

# RHINO PSB Series DIN Rail Power Supplies

## Single-Phase Input

AutomationDirect's RHINO PSB series of DIN Rail power supplies is perfect for applications that require a basic DC voltage power supply. These low cost power supplies offer high performance and reliability without all the additional features of higher cost full-featured power supplies. The following models in the RHINO PSB series are available with universal single-phase input and with output voltages of 12 and 24VDC from 15 to 480 Watts. The rugged plastic and aluminum housings easily install with integral 35mm DIN-rail mounting adapters. These high-quality power supplies include overload, overvoltage and thermal protection, and are UL 508 listed, UL 60950 recognized, UL 62368 recognized, CSA certified, CE marked and RoHS compliant.

## Features

- Universal input voltage, 120/240 VAC or 120–375 VDC single phase
- 24VDC or 12VDC outputs, 15 to 480 Watts
- Adjustable output voltage
- Rugged plastic or aluminum housings with integral 35mm DIN-rail mounting adapters
- Output voltage status LED
- Robust fixed-screw terminal strips with finger-safe covers
- Overload, overvoltage and thermal protection
- UL 508 listed, UL 60950 recognized, UL 62368 recognized CSA certified, CE marked and RoHS compliant
- Three year warranty



**PSB Single-Phase Series Input Specifications**

Part Number	Price	Weight kg [lb]	Housing	Input Voltage	Input Frequency Range	Max. Input Current	Inrush Current Limitation I <sub>2t</sub> @ 77°F [+25°C] typ.	Leakage Current	Recommended Circuit Breaker	Hold-Up Time at Nominal Load (Typ.) (Mains Buffering)	Turn-on Time	
<a href="#"><u>PSB12-030-P</u></a>	Retired	0.197 [0.43]	Plastic	85–264 VAC [DC input range 120–375 VDC]; Nominal 100–240 VAC	47–63 Hz (0Hz @ DC Input)	<0.7 A @ 115VAC, <0.42 A @ 230VAC	<40A @ 115VAC, <80A @ 230VAC	<1mA	8A “C” or 13A “B” Curve	>22ms @ 115VAC, >110ms @ 30VAC	<2.5 s	
<a href="#"><u>PSB12-060</u></a>	\$43.50	0.325 [0.72]	Aluminum			<1.35 A @ 115VAC <0.8 A @ 230VAC	<50A @ 115VAC, <100A @ 230VAC		10A “C” or 20A “B” Curve			
<a href="#"><u>PSB12-100</u></a>	Retired	0.636 [1.40]	Aluminum			<2.5 A @ 115VAC <1.5 A @ 230VAC	<100A @ 115VAC, no damage @ 230VAC		8A “C” or 20A “B” Curve	<600ms		
<a href="#"><u>PSB24-060</u></a>	Retired	0.37 [0.82]	Aluminum			<1.1 A @ 115VAC <0.7 A @ 230VAC	<40A @ 115VAC, <80A @ 230VAC	<1.25 mA	13A “C” or 20A “B” Curve		>20ms @ 15VAC, >125ms @ 30VAC	<3s
<a href="#"><u>PSB24-060-P</u></a>	\$32.00	0.325 [0.72]	Plastic			<1.1 A @ 115VAC <0.7 A @ 230VAC	<40A @ 115VAC, <80A @ 230VAC		>35ms @ 115VAC, >70ms @ 230VAC	<1s		
<a href="#"><u>PSB24-120</u></a>	\$75.00	0.54 [1.19]	Aluminum			<1.4 A @ 115VAC <0.8 A @ 230VAC	<80A @ 115VAC, <150A @ 230VAC					
<a href="#"><u>PSB24-240-1</u></a>	\$124.00	1.04 [2.29]	Aluminum			<2.9 A @ 115VAC <1.5 A @ 230VAC	<40A @ 115VAC, <100A @ 230VAC		>20ms @ 115VAC & 230VAC	<1s		
<a href="#"><u>PSB24-480</u></a>	\$201.00	1.8 [3.97]	Aluminum			<5.7 A @ 115VAC <2.8 A @ 230VAC	<50A @ 115VAC, <150A @ 230VAC				10A “C” or 13 “A” Curve	

