

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 85-264 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 adaptor
- Universal input 85-264 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
- 3-year warranty



| Single Output Models 15 to 60 Watt | | | | |
|------------------------------------|-------|--------------|-------------------|---------------------|
| Part No. | Price | Weight (lbs) | Output Power Max. | Output |
| PSE05-115 | <---> | 0.3 | 15 Watt | 5 VDC / 3000 mA |
| PSE12-115 | <---> | 0.3 | | 12 VDC / 1250 mA |
| PSE15-115 | <---> | 0.3 | | 15 VDC / 1000 mA |
| PSE24-115 | <---> | 0.3 | | 24 VDC / 625 mA |
| PSE05-130 | <---> | 0.5 | 30 Watt | 5 VDC / 6000 mA |
| PSE12-130 | <---> | 0.5 | | 12 VDC / 2500 mA |
| PSE15-130 | <---> | 0.5 | | 15 VDC / 2000 mA |
| PSE24-130 | <---> | 0.5 | | 24 VDC / 1250 mA |
| PSE05-150 | <---> | 0.8 | 51 Watt | 5.1 VDC / 10,000 mA |
| PSE12-160 | <---> | 0.8 | 60 Watt | 12 VDC / 5000 mA |
| PSE15-160 | <---> | 0.8 | | 15 VDC / 4000 mA |
| PSE24-160 | <---> | 0.8 | | 24 VDC / 2500 mA |

| Dual Output Models 15 to 30 Watt | | | | | |
|----------------------------------|-------|--------------|-------------------|-------------------|-------------------|
| Part No. | Price | Weight (lbs) | Output Power Max. | Output 1 | Output 2 |
| PSE12-215 | <---> | 0.3 | 15 Watt | +12 VDC / 650 mA | -12 VDC / 650 mA |
| PSE15-215 | <---> | 0.3 | | +15 VDC / 500 mA | -15 VDC / 500 mA |
| PSE12-230 | <---> | 0.5 | 30 Watt | +12 VDC / 1300 mA | -12 VDC / 1300 mA |
| PSE15-230 | <---> | 0.5 | | +15 VDC / 1000 mA | -15 VDC / 1000 mA |

| Input Specifications | | |
|---|---|--|
| Input Voltage | Nominal | 100 - 240 VAC |
| | AC range (universal input) | 85 - 264 VAC |
| | DC range | 120 - 370 VDC (not for 60 Watt models) |
| Input Frequency | 47 - 440 Hz (47 - 63 Hz for 60 Watt models) | |
| Input Current at Full Load (115 VAC / 230 VAC) | 15 Watt models | 300 mA / 190 mA typ. |
| | 30 Watt models | 550 mA / 330 mA typ. |
| | 51/60 Watt models (typical for all) | 1050 mA / 670 mA typ. |
| Input Current at No Load | 15 mA @ 115 VAC & 20 mA @ 230 VAC typ. | |
| Inrush Current (< 2ms, cold start at 115 VAC / 230 VAC) | 15 Watt models | 15A / 30A |
| | 30 Watt models | 20 A / 40 A |
| | 60 Watt models | 30 A / 50 A |
| 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 |



PSE Series Encapsulated Power Supplies

- Company Information
- Systems Overview
- Programmable Controllers
- Field I/O
- Software
- C-more & other HMI
- Drives
- Soft Starters
- Motors & Gearbox
- Steppers/ Servos
- Motor Controls
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pressure Sensors
- Temperature Sensors
- Pushbuttons/ Lights
- Process
- Relays/ Timers
- Comm.
- Terminal Blocks & Wiring
- Power**
- Circuit Protection
- Enclosures
- Tools
- Pneumatics
- Appendix
- Product Index
- Part # Index

| Output Specifications | | | | | |
|---|--|---|--------------|--------------|--------------|
| Voltage Set Accuracy | ±2% | | | | |
| 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 |
| | | 24 VDC | 1000 | 1500 | 1500 |
| Dual Output Models | +/-12 V; +/-15V | 1500 | 1500 | NA | |

