

RHINO Encapsulated Power Supplies

PSE Series

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	\$071#:	PDF	0.3	15W	5VDC / 3000mA	74%
PSE12-115	\$;071,:	PDF	0.3		12VDC / 1250mA	81%
PSE15-115	\$0724:	PDF	0.3		15VDC / 1000mA	81%
PSE24-115	\$0729:	PDF	0.3		24VDC / 625mA	83%
PSE05-130	\$;071!:	PDF	0.5	30W	5VDC / 6000mA	76%
PSE12-130	\$0720:	PDF	0.5		12VDC / 2500mA	80%
PSE15-130	\$0725:	PDF	0.5		15VDC / 2000mA	81%
PSE24-130	\$072a:	PDF	0.5		24VDC / 1250mA	81%
PSE05-150	\$0071?:	PDF	0.8	51W	5.1 VDC / 10,000mA	76%
PSE12-160	\$00721:	PDF	0.8	60W	12VDC / 5000mA	81%
PSE15-160	\$00726:	PDF	0.8		15VDC / 4000mA	82%
PSE24-160	\$0072b:	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	\$0722:	PDF	0.3	15W	+12VDC / 650mA	-12VDC / 650mA	82%
PSE15-215	\$0727:	PDF	0.3		+15VDC / 500mA	-15VDC / 500mA	82%
PSE12-230	\$00723:	PDF	0.5	30W	+12VDC / 1300mA	-12VDC / 1300mA	81%
PSE15-230	\$00728:	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]				

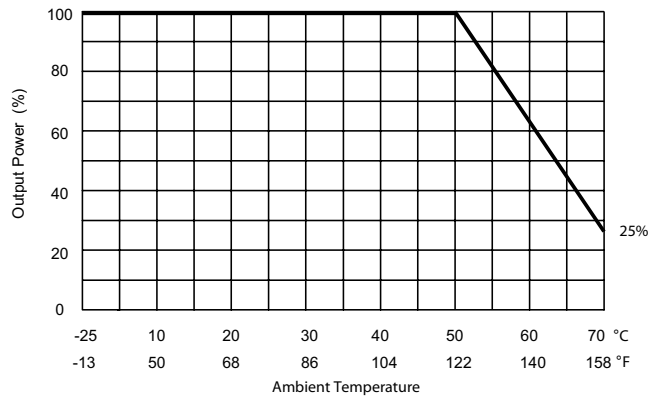
Note: All specifications valid at nominal input voltage, full load and +25°C [+77°F] after warm-up time unless otherwise stated.

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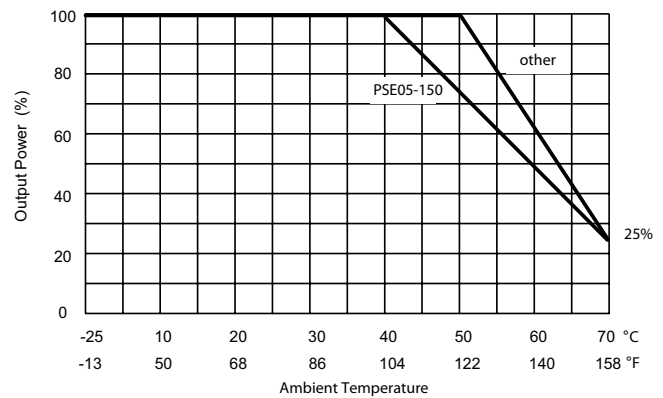
PSE Series

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	\$-06iq;	PDF	0.2	DIN rail mounting bracket for 15W PSE models
PSE-BRKT-2	\$-06is;	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

