

RHINO PSE Series Encapsulated Power Supplies

The PSE series are AC/DC switch mode power supplies encapsulated in an ultra-compact, low-profile housing. They are ideal for space limited applications and are easily screw mounted to a panel or equipment chassis or can be DIN rail mounted using the optional DIN rail mounting kit. The PSE series features a universal input from 120/240 VAC and single or dual outputs from 15 Watts up to 60 Watts (above 30 Watt, single output only).



Features

- Ultra compact, low profile plastic case
- Single or dual output models
- Screw terminal blocks
- Chassis mount or 35mm DIN rail mount with optional adapter
- Universal input 120/240 VAC, 47-440 Hz (60 Watt, 47-63 Hz)
- Double insulated - no external ground required
- UL508 listed, UL60950-1 recognized, CE marked
- Short circuit and overload protection
- DC on LED indicator
- 3-year warranty



| Single Output Models 15 to 60 Watt | | | | | | |
|------------------------------------|----------|---------------------|--------------|-------------------|--------------------|---------------------------|
| Part Number | Price | Drawing Link | Weight [lbs] | Output Power Max. | Output | Efficiency [Typ @ 115VAC] |
| PSE05-115 | \$62.00 | PDF | 0.3 | 15W | 5VDC / 3000mA | 74% |
| PSE12-115 | \$62.00 | PDF | 0.3 | | 12VDC / 1250mA | 81% |
| PSE15-115 | \$62.00 | PDF | 0.3 | | 15VDC / 1000mA | 81% |
| PSE24-115 | \$62.00 | PDF | 0.3 | | 24VDC / 625mA | 83% |
| PSE05-130 | \$91.00 | PDF | 0.5 | 30W | 5VDC / 6000mA | 76% |
| PSE12-130 | \$91.00 | PDF | 0.5 | | 12VDC / 2500mA | 80% |
| PSE15-130 | \$91.00 | PDF | 0.5 | | 15VDC / 2000mA | 81% |
| PSE24-130 | \$91.00 | PDF | 0.5 | | 24VDC / 1250mA | 81% |
| PSE05-150 | \$109.00 | PDF | 0.8 | 51W | 5.1 VDC / 10,000mA | 76% |
| PSE12-160 | \$109.00 | PDF | 0.8 | 60W | 12VDC / 5000mA | 81% |
| PSE15-160 | \$109.00 | PDF | 0.8 | | 15VDC / 4000mA | 82% |
| PSE24-160 | \$109.00 | PDF | 0.8 | | 24VDC / 2500mA | 83% |

| Dual Output Models 15 to 30 Watt | | | | | | | |
|----------------------------------|---------|---------------------|--------------|-------------------|-----------------|-----------------|---------------------------|
| Part No. | Price | Drawing Link | Weight [lbs] | Output Power Max. | Output 1 | Output 2 | Efficiency [Typ @ 115VAC] |
| PSE12-215 | \$64.00 | PDF | 0.3 | 15W | +12VDC / 650mA | -12VDC / 650mA | 82% |
| PSE15-215 | \$64.00 | PDF | 0.3 | | +15VDC / 500mA | -15VDC / 500mA | 82% |
| PSE12-230 | \$94.00 | PDF | 0.5 | 30W | +12VDC / 1300mA | -12VDC / 1300mA | 81% |
| PSE15-230 | \$94.00 | PDF | 0.5 | | +15VDC / 1000mA | -15VDC / 1000mA | 82% |

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| Input Specifications | | |
|-----------------------------------------------------------------|-------------------------------------------|----------------------------------------|
| Input Voltage | Nominal | 120/240 VAC |
| | AC range [universal input] | 85 - 264 VAC |
| | DC range | 120 - 370 VDC [not for 60 Watt models] |
| Input Frequency | 47 - 440Hz [47 - 63Hz for 60 Watt models] | |
| Input Current at Full Load (115VAC / 230VAC) | 15 Watt models | 300mA / 190mA typ. |
| | 30 Watt models | 550mA / 330mA typ. |
| | 51/60 Watt models [typical for all] | 1050mA / 670mA typ. |
| Input Current at No Load | 15mA @ 115VAC & 20mA @ 230VAC typ. | |
| Inrush Current (< 2ms, cold start at 115VAC / 230VAC) | 15 Watt models | 15A / 30A |
| | 30 Watt models | 20A / 40A |
| | 60 Watt models | 30A / 50A |
| External Input Fuse Required (recommended value) | 15 and 30 Watt models | 1.5 A slow blow |
| | 51/60 Watt models | 3.0 A slow blow |

