24Vdc Output DIN-Rail Mounted Power Supplies



Features:

- Advanced LED indication of faults
- PCB self-test function
- DIN Rail mounting

Benefits:

- Fault finding LED indication
- Alarm output

Technical Overview

The PS-x range of power supply are used to convert 230Vac or 24Vac to a regulated 24Vdc output offering advanced protection, self-diagnostics and self-test facilities. Featuring over-current and over-voltage protection, LED indication of a wide range of conditions, an optional alarm relay output for loss of input and on-PCB reset button.

They are intended for applications requiring auxiliary power for sensors or IO modules.

Specification:

Input supply	
PS-230	240Vac @ 50/60Hz
PS-24	24Vac @ 50/60Hz
Output supply	24Vdc @ 1A
Fusing:	
PS-230	500mA
PS-24	1A
LED indication:	
Power ON	
Low output voltage	
High output voltage	
Output voltage within limits	
Reset button pressed	
Self-test in progress	
Terminals	Rising cage for 0.5-2.5mm² cable
Dimensions:	
PS-230	104x118x 88mm (4.19x4.65x3.46”)
PS-24-1A	104x74x65mm (4.09x2.91x2.56”)
PS-24-E	104x74x70mm (4.09x2.91x2.76”)
Temperature range	-10 to +50°C (14 to 122°F)
Humidity range	0 to 95%, non-condensing
Country of origin	UK

CE

The PS-230-24DC-1A referred to in this data sheet meets the requirements of EU 2004/108/EC and 2006/95/EC

The products PS-24-24DC-E & PS-24-24DC-1A referred to in this data sheet meet the requirements of EU Directive 2004/108/EC

Part Codes:

PS-230-24DC-1A
230Vac to 24Vdc power supply

PS-24-24DC-1A
24Vac to 24Vdc power supply
The input and output 0V are NOT common

PS-24-24DC-E
24Vac to 24Vdc power supply
The input and output 0V are common

Installation:

1. The PS-x range should only be installed by a competent, suitably trained technician, experienced in installation with hazardous voltages. (>50Vac & <1000Vac or >75Vdc & 1500Vdc)

2. Ensure that all power is disconnected before carrying out any work on the PS-x.

3. Maximum cable is 2.5mm², care must be taken not to over tighten terminals.

4. When mounting the PS-x care should be taken not to stress the PCB when fitting to the DIN rail. If it is necessary remove the module from the DIN rail, be sure to use a flat bladed screwdriver to release the DIN clips.

LED Indication:

Switch -On

When the PSU is powered up, the LED shows solid orange for about 0.5 seconds. (If the reset button is pressed during power up, it holds the unit at this step.) After about 0.5 seconds, the output is enabled and the alarm relay closes. This state is held for up to 5 seconds, or until the output voltage has achieved a minimum of 22.0Vdc.

While the output voltage is within bounds, the relay is held closed, and the LED shows solid green. If the minimum voltage is not achieved, the output is turned off, and the relay opens. The LED flashes long-short in orange until the reset button is pressed.

Reset Button

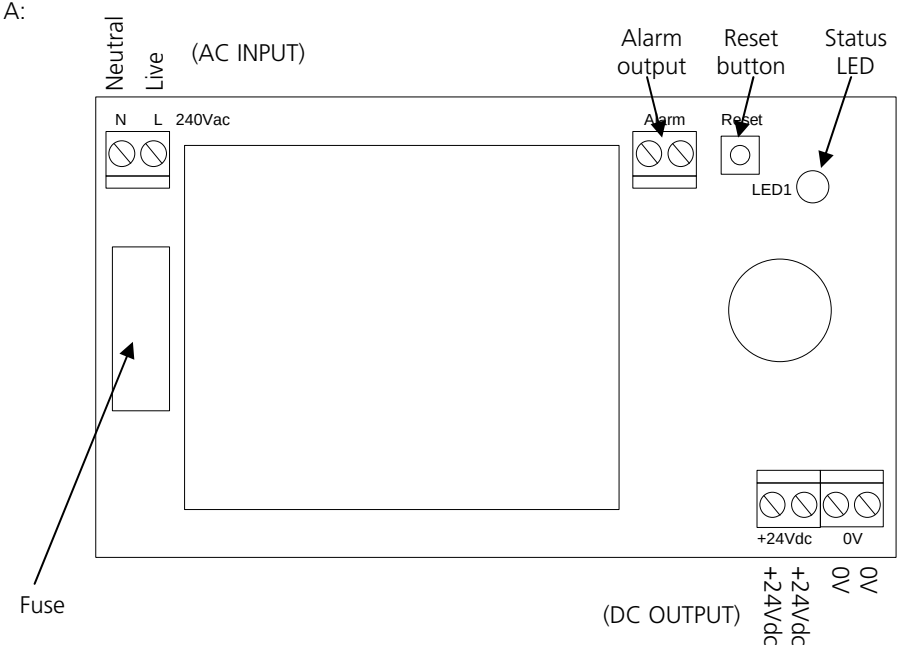
Whenever the reset button is pressed, the LED shows solid orange, the output is turned off and the relay is opened.