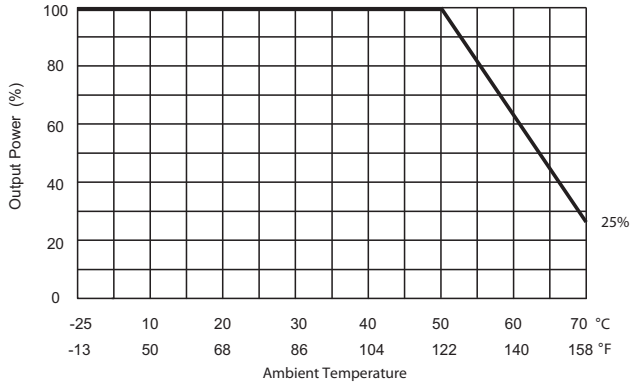
| General Specifications | | | |
|--|--|---|--|
| Operating Temperature | -13° to 140°F (-25° to +60°C) | | |
| Storage Temperature | -40° to 185°F (-40° to 85°C) | | |
| Power Derating | 3.75% per °C above +122°F (50°C) 2.5% per °C above +104°F (40°C) (for PSE05-150) | | |
| Temperature Coefficient | 0.02 %/°C | | |
| Humidity (non-condensing) | 95% rel. H max. | | |
| Efficiency | 78% typ. | | |
| Switching Frequency | 100 kHz typ. (fixed) | | |
| Isolation Voltage (60 sec.) | Input/Output | 3,000 VAC | |
| Isolation Resistance | Input/Output | 100 MΩ (@ 500 VDC) | |
| Electromagnetic Compatibility (EMC), Emissions | EN 61000-6-3: 2007 EN61204-3: 2000, class A EN 55022, 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 - ±2 kV, criteria B | |
| | Electrical fast transient / burst immunity output | EN61000-4-4 - ±2 kV, criteria B | |
| | Surge immunity line - neutral | EN61000-4-5 - ±1 kV, criteria B | |
| | Surge immunity output | EN61000-4-5 - ±0.5 kV, criteria B | |
| | Immunity to conducted RF disturbances | EN61000-4-6 - 10 V, criteria B | |
| | Mains voltage dips and interruptions | EN61000-4-11 - 30% 10 ms, criteria B, 60% 100 ms, criteria C, 95% 5000 ms, 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 #E197592; UL and cUL for UL 60950-1, Recognized file #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 after warm-up time unless otherwise stated.

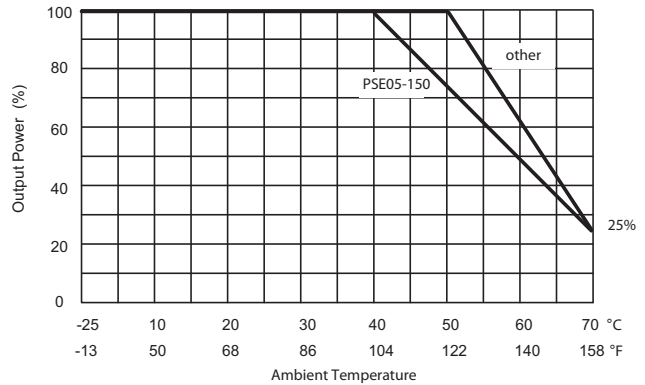
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Derating Curves