| Output Specifications | | | | |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
| Voltage Set Accuracy | w2% | | | |
| Regulation | Input variation | 1% max. | | |
| | Load variation | Single output models [10-100%]: 1% max. Dual output models balanced load [10-100%]: 2.5% max. Dual output models unbalanced load [20/100%]: 5.0% max. | | |
| Minimum Load | Single and dual output models | 10% of rated max. current | | |
| Ripple and Noise (20MHz bandwidth) | 5.0 VDC outputs | 1.8% of Vout [mVpk-pk] | | |
| | All other outputs | 1.3% of Vout [mVpk-pk] | | |
| Overload Protection by Current Limit | 105% min. of nominal current, fold back, automatic recovery [long term overload condition may cause damage to the power supply] | | | |
| Max. Capacitive Load [μF] | Output | Model Series | | |
| | | PSE15 | PSE30 | PSE60 |
| Single Output Models | 5.0 VDC; 5.1 VDC | 3900 | 8000 | 8000 |
| | 12 / 15 VDC | 2200 | 3900 | 3900 |
| | 24VDC | 1000 | 1500 | 1500 |
| Dual Output Models | +/-12V; +/-15V | 1500 | 1500 | NA |

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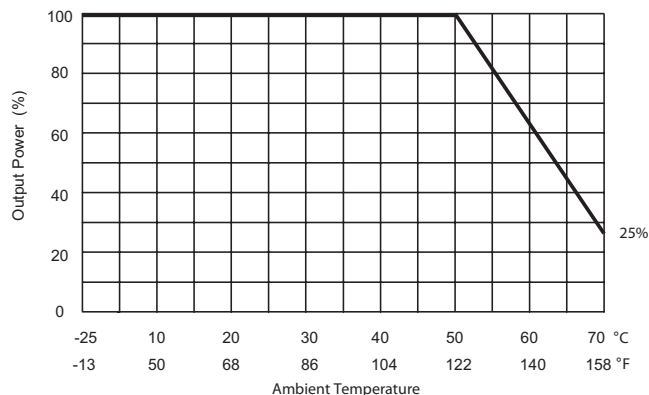
| General Specifications | | | | | |
|------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------|---------------------------|---------------------------|
| | Standard/ Approval | Model Series | | | |
| | | PSExx-x15 | PSExx-x30 | PSExx-150 | PSExx-160 |
| Operating Temperature | IEC/EN60950-1 | -25 to 71°C [-13 to 159.8°F] | | -10 to 40°C [14 to 104°F] | -10 to 50°C [14 to 122°F] |
| | UL508 | -25 to 50°C [-13 to 122°F] | | -10 to 40°C [14 to 104°F] | |
| Storage Temperature | -40 to 185°F [-40 to 85°C] | | | | |
| Power Derating | 3.75% per °C above +122°F [50°C] 2.5% per °C above +104°F [40°C] for PSE05-150 | | | | |
| Temperature Coefficient | 0.02 %/°C | | | | |
| Humidity (non-condensing) | 95% rel. H max. | | | | |
| Efficiency | 78% typ. | | | | |
| Switching Frequency | 100kHz typ. [fixed] | | | | |
| Isolation Voltage (60 sec.) | Input/Output | 3,000VAC | | | |
| Isolation Resistance | Input/Output | 100MΩ [@ 500VDC] | | | |
| Electromagnetic Compatibility (EMC), Emissions | EN 61000-6-3: 2007 EN61204-3: 2000, class A EN 55032, level B, FCC Part 15 level B | | | | |
| Electromagnetic Compatibility (EMC), Immunity | EN61000-6-2: 2005 EN61204-3: 2000, class A | | | | |
| | Electrostatic discharge ESD | EN61000-4-2 - 8kV / 4 kV, criteria B | | | |
| | RF field susceptibility | EN61000-4-3 - 10 V/m, criteria A | | | |
| | Electrical fast transient / burst immunity input | EN61000-4-4 - w2 kV, criteria B | | | |
| | Electrical fast transient / burst immunity output | EN61000-4-4 - w2 kV, criteria B | | | |
| | Surge immunity line - neutral | EN61000-4-5 - w1 kV, criteria B | | | |
| | Surge immunity output | EN61000-4-5 - w0.5 kV, criteria B | | | |
| | Immunity to conducted RF disturbances | EN61000-4-6 - 10 V, criteria B | | | |
| Mains voltage dips and interruptions | EN61000-4-11 - 30% 10ms, criteria B, 60% 100ms, criteria C, 95% 5000ms, criteria C | | | | |
| Protection Class II | to IEC/EN 60536 | | | | |
| Safety Standards | Information technology equipment | IEC/EN 60950-1, UL 60950-1 | | | |
| Agency Approvals | UL and cUL for UL 508, Listed File No. E197592; UL and cUL for UL 60950-1, Recognized File No. E198298; CE | | | | |
| RoHS Compliant | Yes | | | | |
| Vibration | None | | | | |
| Shock | None | | | | |
| Reliability / Calculated MTBF (MIL-HDBK-217F, @ +25°C, ground benign) | 15 Watt Models | >280,000 hours | | | |
| | 30 Watt Models | >250,000 hours | | | |
| | 60 Watt Models | >125,000 hours | | | |
| Casing Material | Plastic resin + fiberglass [UL 94V-0 rated] | | | | |
| Mounting Screw Torque Specifications | 4~5 in-lb [0.45~0.56 Nm] | | | | |

