

RHINO 12 VDC and 24 VDC Power Supplies

PS Series

Switching power supplies at linear supply prices

The PS Series power supplies give you consistent, reliable, switched DC power at linear power supply prices.

These power supplies use efficient switching technology to produce the most power in the smallest space, while generating a minimum amount of heat. The constant-current short circuit protection limits the output current as the voltage is reduced to safely protect your control components from direct shorts and device failures. Once the short is corrected, the PS Series power supplies automatically resume supplying full-voltage power. Precisely regulated output power is suitable for battery charging applications. Extra-sturdy DIN rail mounts and removable plug terminals make installation a breeze.

Meeting UL/cUL 60950, 508 and 1604* (Class I, Div. 2), our PS-D (DIN rail mounted) power supplies meet the standards required for practically any industrial control application.

Features

- 2A–24A at 24 VDC, 3.5A at 12 VDC
- Regulated switch mode type
- Low profile case
- Easy DIN rail mounting
- Constant-current short circuit protection
- Low ripple and noise
- Selectable input voltage (115/230 VAC)
- High EMC immunity
- EMI meets EN 55011-B and FCC Part 15, Level B
- Constant current protection with auto-recovery:
- No current spikes to damage powered devices due to improper wiring or a powered device failure
- Worldwide safety approvals: UL/cUL 508, 60950 and 1604 Class I, Div. 2, CE

* [PS12-050D, PS24-050D and PS24-500D do not meet UL 1604 Class I Div 2]



- Removable plug terminals:
- Easy to install and disconnect wiring

- Sturdy DIN rail mounting:
- Easy to mount and remove, but still secure

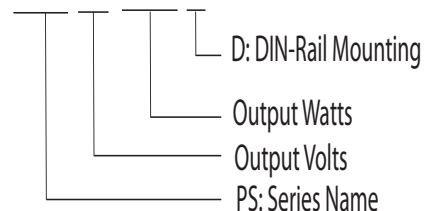
- Power ON LED:
- Quick visual check for troubleshooting

- Durable metal case:
- A reliable industrial duty package

- Efficient switching technology:
- Smaller size and less heat generated results in less wasted space and energy

Part numbering system

PS12-050D



RHINO Power Supplies Specifications

PS Series



PS12-050D
PS24-050D



PS12-075D
PS24-075D



PS24-150D



PS24-300D



PS24-500D



PS24-600D

| General Specifications | |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature | Operating [ambient]: -25 to +70 °C [-13 to +158 °F] max, Derating above 50 °C 2%/C Storage [non-operating]: -25 to +85 °C [-13 to +185 °F] max, Temperature drift: 0.02%/C |
| Humidity | 95% [non-condensing] relative humidity max |
| Switching Frequency | 80 kHz typical [PWM] |
| Isolation | According to IEC/EN 60950, UL 60950, UL 508 |
| Output Regulation | Input variation: ± 0.2% max Load variation: 50W, 75W, 150W models: ± 1% max 300W, 500W, 600W models: ± 0.3% max |
| Output Voltage Ripple | < 50 mV peak to peak [20 MHz bandwidth] |
| Output Protection | Current limit: 110% maximum output rating. Voltage limit: 140% Vout nom |
| Vibration | 1gn 20 sweeps each axis |
| Shock | 15 gn, 11 ms each axis |
| Enclosure Rating | IP 20 |
| Enclosure Material | Aluminum [chassis] / stainless steel [cover] |
| Mounting | Snap-on with self-locking spring for 35mm DIN rails |
| Connection | Removable screw terminals for 22-10 AWG, wire stripping length 7-8mm |
| Agency Approvals | UL/cUL 60950 recognized, File No. E198298, UL/cUL 508 listed File No. E197592, UL/cUL 1604 listed [Class I, Div 2, groups A,B,C, and D hazardous locations], File No. E197886, except PSxx-050D and PS24-500D, which are not UL/cUL1604 listed. CE |

Note: All specifications are valid at nominal input voltage, full load and +25°C after warm-up time, unless otherwise stated.

| Input Specifications | | | | | | | | |
|---------------------------|--------------------------------------------------|-----------------------|-------------------------|---------|-----------------------|---------|---------------------------|-------------------------------------------|
| Part Number | Input Voltage Range | Input Frequency Range | Input Current [Typical] | | Inrush Current [<2mS] | | Efficiency [Typ @ 115VAC] | C-Curve Circuit Breaker or Slow-blow Fuse |
| | | | 115 VAC | 230 VAC | 115 VAC | 230 VAC | | |
| PS12-050D | 93-264 VAC | 47-63 Hz | 1.2A | 0.7A | <15A | <30A | 84% | 5.0A |
| PS24-050D | 93-264 VAC | | 1.2A | 0.7A | | | 85% | |
| PS12-075D | 93-132 VAC 187-264 VAC [switch selectable] | | 1.7A | 0.9A | <16.5A | <33A | 82% | |
| PS24-075D | | | 1.7A | 0.9A | | | 86% | |
| PS24-150D | 93-132 VAC 187-264 VAC [switch selectable] | | 3.0A | 1.7A | <35A | <70A | 87% | 10.0A |
| PS24-300D | | | 5.4A | 3.3A | | | 88% | 15.0A |
| PS24-500D | 93-132 VAC | | 9.5A | N/A | <50A | N/A | 87% | 20.0A |
| PS24-600D | 93-132 VAC 187-264 VAC [switch selectable] | | 10.5A | 6.4A | <70A | <80A | 88% | |

| Output Specifications | | | | | | | | | | |
|---------------------------|-------|---------------------|----------------|---------------------------|----------------------|--------------------|----------------------------|--------------|------------|------------------------|
| Part Number | Price | Drawing Link | Output Voltage | Output Voltage Adj. Range | Output Current [Max] | Output Power [Max] | Output Voltage Regulation* | Hold-Up Time | | MTBF [IEC 1709 @ 25°C] |
| | | | | | | | | 115 VAC | 230 VAC | |
| PS12-050D | | PDF | 12 VDC | 12-14 VDC | 3.5A | 50W | 1% | 25 mS | 30 mS | 2,992,000h |
| PS24-050D | | PDF | 24 VDC | 24-28 VDC | 2.0A | 50W | | | | |
| PS12-075D | | PDF | 12 VDC | 12-14 VDC | 6.0A | 75W | | | | |
| PS24-075D | | PDF | 24 VDC | 24-28 VDC | 3.0A | 75W | 0.3% | 20 mS | N/A | 1,800,000h |
| PS24-150D | | PDF | | | 6.0A | 150W | | | | 1,939,000h |
| PS24-300D | | PDF | | | 12.0A | 300W | | | | 1,913,000h |
| PS24-500D | | PDF | | | 20.0A | 500W | 1,467,000h | | | |
| PS24-600D | | PDF | | | 24.0A | 600W | 15 mS | 25 mS | 1,434,000h | |

*Load variation (10-90%)

Notes: Output current characteristic suitable for battery charging applications. Not recommended for redundancy or parallel operation.