



Encapsulated Power Supplies PSE-S Series



PSE15-110-S



PSE15-150-S

Overview

The RHINO PSE-S series offers 10-, 20-, 25-, and 50-watt AC/DC power supplies with an extended input range of 90-277 VAC. The power supplies are suitable for industrial, household, and building technology applications and are in a compact encapsulated plastic case.

Features

- Wide input voltage range 90-277 VAC
- High efficiency up to 89%
- Compact chassis
- I/O-Isolation 4,000 VAC
- Plastic housing
- Wide operating temperature -40 to 70°C (-40°C cold start) [-40 to 158°F]
- Optional DIN rail mounting kit
- 3-year warranty

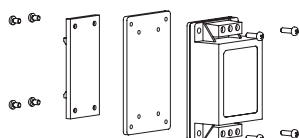
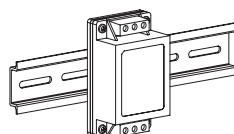


| Encapsulated Power Supplies Selection Table PSE-S Series | | | | | | | | | | |
|--|---------|---------------------|------------------------|-----------------------|-------------------------|---------------------|---------------------|---|---|---------------------|
| Part Number | Price | Output Power (max.) | Nominal Output Voltage | Nominal Input Voltage | Nominal Output Amperage | Efficiency @ 115VAC | Weight | Dimensions W x H x D mm [in] | Drawing Link | |
| PSE05-110-S | \$22.50 | 10W | 5VDC | 120/240 VAC | 2A | 81% | 65g [2.29 oz] | 55.1 x 43.2 x 22.9 [2.17 x 1.70 x 0.90] | PDF | |
| PSE12-110-S | \$22.50 | | 12VDC | | 0.8 A | 85% | | | PDF | |
| PSE15-110-S | \$22.50 | | 15VDC | | 0.6 A | 86% | | | PDF | |
| PSE24-110-S | \$21.50 | | 24VDC | | 0.4 A | 86% | | | PDF | |
| PSE05-125-S | \$31.00 | 20W | 5VDC | | 120/240 VAC | 3.9 A | 84% | 100g [3.52 oz] | 88.4 x 38.1 x 24.1 [3.48 x 1.50 x 0.95] | PDF |
| PSE12-125-S | \$31.00 | 12VDC | 2.1 A | | | 88% | PDF | | | |
| PSE15-125-S | \$31.00 | 15VDC | 1.6 A | | | 88% | PDF | | | |
| PSE24-125-S | \$29.50 | 24VDC | 1A | | | 87% | PDF | | | |
| PSE12-150-S | \$41.50 | 50W | 12VDC | | 120/240 VAC | 4.1 A | 89% | 180g [6.34 oz] | 97 x 48.3 x 25.4 [3.82 x 1.90 x 1] | PDF |
| PSE15-150-S | \$41.50 | | 15VDC | | | 3.3 A | 88% | | | PDF |
| PSE24-150-S | \$38.50 | | 24VDC | 2.1 A | | 88% | PDF | | | |

| Optional DIN Rail Mounting Brackets PSE-S Series | | | | |
|--|--------|---|---------------|---------------------|
| Part Number | Price | Description | Weight | Drawing Link |
| PSE-BRKT-10 | \$7.50 | RHINO DIN rail mounting bracket, aluminum. For use with 10W PSE-S series encapsulated power supplies. Mounting hardware included. | 34g [1.19 oz] | PDF |
| PSE-BRKT-25 | \$7.50 | RHINO DIN rail mounting bracket, aluminum. For use with 20W-25W PSE-S series encapsulated power supplies. Mounting hardware included. | 39g [1.37 oz] | PDF |
| PSE-BRKT-50 | \$7.50 | RHINO DIN rail mounting bracket, aluminum. For use with 50W PSE-S series encapsulated power supplies. Mounting hardware included. | 46g [1.62 oz] | PDF |



