



Switching Power Supplies

PSRP Series

Overview

AutomationDirect's RHINO PRO PSRP series switching power supplies are designed for industrial applications inside a control cabinet. The PSRP series offers a sleek and space-saving design with push connectors in a rugged housing.

Features

- High efficiency
- Power Boost to start difficult loads with additional power reserve
- Hyper Boost for 20ms
- Compact, space-saving footprint
- Integral 35mm DIN rail mounting
- Integrated device protection
- Quickly connect with push-in spring clamp
- DC OK alarm contact for remote monitoring
- Internal isolating transformer with reinforced insulation



PSRP-24-120



PSRP-24-480-3

Switching Power Supplies					
Part Number	Price	Output Voltage	Output Current	Output Power	Drawing Link
Single-Phase					
PSRP-12-120	\$05oh0:	12-15 VDC	10A	120W	PDF
PSRP-24-120	\$05oh1:	24-28 VDC	5A	120W	PDF
PSRP-24-240	\$05oh2:		10A	240W	PDF
PSRP-24-480	\$05oh3:		20A	480W	PDF
Three-Phase					
PSRP-24-120-3	\$05oh4:	24-28 VDC	5A	120W	PDF
PSRP-24-240-3	\$05oh5:		10A	240W	PDF
PSRP-24-480-3	\$05oh6:		20A	480W	PDF
PSRP-24-960-3	\$05oh7:		40A	960W	PDF



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Input Specifications										
Part Number	Nominal Voltage	Input Voltage Range	Nominal Frequency	Nominal Input Current	Max. Inrush Current (after 1ms)	Nominal Watts	Efficiency [Typ.]	Circuit Breaker		
Single-Phase										
<u>PSRP-12-120</u>	100-240 VAC 100-230 VDC	85-265 VAC 90-250 VDC	50/60 Hz ±6 %	1.3 A @ 100VAC/VDC 0.6 A @ 240VAC/VDC	6A	0.88 kW @ 230VAC	91.6% @ 115VAC 93.1% @ 230VAC	C4		
<u>PSRP-24-120</u>						0.87 kW @ 230VAC	92.8% @ 115VAC 94.3% @ 230VAC			
<u>PSRP-24-240</u>						0.95 kW @ 230VAC	93.4% @ 115VAC 94.4% @ 230VAC			
<u>PSRP-24-480</u>		90-265 VAC 90-250 VDC			5.3 A @ 100VAC/VDC 2.3 A @ 240VAC/VDC	26A	0.96 kW @ 230VAC	93.4% @ 115VAC 94.6% @ 230VAC	C6, B10	
Three-Phase										
<u>PSRP-24-120-3</u>	(3) 360-500 VAC (3) 208-288 VAC	(3) 324 - 572 VAC (3) 187 - 330 VAC	50/60 Hz ±6 %	0.45 A @ (3 x 360VAC) 0.30A @ (3 x 500VAC)	9.5 A (3 x 500VAC)	0.61 kW (3 x 400VAC)	92.5% @ 3 x 400VAC 91.8% @ 3 x 480VAC	C4		
<u>PSRP-24-240-3</u>						0.75 A @ (3 x 360VAC) 0.55 A @ (3 x 500VAC)	9A (3 x 500VAC)		0.66 kW (3 x 500VAC)	93.7% @ 3 x 400VAC 93.2% @ 3 x 480VAC
<u>PSRP-24-480-3</u>						1.3 A @ (3 x 360VAC) 1.0 A @ (3 x 500VAC)	13A (3 x 500VAC)		0.65 kW (3 x 500VAC)	94.8% @ 3 x 400VAC 94.5% @ 3 x 480VAC
<u>PSRP-24-960-3</u>						2.3 A @ (3 x 360VAC) 1.6 A @ (3 x 500VAC)	14A (3 x 500VAC)		0.88 kW (3 x 500VAC)	93.7% @ 3 x 400VAC 93.5% @ 3 x 480VAC

