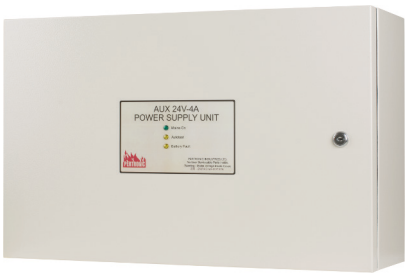
AS 4428.5 Power Supplies

24 Volt 1.5 Amp Switch Mode Power Supply Module
24 Volt 4 Amp Switch Mode Power Supply Module
24 Volt 12 Amp Switch Mode Power Supply Module (MK2)
24 Volt 1.5 Amp Auxiliary Power Supply in Lockable Battery Cabinet (FAAST PSU)
24 Volt 4 Amp Supervised Power Supply in Lockable Battery Cabinet
24 Volt 12 Amp Supervised Power Supply in Lockable Battery Cabinet

Product Range Overview

Pertronic AS 4428.5 Power Supplies provide 24 Volt (nominal) DC power from the AC mains supply, with automatic battery backup, and optional fault supervision. They are designed for systems built with the **Pertronic F120A, F100A and F16e** Fire Alarm Control Panels, and they are well-suited to any 24 Volt fire system.



Pertronic 24 Volt 4 Amp Auxiliary Power Supply AUX24/4PSU-K003

During normal mains-powered operation the load is supplied from a regulated 27.4 Volt DC switched mode supply. The switch mode power supply also float charges the backup batteries. If mains power is lost, the batteries supply the load. A microprocessor supervises the battery voltage, and performs timing functions for the daily automatic system test.

The Auxiliary / Supervised Power Supplies have fault relays for signalling fault conditions to external equipment. The fault relay is normally energised, and de-energised to indicate that a fault has occurred. The yellow **Battery Fault** indicator shows the active fault code.

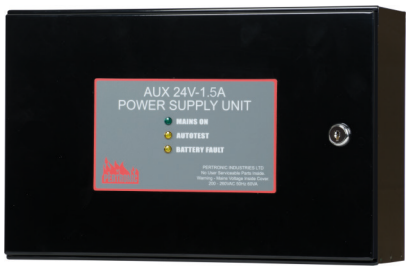
Auxiliary / Supervised Power Supplies come in two physical sizes. The 1.5 Amp PSU (**AUX24-1.5PSU-BLK**) has a 230 H x 350 W x 135 D mm cabinet, the 4 Amp PSU (**AUX24/4PSU-K003**) and 12 Amp PSU (**AUX24/12PSU-K003**) have a 350 H x 550 W x 190 D mm cabinet suitable for larger batteries.

Pertronic AS 4428.5 Power Supplies are supplied without batteries. The battery calculator on the Pertronic website http://www.pertronic.com.au may be used to work out the system current and the size of battery needed for a particular application.

Features

- Mains-operated 24 Volt (nominal) DC power supply
- Temperature compensated battery charging for longer battery life
- Automatic battery backup
- Provision for two 12 Volt Sealed Lead-Acid (SLA) batteries
- Momentary operation of internal Reset button resets 24-hour timer
- Prolonged (> 3 seconds) operation of internal Reset button starts the Automatic battery test
- The auxiliary power supply systems include:
  - External panel indicators: MAINS present, Auto Test, Battery Fault
  - Lockable front door

Products

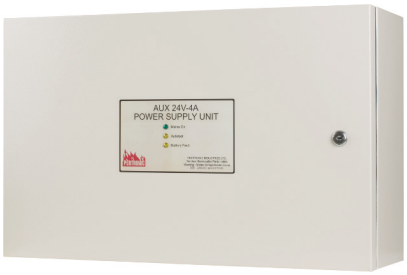


AUX24-1.5PSU-K003-BLK

This AUX24-1.5PSU is a 24 Volt DC self-supervising power supply suitable for powering anxiliary fire alarm equipment. The colour is Black to match the FAAST range of aspirating smoke detectors.

The AUX24-1.5PSU-K003-BLK is fitted with a 24-1.5SWMPSU power supply unit. Auxiliary power supply systems are supplied without batteries.

- Dimensions: 230 H x 350 W x 135 D mm
- Battery Compartment Dimensions: 110 H x 325 W x 105 D mm
- Cabinet Colour: Gloss Black Ripple 953 57249 (Dulux Paint Code)
- Shipping Weight: 3.16 kg (excl. batteries)



AUX24/4PSU-K003, AUX24/12PSU-K003

The Pertronic 24V, 4 A and 12 A Supervised PSU incorporate switch mode power supply modules with voltage supervision and automatic battery test facilities.

The AUX24/4PSU-K003 is fitted with a 24/4SWMP power supply unit. The 12 Amp AUX24/12PSU-K003 has a 24/12ASWMPS-MK2 PSU.

Auxiliary power supply systems are supplied without batteries.

- Dimensions: 350 H x 550 W x 190 D mm
- Battery Compartment Dimensions: 200 H x 400 W x 170 D mm
- Cabinet Colour: Off White Ripple 288 97072 (Dulux Paint Code)
- Shipping Weight: AUX24/4PSU-K003: 7.9 kg (excl. batteries)
  AUX24/12PSU-K003: 8.4 kg (excl. batteries)

24-1.5SWMPS (see Notes 1, 2)

The Pertronic Off-line Power Supply Unit (PSU) is a 27.4 V, 1.5 A current limited switch-mode power supply. Module does not have an in-built fault relay or automatic self supervision.