PSE-BRKT-25





Encapsulated Power Supplies

PSE-S Series

Input Specifications

| Input Specifications PSE-S Series | | | | | |
|-----------------------------------|--|--|--|------------------------------|------------------------|
| Part Number | Input Voltage | Input Current (Full Load And Vin) | Power Consumption (No Load And Vin) | Input Inrush Current | Recommended Input Fuse |
| PSE05-110-S | 100-277 VAC (47-60 Hz) 100-250 VDC | 140mA max @ 230VAC 230mA max @ 115VAC | 100mW max @ 230VAC 100mW max @ 115VAC | 60A @ 230VAC 30A @ 115VAC | 1.6 A (slow blow) |
| PSE12-110-S | | | | | |
| PSE15-110-S | | | | | |
| PSE24-110-S | | | | | |
| PSE05-125-S | | 320mA max @ 230VAC 490mA max @ 115VAC | | 2.5 A (slow blow) | |
| PSE12-125-S | | | | | |
| PSE15-125-S | | | | | |
| PSE24-125-S | | | | | |
| PSE12-150-S | | 600mA max @ 230VAC 1,000mA max @ 115VAC | | 2.5 A (slow blow) | |
| PSE15-150-S | | | | | |
| PSE24-150-S | | | | | |

Output Specifications

| Output Specifications PSE-S Series | | | | | | | | |
|------------------------------------|----------------------|--------------------------|------------------------|-------------------------|----------------------------------|---------------------|---------------------------|-------------------------|
| Part Number | Voltage Set Accuracy | Ripple And Noise (20MHz) | Capacitive Load (max.) | Temperature Coefficient | Start-up Time (max.) | Hold-up Time (min.) | Output Current Limitation | Overvoltage Protection |
| PSE05-110-S | ±2% max. | 60 mVp-p | 3,500 µF | ±0.02 %/K max. | 60ms @ 230VAC 60ms @ 115VAC | 30ms @ 230VAC | 140 - 235% of lout max. | 105 - 145% of Vout nom. |
| PSE12-110-S | | 120 mVp-p | 700µF | | | | | |
| PSE15-110-S | | 150 mVp-p | 390µF | | | | | |
| PSE24-110-S | | 240 mVp-p | 180µF | | | | | |
| PSE05-125-S | | 120 mVp-p | 2,000 µF | ±0.05 %/K max. | 130ms @ 230VAC 130ms @ 115VAC | 36ms @ 230VAC | 140 - 280% of lout max. | |
| PSE12-125-S | | 150 mVp-p | 680 µF | | | | | |
| PSE15-125-S | | 160 mVp-p | 220 µF | | | | | |
| PSE24-125-S | | 240 mVp-p | 220 µF | | | 10ms @ 230VAC | 130 - 215% of lout max. | |
| PSE12-150-S | | 120 mVp-p | 3,500 µF | | | | | |
| PSE15-150-S | | 150 mVp-p | 3,000 µF | | | | | |
| PSE24-150-S | 240 mVp-p | 2,200 µF | | | | | | |



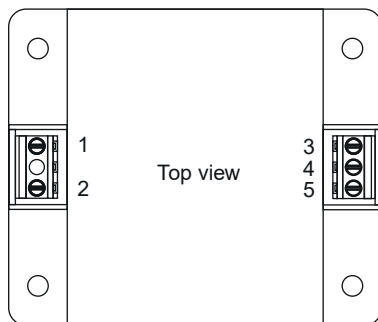
Encapsulated Power Supplies PSE-S Series