Output Specifications							
Part Number	Output Voltage Adjustable Range	Output Current	Output Current Power Boost	Output Current Hyper Boost	Output Hold Up Time (Min.)	Parallel Usage/ Serial Usage (Max.)	MTBF (@ 40°C)
Single-Phase							
<u>PSRP-12-120</u>	12-15 VDC	10A @ 12VDC 8A @ 15VDC	150% for min. 4s without voltage variation	350% for min. 20ms @ 60°C	30ms @ 100VAC 10A @ 12VDC	5 / 2	> 900,000h
<u>PSRP-24-120</u>	24-28 VDC	5A @ 24VDC 4.25 A @ 28VDC		30ms @ 100VAC 5A @ 24VDC	> 900,000h		
<u>PSRP-24-240</u>		10A @ 24VDC 8.5 A @ 28VDC		450% for min. 20ms @ 60°C	30ms @ 100VAC 10A @ 24VDC		> 800,000h
<u>PSRP-24-480</u>		20A @ 24VDC 17A @ 28VDC		200% for min. 20ms @ 60°C	30ms @ 100VAC 20A @ 24VDC		> 800,000h
Three-Phase							
<u>PSRP-24-120-3</u>	24-28 VDC	5A @ 24VDC 4.3A @ 28VDC	7.5 A @ 24VDC > 5s	30A/20ms	25ms (3 x 360VAC) 5A @ 24VDC	3	> 1,000,000h
<u>PSRP-24-240-3</u>		10A @ 24VDC 8.6 A at 28VDC	15A @ 24VDC > 5s	35A/20ms	45ms (3 x 500VAC) 10A @ 24VDC		> 1,000,000h
<u>PSRP-24-480-3</u>		20A @ 24VDC 17.2 A @ 28VDC	30A @ 24VDC > 5s	60A/20ms	40ms (3 x 500VAC)		> 900,000h
<u>PSRP-24-960-3</u>		40A @ 24VDC 34A @ 28VDC	60A @ 24VDC > 5s	100A/20ms	40ms (3 x 500VAC)		> 700,000h



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General Specifications									
Part Number		PSRP-12-120	PSRP-24-120	PSRP-24-240	PSRP-24-480	PSRP-24-120-3	PSRP-24-240-3	PSRP-24-480-3	PSRP-24-960-3
Temperature	Operating	-25 to 60°C [-13 to 140 °F]	-40 to 60°C [-40 to 140°F]			-40 to 70°C [-40 to 158 °F]			-40 to 60°C [-40 to 140°F]
	Storage	-40 to 85°C [-40 to 185°F]							
Humidity		5 to 95%, no condensing							
Line Regulation		< 1mV				10mV			
Load Regulation		200mV	220mV	210mV	180mV	Parallel mode on: 1000mV Parallel mode off: 100mV			
Start-up Time (typ)		< 400ms @ U _{Input} 100-230 VAC				< 400ms			< 600ms
Short Circuit Protection		Yes							
Leakage Current		0.3 mA		0.78 mA	2mA	(3 x 360VAC / 50Hz) 0.22 mA (3 x 500VAC / 60Hz) 0.34 mA		(3 x 360VAC / 50Hz) 1.15 mA (3 x 500VAC / 60Hz) 1.77 mA	(3 x 360VAC / 50Hz) 1.7 mA (3 x 500VAC / 60Hz) 2.1 mA
Overload Protection		Yes							
Overvoltage Shutdown		—				31VDC max.			
Status Indicators		LED (green): OK LED (red): overload, overheating or short-circuit							
Ripple		< 50 mVrms	< 50 mVeff	< 50 mVrms	< 50 mVeff	< 20 mVrms			
Spikes		< 200 mVp-p	< 200 mVss	< 200 mVp-p	< 200 mVss	-			
Vibration		IEC 60068-2-6 ; 5-17.8 Hz: 1.6mm 17.8 - 500 Hz: 2.3 g				IEC 60068-2-6; 5-17.8 Hz: 1.6mm 17.8 - 500Hz: 2g			IEC 60068-2-6 2-17.8 Hz: 7.84 mm 17.8-500 Hz: 5g
Shock		IEC 60068-2-27 [30g / 11ms]				IEC 60068-2-27 [50g / 6ms]		IEC 60068-2-27 [30g / 6ms]	IEC 60068-2-27 50g sinusoidal 8ms
Protection Rating		IP20							
Mounting		35mm DIN rail (horizontal only)							
Housing Material		Aluminum (enclosed)							
Connection		Push-in spring clamp terminals							
Weight kg [lb]		0.66 [1.45]	0.66 [1.45]	0.85 [1.87]	1.26 [2.77]	0.65 [1.43]	0.78 [1.71]	1.25 [2.75]	2.70 [5.95]
Agency Approval		UL 508 File E197592, CE							

Additional Data		
Part Number	Solid Wire Size*	
	Output	Input
PSRP-12-120	1.5 - 4 mm² [16 - 12 AWG]	0.75 - 4 mm² [18 - 12 AWG]
PSRP-24-120	0.75 - 4 mm² [18 - 12 AWG]	
PSRP-24-240	1.5 - 10 mm² [16 - 8 AWG]	
PSRP-24-480	4 - 10 mm² [12 - 8 AWG]	
PSRP-24-120-3	0.2 - 4 mm² [24 - 12 AWG]	0.2 - 10 mm² [24 - 8 AWG]
PSRP-24-240-3	0.2 - 10 mm² [24 - 8 AWG]	0.2 - 10 mm² [24 - 8 AWG]
PSRP-24-480-3	0.2 - 10 mm² [24 - 8 AWG]	0.2 - 10 mm² [24 - 8 AWG]
PSRP-24-960-3	0.75 - 16 mm² [18 - 6 AWG]	0.2 - 10 mm² [24 - 8 AWG]

* For other types of wire please see the insert.