- Dimensions: 135 L x 87 W x 50 D mm
- Weight: 0.46 kg

24/4SWMP (see Notes 1, 2)

The Pertronic Off-line Power Supply Unit (PSU) is a 27.4 V, 3 A continuous, 4 A peak, current limited switch-mode power supply. Module does not have an in-built fault relay, or automatic self supervision.

- Dimensions: 212 L x 82 W x 62 D mm
- Weight: 0.9 kg

24/12ASWMPS-MK2 (see Notes 1, 2)

This Power Supply Unit is a nominal 24 Volt current limited power supply and has a separate output for battery charging. The maximum charge current may be limited to suit battery requirement. The 12 Amp module includes fault relay.

- Dimensions: 222 L x 110 W x 73 D mm
- Weight: 1.4 kg

Specifications

	1.5A Auxiliary Power Supply	4A Supervised Power Supply	12A Supervised Power Supply
Input Voltage	200-260 Vac	200-260 Vac	100-264 Vac
Input Frequency	50 - 60 Hz	45 - 55 Hz	47 - 63 Hz
Output Current	Limited to 1.5 A	3 A Continuous Limited to 4 A	Limited to 12 A
Fault Relay Output	Normally energised, change-over contact 1A @ 24 Vdc resistive load		Normally energised, change-over contact 2 A @ 30 Vdc resistive load
Turn-on Time	120 ms Max @ 230 Vac		
Input Protection	Internal 1 Amp slow blow fuse		
Inrush Current	Limited by internal Thermistor		
Internal Control	Reset / Timer initialisation switch		
Front Panel Indicator LEDs	Mains (Green), Auto Test (Yellow), Battery Fault (Yellow)		
Battery Type	2 x 12 V sealed Lead-Acid (GelCell)		
Mains Input Connector	Termination block with an integral power switch		
DC Output Connector	Two-way terminal block		
Nominal Output Voltage	27.4 Vdc @ 20 °C		
Temperature Coefficient	- 0.145 % / °C set for lead-acid battery charging		
Operating Temperature Range	0 °C to 40 °C	0 °C to 40 °C	-10 °C to 50 °C
Humidity	10 % to 95 % RH (non-condensing)		

Note 1: To fully comply with regulatory requirements the 24-1.5SWMPS, 24/4SWMP, or 24/12ASWMPS-MK2 Power Supply Module must be mounted inside an enclosure that prevents access by unauthorised persons. The enclosure must provide adequate heat dissipation.

Note 2: The 24-1.5SWMPS, 24/4SWMP, 24/12ASWMPS-MK2 PSUs are genuine replacement power supply modules for Pertronic control panels and auxiliary (supervised) power supplies.

Note 3: This datasheet specifies nominal physical dimensions. Actual dimensions may vary slightly.

Battery Selection

The battery capacity must be large enough to supply the full system load. The following formula gives the approximate battery capacity required to power the system for 24 hours on **Standby** plus 30 minutes on **Alarm**:

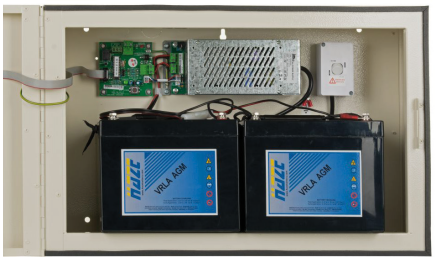
$$Ah = 1.25 \times [(24 \times I_Q) + 2 \times (0•5 \times I_A)]$$

Where: Ah = Battery capacity in Amp-hours,
I_Q = Standby (non-alarm) current in Amps,
I_A = Alarm current in Amps,
1.25 = Allowance for battery lifetime capacity fade,
2 = Allowance for reduced capacity due to high current in alarm mode.

The **Pertronic** website has a system load calculator: http://www.pertronic.com.au/

Caution:

- The above formula is valid only if the average battery operating temperature is between 15 °C and 30 °C, and if the PSU failure signal is externally monitored.
- If the PSU failure signal is NOT externally monitored, the battery capacity must be sufficient for 72 hours on Standby plus 30 minutes on Alarm.
- Please refer to Australian Standard AS 1670.1 section 3.16.6 for a complete description of the battery capacity calculation.
- **Pertronic Industries** strongly recommends that AS 4428.5 power supplies are used only with high-quality batteries.
- The Auxiliary Power Supplies are fitted with isolating mains switches.
- Care must be taken to prevent reverse polarity connections between the power supply and load.



AUX24/4PSU-K003 fitted in lockable Battery Cabinet

Ordering Information

Product Code	Description
24-1.5SWMPS	24V 1.5A Switch Mode Power Supply
24/4SWMP	24V 4A Switch Mode PSU (3A Continuous)
24/12ASWMPS-MK2	24V 12A Switch Mode PSU with Controller, MK2
AUX24-1.5PSU-K003-BLK	FAAST PSU, 24V, 1.5A in Black Case, Key K003, fits 12AH Batteries
AUX24/4PSU-K003	24V 4A Supervised PSU in BATBOX38-003
AUX24/12PSU-K003	24V 12A Supervised PSU in BATBOX38-003

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