General Specifications

| General Specifications PSE-S Series | | | |
|-------------------------------------|--|--|---|
| Models | 10W | 20/25W | 50W |
| Operating Temperature | -40 to 70°C [-40 to 158°F] | | |
| Storage Temperature | -40 to 85°C [-40 to 185°F] | | |
| Humidity | 95% max. (non-condensing) | | |
| Power Derating | High temperature: 2.5 % / K above 50°C Low input voltage: 2% / V below 100VAC | High temperature: 2.5 % /K above 50°C Low temperature: 2% / V below -30°C Low input voltage: 2% / V below 100VAC | High temperature: 2.5 % /K above 50°C Low input voltage: 2% / V below 100VAC |
| Cooling System | Natural convection (20LFM) | | |
| Altitude During Operation | 5,000 m max. (according to IEC 62368-1) 2,000 m max. (according to IEC 60335-1) | | |
| Short Circuit Protection | Continuous, automatic recovery | | |
| Switching Frequency | 35 - 75 kHz (PWM, PFM) | 50 - 68 kHz (PWM, PFM) | 55 - 90 kHz (PWM, PFM) |
| Protection Class | Reinforced insulation Class I & II | | |
| Over Voltage Category | OVC II | | |
| Working Voltage (rated) | 254 VAC | 311 VAC | 342 VAC |
| Isolation Test Voltage | Input to Output, 60s; 4,000 VAC | | |
| Leakage Current | Touch current 250 µA max. | | |
| MTBF | 450,000 h (MIL-HDBK-217F, ground benign) | 400,000 h (MIL-HDBK-217F, ground benign) | 300,000 h (MIL-HDBK-217F, ground benign) |
| Housing Material | Plastic resin (UL 94 V-0 rated) | | |
| Potting Material | Silicone (UL 94 V-0 rated) | | |
| Mounting Type | Chassis | | |
| Connection Type | Screw terminal; torque: 0.3 N•m (3 kgfcm) | | Screw terminal; torque: 0.2 N•m (2 kgfcm) |
| Shock | IEC 60068-2-27 | | |
| Vibration | IEC 60068-2-6 2g, 3 axis, 60 min, 10-500 Hz, 10 min/cycle | | |
| Pollution Degree | PD 2 | | |
| Agency Approval | cURus File E198298 , CE, UKCA | | |

To obtain the most current agency approval information, see the Agency Approval Compliance & Certifications Checklist section on the specific part number's web page.

Wiring



| Pinout | |
|------------|-----------|
| Pin | Single |
| 1 | AC IN (N) |
| 2 | AC IN (L) |
| 3 | -Vout |
| 4 | NC |
| 5 | +Vout |

NC: Not connected



Encapsulated Power Supplies PSE-S Series

EMC Specifications

| EMC Specifications PSE-S Series | | |
|---------------------------------|---|--|
| EMI Emissions | Conducted Emissions | EN 55032 class B (internal filter) |
| | Radiated Emissions | EN 55032 class B (internal filter) |
| | Harmonic Current Emissions | EN61000-3-2 class A |
| | Voltage Fluctuations & Flicker | Input to output 4.0 KVAC, Input to Ground 2.0 KVAC, Output to Ground 1.25 KVAC |
| EMS Immunity | | EN 61000-6-2 (Generic Industrial) EN 55024 (IT Equipment) EN 55035 (Multimedia) |
| | Electrostatic Discharge | Air: EN 61000-4-2, ± 8 kV, perf. criteria A Contact: EN 61000-4-2, ± 4 kV, perf. criteria A |
| | RF Electromagnetic Field | EN 61000-4-3, 10 V/m, perf. criteria A |
| | EFT (Burst) / Surge | EN 61000-4-4, ± 2 kV, perf. criteria A L to L: EN 61000-4-5, ± 1 kV, perf. criteria A |
| | Conducted RF Disturbances | EN 61000-4-6, 10 Vrms, perf. criteria A |
| | PF Magnetic Field | Continuous: EN 61000-4-8, 30 A/m, perf. criteria A |
| | Voltage Dips & Interruptions | 230 VAC / 50 Hz: EN 61000-4-11 30%, 25 periods, perf. criteria A 60%, 10 periods, perf. criteria A >95%, 0.5 periods, perf. criteria A >95%, 250 periods, perf. criteria B 100%, 0.5 periods, perf. criteria A 100%, 1 period, perf. criteria A 100%, 250 periods, perf. criteria B 115 VAC / 60 Hz: EN 61000-4-11 30%, 25 periods, perf. criteria A 60%, 10 periods, perf. criteria A >95%, 0.5 periods, perf. criteria A >95%, 250 periods, perf. criteria B 100%, 0.5 periods, perf. criteria A 100%, 1 period, perf. criteria A 100%, 250 periods, perf. criteria B |

Safety Specifications

| Safety Specifications PSE-S Series | | |
|------------------------------------|----------------------------------|---|
| Standards | IT / Multimedia Equipment | EN 62368-1 IEC 62368-1 UL 62368-1 |
| | Household | EN 60335-1 IEC 60335-1 |
| | Power Transformers | IEC 61558-1 IEC 61558-2-16 |