



PSRP Series Switching Power Supplies

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

PSRP Series Switching Power Supplies Selection Chart					
Part Number	Price	Output Voltage	Output Current	Output Power	Drawing Link
Single-Phase					
<u>PSRP-12-120</u>	\$205.00	12-15 VDC	10A	120W	<u>PDF</u>
<u>PSRP-24-120</u>	\$156.00	24-28 VDC	5A	120W	<u>PDF</u>
<u>PSRP-24-240</u>	\$209.00		10A	240W	<u>PDF</u>
<u>PSRP-24-480</u>	\$305.00		20A	480W	<u>PDF</u>
Three-Phase					
<u>PSRP-24-120-3</u>	\$173.00	24-28 VDC	5A	120W	<u>PDF</u>
<u>PSRP-24-240-3</u>	\$194.00		10A	240W	<u>PDF</u>
<u>PSRP-24-480-3</u>	\$352.00		20A	480W	<u>PDF</u>
<u>PSRP-24-960-3</u>	\$478.00		40A	960W	<u>PDF</u>



PSRP Series Switching Power Supplies

PSRP Series Switching Power Supplies 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>				2.6 A @ 100VAC/VDC 1.1 A @ 240VAC/VDC	7A	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) 0.30 A @ (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	

PSRP Series Switching Power Supplies 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	



PSRP Series Switching Power Supplies

PSRP Series Switching Power Supplies 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	
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 mm ² [16 - 12 AWG]	0.75 - 4 mm ² [18 - 12 AWG]
PSRP-24-120	0.75 - 4 mm ² [18 - 12 AWG]	
PSRP-24-240	1.5 - 10 mm ² [16 - 8 AWG]	
PSRP-24-480	4 - 10 mm ² [12 - 8 AWG]	
PSRP-24-120-3	0.2 - 4 mm ² [24 - 12 AWG]	0.2 - 10 mm ² [24 - 8 AWG]
PSRP-24-240-3	0.2 - 10 mm ² [24 - 8 AWG]	0.2 - 10 mm ² [24 - 8 AWG]
PSRP-24-480-3	0.2 - 10 mm ² [24 - 8 AWG]	0.2 - 10 mm ² [24 - 8 AWG]
PSRP-24-960-3	0.75 - 16 mm ² [18 - 6 AWG]	0.2 - 10 mm ² [24 - 8 AWG]

* For other types of wire please see the insert.