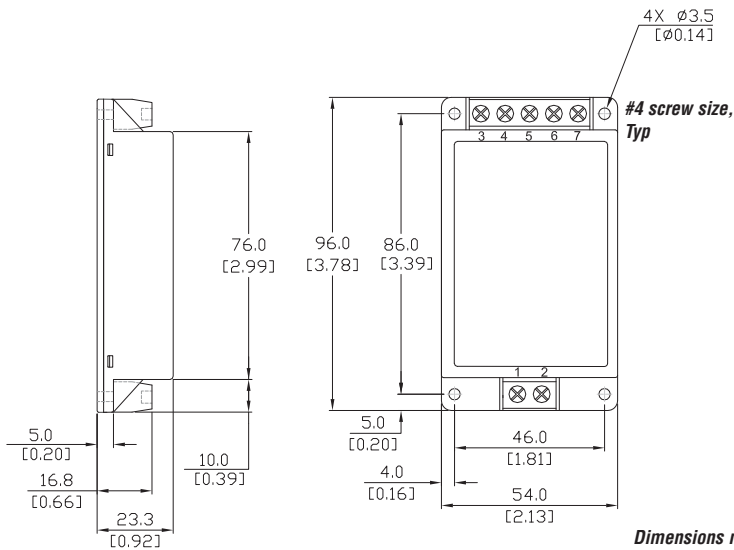
PSE 15 & 30W Models



PSE 51 & 60W Models



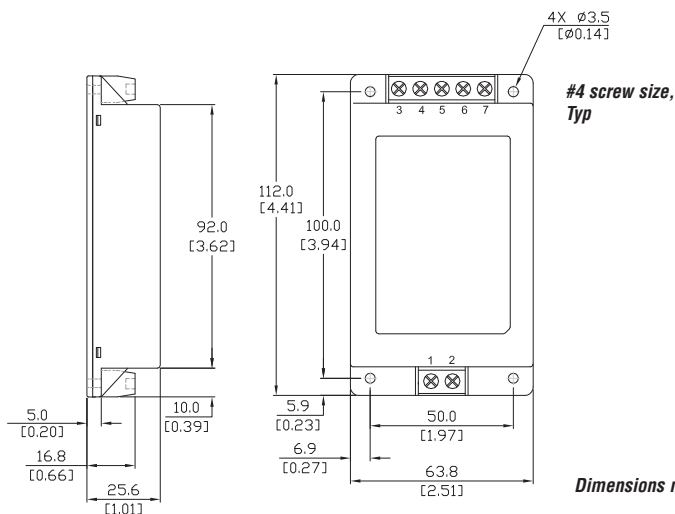
PSE 15W models for chassis mount



| 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 | |

Dimensions mm [inches]

PSE 30W models for chassis mount



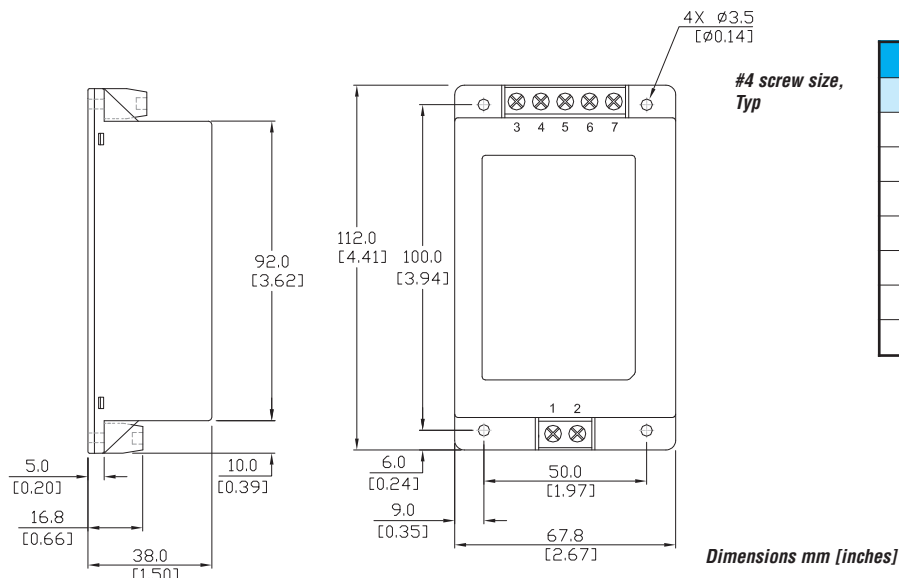
| Connection | | |
|------------|--------------------|-----------------|
| Pin | Single | Dual (12V, 15V) |
| 1 | AC(N) - AC Neutral | |
| 2 | AC(L) - AC Line | |
| 3 | +Vout | |
| 4 | NC | |
| 5 | -Vout | Common |
| 6 | NC | |
| 7 | NC | -Vout |

Dimensions mm [inches]



