The VESDA Power Supply is capable of providing operating power including battery backup for the entire VESDA Laser Smoke Detector product line. The VESDA Power Supply has been designed to power a single unit to multiple units depending on application needs. It provides 24 volt operating power to the VESDA system as well as a battery charger function which supervises and maintains the standby batteries. Consult "Power Supply Capabilities" for details.

Installation

The VESDA Power Supply models VPS-100US and VPS300US are power-limited power supplies. They convert 120VAC/60Hz input into 24 VDC power-limited outputs. The VPS units are intended for use in applications requiring UL, ULC and CSFM listing for fire protection signalling.

The VPS-100US or VPS-300US shall be installed in accordance with the National Electric Code (NFPA 70) and in accordance with any local regulations. See wiring diagrams for proper assembly.

Fault Reporting

A Power Supply Fault indicator is provided via a dry relay contact (Form C), which changes state due to the following conditions:

- AC input loss
- Low AC input voltage (Brown-out)
- Loss of battery voltage
- A short circuit of the battery leads
- A short circuit of any of the DC power outputs

Power Supply Capabilities

VESDA VLP or LaserSCANNER *

VPS-100US-XXX provides power for: 1 VESDA VLP or LaserSCANNER, or up to 5 remote (single box) units, or 1 subrack assembly.
Battery requirements: (2) 12 volt/12 Amp-hour batteries.

VPS-300US-XXX provides power for: up to 3 VESDA VLP or LaserSCANNER detectors, or up to 15 remote (single box) units, or up to 3 subrack assemblies. Battery requirements:

- 2 detectors or 2 subracks or 10 remotes require (4) 12volt/12 Amp-hour batteries
- 3 detectors or 3 subracks or 15 remotes require (6) 12volt/12 Amp-hour batteries

VESDA VLC *

VPS-100US-XXX provides power for: up to 2 VESDA VLC detectors, or up to 5 remote (single box) units, or 1 subrack assembly.
Battery requirements: (2) 12volt/12 Amphour batteries.

VPS-300US-XXX provides power for: up to 6 VESDA VLC detectors, or up to 15 Remote (single box) units, or up to 3 subrack assemblies. Battery requirements:

- 4 detectors or 2 subracks or 10 remotes require (4) 12volt/12 Amp-hour batteries
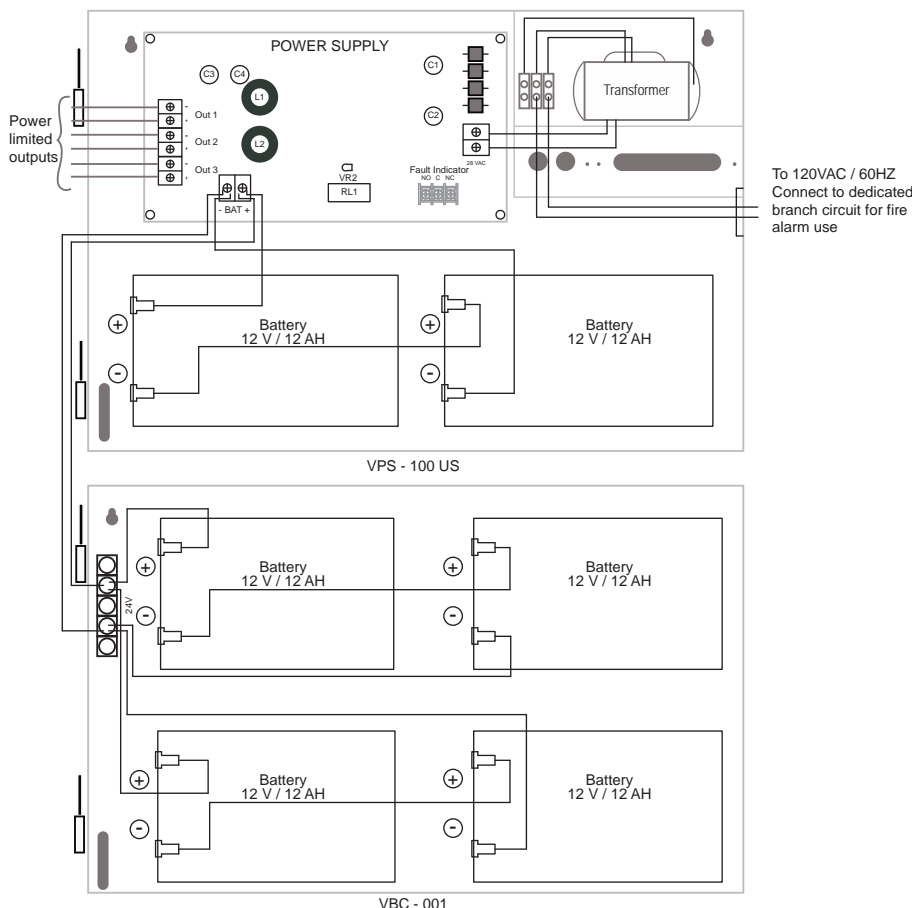- 6 detectors or 3 subracks or 15 remotes require (6) 12volt/12 Amp-hour batteries

