE 802.3af Power over Ethernet (PoE) and the other does not. The regular switch connects to devices that do not need to remain powered during a power failure. Perhaps some of these have a UPS that can supply a few minutes of backup power while the servers shut themselves down after ac power fails.

The PoE switch obtains its power from the BPS12 and supplies -48 V to a variety of devices as shown. These need to remain operational for a long time when the ac power has failed. Users can continue to hold telephone conversations, and the critical functions of surveillance and building entry are undisturbed.

The length of time the products will operate without ac power depends on the power consumption of the devices. A typical VoIP system will last five hours on a single BPS12. A PoE switch with 48 devices, each half power (as defined in the PoE specification) will last about one hour on a single BPS12. The company can add multiple BPS12 supplies to obtain longer life. Also, judicial review of the devices that do not need to be powered when ac power has failed can lengthen the backup time.



Reliability and Quality

High quality lead acid batteries and a sophisticated charging scheme ensure long battery life. Forced air cooling helps to decrease the internal temperature of the BPS12. The fans activate only when required, which greatly increases their life.

The circuitry inside the BPS12 disconnects the outputs if your equipment continues to draw power when the batteries are discharged. This prevents the batteries from becoming deeply discharged, further prolonging the life of the batteries.

Because of these features, Zultys is able to offer a 3 year warranty, unique in the industry. Batteries can be replaced at Zultys service centers located worldwide.

Physical and Environmental

AC input: 87-264 V, 47-63 Hz

Input current: 6.5 A @ 110 V, 3.0 A @ 230 V

DC output: -48 V \pm 15%

Output power: 600 W continuous, 900 W peak

Power factor: > 0.96

Operating temperature: 0° C to 30° C (32° F to 86° F)

Storage temperature: -20° C to 40° C (-4° F to 104° F)

Weight: 25 kg (54 lb). Shipping weight 30 kg (67 lb)

Size: 430 mm (W) x 380 mm (D) x 130 mm (H) (17" x 15" x 5.25")

Mount: Standard 19" rack from front, mid, or rear; 3 RU (130 mm)

Safety: UL 60950, CSA-C22.2, AS/NZ 60950:2000, EN60950

EMC emission: FCC part 15, ICES-003, AS/NZS 3548, CISPR 22, EN55022, EN61000-3-2, EN61000-3-3

EMC immunity: IEC61000-4-2, IEC61000-4-3, IEC61000-4-4, IEC61000-4-5, IEC61000-4-6, IEC61000-4-11

Warranty: three years

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