Output Out of Limits

If the output voltage drops below 22.0Vdc, the LED flashes short-short in orange. The relay stays closed for a maximum of 4 seconds. If the output voltage is low enough for long enough, the output voltage is turned off, the relay opens, and the LED flashes long-short in orange until the reset button is pressed. If the output voltage rises above 25.0Vdc, the LED flashes short-short-short in red. The relay stays closed for a maximum of 1 second. If the output voltage is high enough for long enough, the output voltage is turned off, the relay opens, and the LED flashes long-short-short in red until the reset button is pressed.

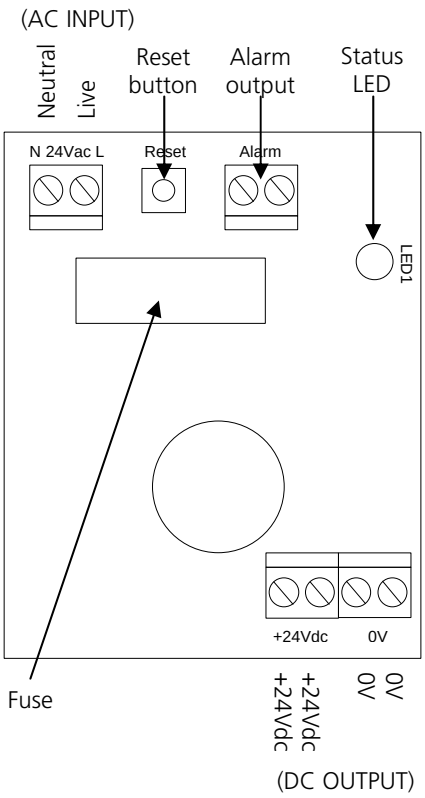
Connections:

PS-230-24DC-1A:

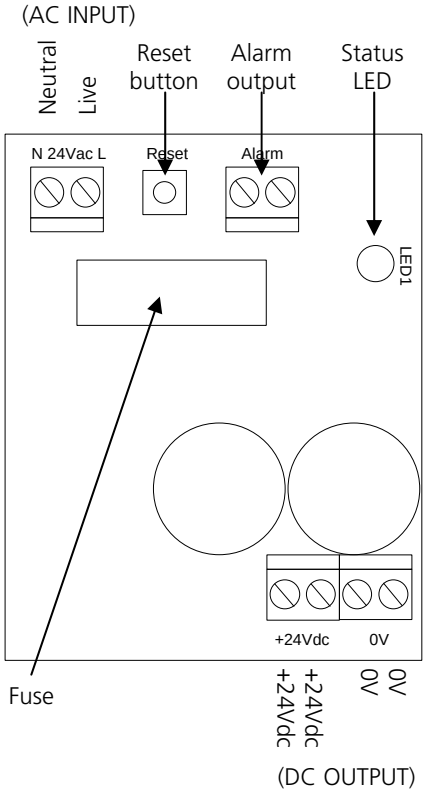


Connections & Jumper Settings:

PS-24-24DC-1A:



PS-24-24DC-E:



NB The 0V terminal on the AC input connector **is directly connected** to the 0v terminal on the DC output connector. If the DC 0V terminal is connected to equipment which will earth this connection the **0V of the AC input will be earthed at the same time**.
Care should be taken to ensure that earthing the AC supply 0V will not cause damage to any other equipment which may be powered from it.