Features

- Input 120VAC/60Hz
- 1.5 amp continuous supply current at 27.6VDC
- Filtered and electronically regulated output
- AC fail supervision
- Low AC (brown-out) supervision
- Battery supervision
- Built-in charger for sealed lead acid or gel-type batteries
- Automatic switch over to standby battery when AC fails
- AC input LED indicator

Listings/ Approvals

- UL 1481 listed
- ULC
- FM (for VPS-100US)
- CSFM

* Must be confirmed with a battery calculation compliant with local fire protection codes and standards.

To facilitate the calculation of the back up battery size, refer to the Battery Calculator (Document 21062), available from Xtralis Partner Extranet (www.xtralis.com)

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VESDA VLF-250 *

VPS-100US-XXX provides power for 2 VESDA VLF-250 detectors, or up to 5 remote (single box) units, or 1 sub rack assembly.
Battery requirements: (2) 12 volt/ 12 Amp-hour batteries.

VPS-300US-XXX provides power for 6 VESDA VLF-250 detectors, or up to 15 remote (single box) units, or 3 sub rack assemblies. Battery requirements:

- 4 detectors or 2 sub racks or 10 remotes require (4) 12 Volt / 12 Amp-hour batteries
- 6 detectors or 3 sub racks or 15 remotes require (6) 12 Volt / 12 Amp-hour batteries

VESDA VLF-500 *

VPS-100US-XXX provides power for 1 VESDA VLF-500 detector, or up to 5 remote (single box) units, or 1 sub rack assembly.
Battery requirements: (2) 12 volt/ 12 Amp-hour batteries.

VPS-300US-XXX provides power for 3 VESDA VLF-500 detectors, or up to 15 remote (single box) units, or 3 sub rack assemblies. Battery requirements:

- 2 detectors or 2 sub racks or 10 remotes require (4) 12 Volt / 12 Amp-hour batteries
- 3 detectors or 3 sub racks or 15 remotes require (6) 12 Volt / 12 Amp-hour batteries

Specifications

Components

The VPS-100US consists of three main components: the mounting enclosure, the transformer and the main circuit board. It uses two backup batteries (supplied separately).

The VPS300US consists of one VPS-100US Power Supply and one VBC-001 Battery Cabinet. Together the two units can hold up to 6 batteries (supplied separately).

Note: The VESDA Power Supply uses sealed acid, 12VDC, 12 Amp/hour batteries. To order, use part number VBT-012 (minimum 2).

Input

120 VAC (+10% / -15%); 60Hz; 1.4 amp max.

Output

27.6 VDC (Nominal) 1.5 Amps (Max.)

Max. output Current when a single 24 VDC output is used:

1.2 amps

Max. output when the three 24 VDC outputs are used:

0.500 Amps per output

Dimensions (WHD)

13.9 in. x 9 in. x 4.5 in.

Weight

VPS-100 US 10lbs. without batteries

VBC-001 6lbs. without batteries

Operating Temperature

Power supply ambient: 32 ° to 120 °F

Humidity: 10 - 95%RH, non-condensing

Humidity

10 - 95%RH, non-condensing

Trouble Relay

Common trouble relay rated 2A @ 30VDC

(Form C: NO/NC)

During normal operation, the power supply Fault Reporting Relay is energized.

Cable Access

3/4" knockouts in various positions

Cable Termination

Screw terminal blocks

30-12 AWG

Ordering Information

P/N	Description	Requirements
VPS-100US-XXX	Power Supply	Use XXX field to specify input voltage: 120 or 220 VAC
VPS-300US-XXX	Power Supply Model VPS-100US-XXX and Battery Cabinet model VBC-001	Use XXX field to specify input voltage: 120 or 220 VAC
VBT-012	Battery, sealed lead acid, 12 VDC, 12 Amp/hr	Minimum of 2 required

Doc. 13986_03   Part: 18624

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