Encapsulated Power Supplies PSE-S Series

PSE15-110-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.

PSE15-150-S

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

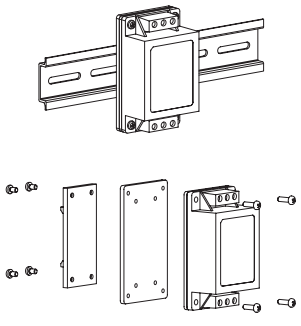
Encapsulated Power Supplies

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		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	25W	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	$42.00	50W	12VDC		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	$42.00		15VDC		3.3 A	88%			PDF
PSE24-150-S	$42.00		24VDC		2.1 A	88%			PDF

Optional DIN Rail Mounting Brackets

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



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Input Specifications

Input Specifications					
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		90A @ 230VAC 45A @ 115VAC	2.5 A (slow blow)
PSE15-150-S					
PSE24-150-S					

Output Specifications

Output Specifications								
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 Iout 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 Iout 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					
PSE12-150-S		120 mVp-p	3,500 µF			10ms @ 230VAC	130 - 215% of Iout max.	
PSE15-150-S		150 mVp-p	3,000 µF					
PSE24-150-S		240 mVp-p	2,200 µF					

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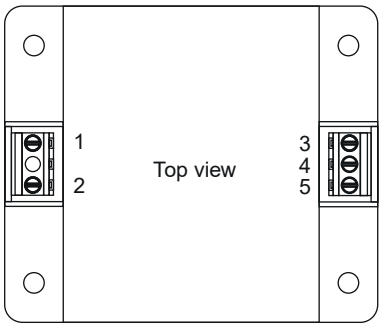
General Specifications

General Specifications			
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

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EMC Specifications

EMC Specifications		
EMI Emissions	***Conducted Emissions***	EN 55032 class B (internal filter)
	Radiated Emissions	EN 550032 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		
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