

PERTRONIC INDUSTRIES LTD

DATASHEET

Power Supplies

24 Volt 1.5 Amp Switch Mode Power Supply
24 Volt 4 Amp Switch Mode Power Supply
24 Volt 12 Amp Switch Mode Power Supply
Auxiliary 24 Volt, 1.5 Amp Power Supply
Auxiliary 24 Volt, 4 Amp Power Supply
Auxiliary 24 Volt, 12 Amp Power Supply

(24-1.5SWMPS)
(24/4PSU)
(24/12ASWMPMS-MK2)
(AUX24V-1.5PSU-BLK)
(AUX24/4PSU)
(AUX24/12PSU)



Overview

Pertronic Power Supplies provide 24 Volt (nominal) dc power from the ac mains supply. The power supplies have automatic battery backup and optional fault supervision. They are designed for systems built with the Pertronic F220 and F100A fire panels and are well-suited to any 24 volt fire system.

During normal mains-powered operation, the load is supplied from a regulated 24 volt switched mode supply. The switch mode power supply also float charges the backup batteries. If mains power is lost, the load is supplied by the backup batteries.

The Pertronic auxiliary power supplies have a microprocessor-based supervision system which monitors the battery voltage, and controls an automatic daily system test. The microprocessor also controls a defect relay for signalling fault conditions to external equipment. Any active fault is identified by yellow battery fault indicator.

Auxiliary power supplies are fitted with isolating mains switches. They come in two physical sizes. The 1.5 Amp PSU (AUX24- 1.5PSU-BLK) has a small cabinet suitable for 12 Ah batteries. The AUX24/4PSU and AUX24/12PSU have a larger cabinet, suitable for larger batteries.

Pertronic Power Supplies are supplied without batteries. The battery calculator on the Pertronic website 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 (if an appropriate optional temperature sensor is fitted)
- » Automatic battery backup
- » Pertronic Power Supplies have been designed and tested to NZS 4512 : 2010
- » Also compatible with Pertronic F120A
- » Auxiliary power supply systems include:
 - » Provision for two 12 Volt Sealed Lead-Acid (SLA) batteries
 - » Automatic daily battery and load test
 - » External panel indicators: MAINS present, Auto Test, Battery Fault
 - » Lockable front door



Pertronic Auxiliary 24V, 4A Power Supply (AUX24/4PSU)



Pertronic 24 Volt 1.5 Amp Auxiliary Power Supply in Lockable Battery Cabinet (AUX24V-1.5PSU-BLK)

Products

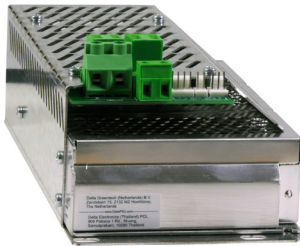


24-1.5SWMPS (see Notes 1, 2)

The Pertronic Off-line Power Supply Unit (24-1.5SWMPS) is a 27.4 V, 1.5 A current limited switch-mode power supply. This PSU does not have an in-built fault relay or automatic self supervision.

Dimensions: 135 x 87 x 50 (L x W x D mm)

Weight: 0.46 kg



24/4PSU (see Notes 1, 2)

The Pertronic Off-line Power Supply Unit (24/4PSU) is a 27.4 V, 4 A continuous, 4.4 A peak, current limited switch-mode power supply. This PSU does not have an in-built fault relay or automatic self supervision.

Dimensions: 212 x 98 x 60 (L x W x D mm)

Weight: 0.95 kg



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

The Pertronic Power Supply Unit (24/12ASWMPS-MK2) is a 24 Vdc (nominal) current limited power supply, with a separate output for battery charging. The maximum charge current may be limited to suit battery requirements. The module includes a built-in fault relay.

Dimensions: 222 x 110 x 73 (L x W x D mm)

Weight: 1.4 kg



AUX24/4PSU, AUX24/12PSU

The 24 volt 4 amp and 12 amp auxiliary power supplies incorporate switch mode power supply modules with voltage supervision and automatic battery test facilities. The AUX24/4PSU is fitted with a 24/4PSU power supply unit. The 12 Amp AUX24/12PSU has a 24/12ASWMPS-MK2 PSU.