Note: All specifications valid at nominal input voltage, full load and +25°C [+77°F] after warm-up time unless otherwise stated.

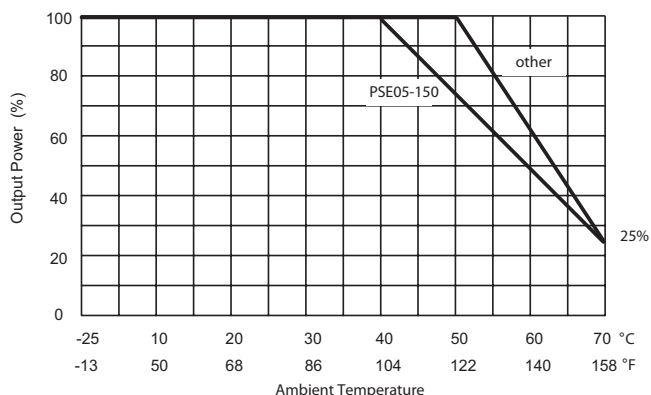
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Derating Curves

PSE 15 & 30W Models



PSE 51 & 60W Models



PSE 15W models

| Wiring Connection | | |
|-------------------|--------------------|-----------------|
| Pin | Single | Dual (12V, 15V) |
| 1 | AC[N] - AC Neutral | |
| 2 | AC[L] - AC Line | |
| 3 | NC | |
| 4 | -Vout | |
| 5 | NC | Common |
| 6 | +Vout | |
| 7 | NC | |

M3 x 0.5 mm screw size, Typ

PSE 30W models

| Wiring Connection | | |
|-------------------|--------------------|-----------------|
| Pin | Single | Dual (12V, 15V) |
| 1 | AC[N] - AC Neutral | |
| 2 | AC[L] - AC Line | |
| 3 | +Vout | |
| 4 | NC | |
| 5 | -Vout | Common |
| 6 | NC | |
| 7 | NC | -Vout |

M3 x 0.5 mm screw size, Typ

PSE 60W models

| Wiring Connection | |
|-------------------|--------------------|
| Pin | Function |
| 1 | AC[N] - AC Neutral |
| 2 | AC[L] - AC Line |
| 3 | NC |
| 4 | +Vout |
| 5 | NC |
| 6 | -Vout |
| 7 | NC |

#4 screw size, Typ

Mounting Brackets

| 35mm DIN Rail Mounting Bracket | | | | |
|--------------------------------|---------|---------------------|--------------|--------------------------------------------------|
| Part Number | Price | Drawing Link | Weight (lbs) | Description |
| PSE-BRKT-1 | \$11.50 | PDF | 0.2 | DIN rail mounting bracket for 15W PSE models |
| PSE-BRKT-2 | \$13.00 | PDF | 0.2 | DIN rail mounting bracket for 30W-60W PSE models |

Note: Kit contains interface plate, DIN rail clip and necessary screws.



PSE-BRKT-1



PSE-BRKT-2