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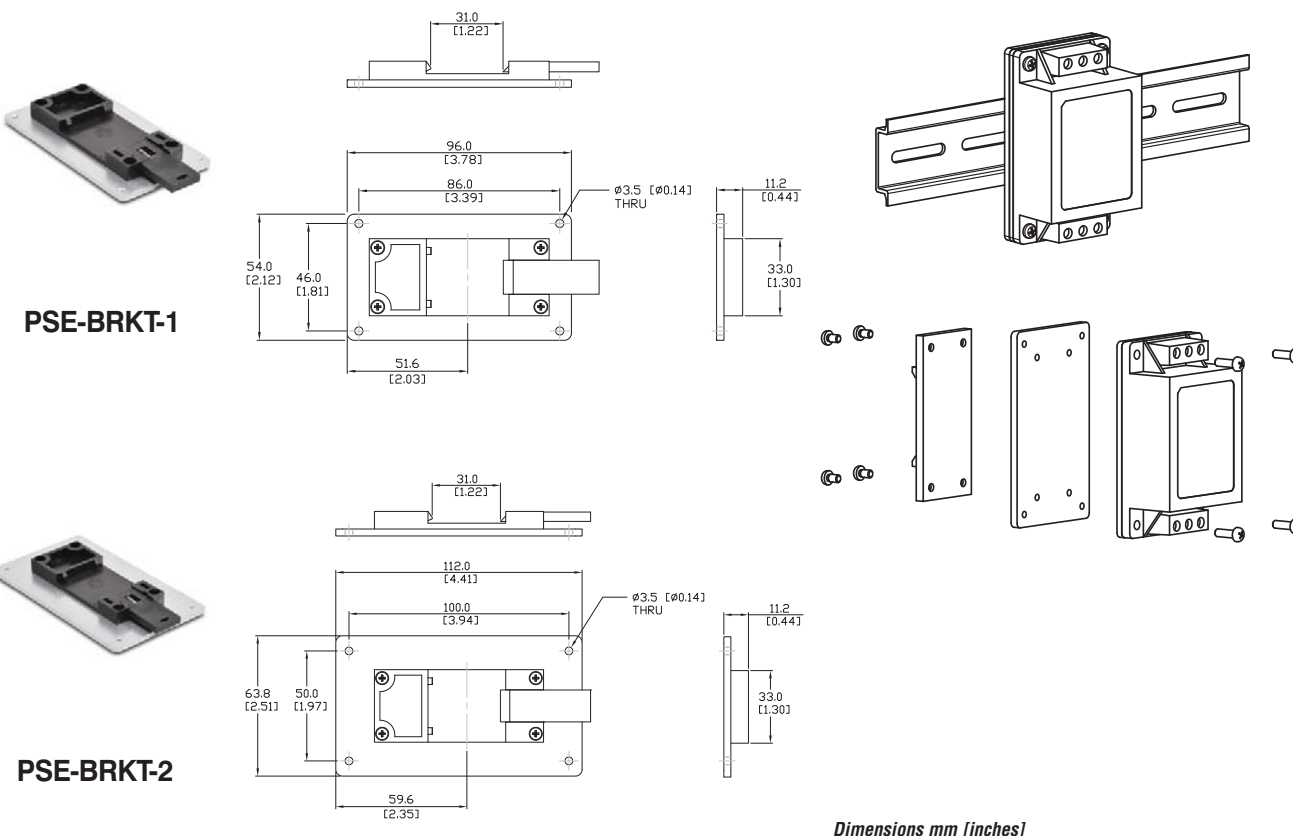
PSE 60W models for chassis mount



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

| 35mm DIN Rail Mounting Bracket | | | |
|--------------------------------|-------|--------------|---|
| Part No. | Price | Weight (lbs) | Description |
| PSE-BRKT-1 | <---> | 0.2 | DIN rail mounting bracket for 15W models |
| PSE-BRKT-2 | <---> | 0.2 | DIN rail mounting bracket for 30W, 51W and 60W models |

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



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Motor Controls

Proximity Sensors

Photo Sensors

Limit Switches

Encoders

Current Sensors

Pressure Sensors

Temperature Sensors

Pushbuttons/ Lights

Process

Relays/ Timers

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Terminal Blocks & Wiring

Power

Circuit Protection

Enclosures

Tools

Pneumatics

Appendix

Product Index

Part # Index