Dimensions: 350 H x 575 W x 190 D mm

Battery Compartment: 200 H x 400 W x 170 D mm

Cabinet Colour: Off White Ripple 288 97072 (Dulux Paint Code)

Shipping Weight: AUX24/4PSU: 7.9 kg (excluding batteries)

AUX24/12PSU: 8.4 kg (excluding batteries)



AUX24-1.5PSU-BLK

The AUX24-1.5PSU is a 24 volt self-supervising power supply suitable for powering auxiliary fire alarm equipment. It is fitted with a 24-1.5SWMPS power supply unit.

Dimensions: 230 x 350 x 135 (H x W x D mm)

Battery Compartment: 110 x 325 x 105 (H x W x D mm)

Cabinet Colour: Gloss Black Ripple 953 57249 (Dulux Paint Code)

Shipping Weight: 3.16 kg (excluding batteries)

Specification

	1.5 A Auxiliary Power Supply	12 A Auxiliary Power Supply	4 A Auxiliary Power Supply
Product Code	AUX24V-1.5PSU-BLK	AUX24/12PSU	AUX24/4PSU
Input Voltage	200 to 260 Vac	100 to 264 Vac	85 to 264 Vac
Input Frequency	50 to 60 Hz	47 to 63 Hz	
Output Voltage	27.4 Vdc @ 20 °C		
Temperature Coefficient	- 0.145 % / °C set for lead-acid battery charging (if probe attached)		
Output Current	Limited to 1.5 A	Limited to 12 A	4 A Continuous, Limited to 4.4 A
Turn-on Time	120 ms max @ 230 Vac		<1000 ms @ full load
Inrush Current	Limited by internal thermistor		<120 A @ 230 Vac
Front Panel Indicator LEDs	Mains (Green), Auto Test (Yellow), Battery Fault (Yellow)		N/A
Mains Input Connector	Termination block with an integral power switch		
DC Output Connector	2-way terminal block		4 x 2-way terminal blocks
Internal Control	Reset / timer initialisation switch		
Battery Type	2 x 12 V sealed Lead-Acid (GelCell)		
Operating Temperature	-10 to + 50 °C		
Operating Environment	10 to 95 % RH (non-condensing)		

Note 1:

To fully comply with regulatory requirements, the 24-1.5SWMPS, 24/4PSU, 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, 24/4PSU, 24/12ASWMPs-MK2 PSUs are genuine replacement power supply modules for Pertronic control panels and auxiliary (supervised) power supplies. The 24/4PSU also replaces the Pertronic 24/4SWMP 4 amp power supply fitted to Pertronic fire panels manufactured before 2020.

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 or 72 hours on standby plus 30 minutes on alarm:

$$\text{Ah} = \text{Iq} \times \text{Standby Hours} + \text{IA}$$

Where:

Ah = Battery capacity in Amp-hours,

Iq = Standby (non-alarm) current in Amps,

IA = Alarm current in Amps,

Standby Hours = 24 hours or 72 hours

The Pertronic website has a battery size calculator for calculating system current and required battery capacity.

Caution

- The batteries must have sufficient capacity to satisfy NZS 4512:2010 (clause 213) duration requirement at 20 °C.
- In the above formula, use 24 “Standby Hours” if the system is externally monitored, or 72 hours if it is not.
- Please refer to New Zealand Standard NZS 4512 : 2010 clauses 212, 213, and 214 for a complete description of the battery capacity calculation.
- We strongly recommend that Pertronic power supplies are used only with high-quality batteries.
- Care must be taken to prevent reverse polarity connections between the power supply and load.

Ordering Information & Notes

Product Code	Description
24-1.5SWMPS	24V 1.5A Switch Mode Power Supply
24/4PSU	24V 4A PSU with Controller MK2
24/12ASWMPS-MK2	24V 12A PSU with Controller MK2
AUX24V-1.5PSU-BLK	24V 1.5A Auxiliary PSU
AUX24/4PSU	24V 4A Auxiliary PSU in BATBOX38
AUX24/12PSU	24V 12A Auxiliary PSU in BATBOX38

This information must not be treated as partial or complete instructions for the design, construction, installation, commissioning, or maintenance of fire detection, fire alarm, or building evacuation systems. Fire and evacuation systems must be designed and installed by properly qualified persons, in accordance with all regulatory requirements.

Unless explicitly stated otherwise, this document provides typical specifications and nominal dimensions. Actual product performance and dimensions may vary.

All information in this document is subject to change. Please consult Pertronic Industries or visit our web site for up to date information.

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