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PSB Single-Phase Series Output Specifications									
Part Number	Output Voltage [Vnom] / Adjustment Range	Output Power	Output Current	Ripple and Noise [20MHz]	Startup with Capacitive Loads	Derating	Max Power Dissipation Idling / Nominal Load Approx. [Typ @115VAC]	Efficiency [Typ @ 115VAC]	MTBF
<a href="#"><u>PSB12-015-P</u></a>	12VDC $\pm 2\%$ /11–14VDC [maximum power <15W]	15W	1.25 A	<100mV	Max 5,000 $\mu$ F	>50°C derate power by 2.5%/°C >70°C derate power by 4%/°C	3.2 W	84%	>300,000 hrs.
<a href="#"><u>PSB12-030-P</u></a>	12VDC $\pm 2\%$ /11–14VDC [maximum power <30W]	30W	2.5 A		Max 6,600 $\mu$ F		5.6 W	85%	
<a href="#"><u>PSB12-060</u></a>	12VDC $\pm 2\%$ /11–14VDC [maximum power <60W]	60W	5A		Max 8,000 $\mu$ F		10.2 W	86%	
<a href="#"><u>PSB12-100</u></a>	12VDC $\pm 2\%$ /11–14VDC [maximum power <100W]	100W	8.33 A		Max 10,000 $\mu$ F		16.3 W	85.5%	
<a href="#"><u>PSB24-060</u></a>	24VDC $\pm 2\%$ /22–28VDC [maximum power <60W]	60W	2.5 A	<240mVpp	Max 8,000 $\mu$ F	>50°C derate power by 2.5%/°C <0°C derate power by 1%/°C	10W	86%	>800,000 hrs.
<a href="#"><u>PSB24-060-P</u></a>	24VDC $\pm 2\%$ /22–28VDC [maximum power <60W]	60W	2.5 A						
<a href="#"><u>PSB24-120</u></a>	24VDC $\pm 2\%$ /22–28VDC [maximum power <120W]	120W	5A		Max 10,000 $\mu$ F	>50°C derate power by 2.5%/°C >70°C derate power by 4%/°C.	22.5 W	86%	>300,000 hrs.
<a href="#"><u>PSB24-240-1</u></a>	24VDC $\pm 2\%$ /24–28VDC [maximum power <240W]	240W	10A						
<a href="#"><u>PSB24-480</u></a>	24VDC $\pm 2\%$ /22–28VDC [maximum power <480W]	480W	20A						

PSB Single-Phase Series General Specifications	
Output Line Regulation	<0.5% typical @ 85–264 VAC input, 100% load
Output Load Regulation	<1% typical @ 85–264 VAC input, 0-100% load
Parallel Operation	<a href="#"><u>PSB60-REM20S</u></a> , <a href="#"><u>PSB60-REM40S</u></a> or O-ring Diode
Case Cover	Aluminum [Al5052] or Plastic [PC] for P Series
Signals	Green LED DC OK
Humidity at 25°C [77°F], no condensation	<95% RH
Shock	30g half sign, 3 times per direction, 6 directions, per IEC60068-2-27
Vibration (Non-Operating)	10 to 150Hz, 5g, 90 min. each axis per IEC60068-2-6
Pollution Degree	2
Climatic Class	3K3 according to EN 60721

PSB Single-Phase Series Certification and Standards	
Electrical Equipment of Machines	IEC60204-1 [over voltage category III]
Electronic Equipment for use in Electrical Power Installations	EN 50178 replayced by EN 62477-1 / IEC62103
Safety Entry Low Voltage	PELV [EN 60204], SELV [EN 60950]
Electrical Safety (of information technology equipment)	UL/cUL recognized to UL 60950-1 File no. E198298, CB scheme to IEC60950-1 UL/c-UL recognized to UL62368-1 File no. E508040,
Industrial Control Equipment	UL listed to UL 508 File no. E197592, CSA to CSA C22.2 No.107.1-01 File no. 249074
Protection Against Electric Shock	DIN 57100-410
CE	In conformance with EMC directive 2014/30/EU and low voltage directive 2014/35/EU

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PSB Single-Phase Series Safety and Protection	
<b>Transient surge voltage protection</b>	VARISTOR
<b>Overload/Short Circuit Protection</b>	<150% rated load current, hiccup mode with automatic recovery
<b>Overvoltage Protection</b>	35VDC max.
<b>Isolation Voltage:</b> <b>Input/output (type test/routine test)</b> <b>Input/GND (type test/routine test)</b> <b>Output/GND (type test/routine test)</b>	4 kVAC / 3 kVAC 1.5 kVAC / 1.5 kVAC 1.5 kVAC / 500VAC
<b>Protection Degree</b>	IP20
<b>Safety Class</b>	Class I with GND connection

PSB Series Additional Information					
Part Number	Wire Size / Torque*		Ambient Operating Temperature**	Storage Temperature	Drawing Link
	Input	Output			
<a href="#"><u>PSB12-015-P</u></a>	0.52–2.1 mm <sup>2</sup> [AWG 20–14] / 0.79 Nm [7.0 lb-in]		-20 to 50°C [-4 to 122°F]	-25 to 85°C [-13 to 185°F]	<a href="#">PDF</a>
<a href="#"><u>PSB12-030-P</u></a>					<a href="#">PDF</a>
<a href="#"><u>PSB12-060</u></a>	0.52–2.1 mm <sup>2</sup> [AWG 20–14] / 0.78–0.98 Nm [6.94–8.68 lb-in]	<a href="#">PDF</a>			
<a href="#"><u>PSB12-100</u></a>	0.82–2.1 mm <sup>2</sup> [AWG 18–14] / 0.78–0.98 Nm [6.94–8.68 lb-in]	<a href="#">PDF</a>			
<a href="#"><u>PSB24-060</u></a>	0.52–2.1 mm <sup>2</sup> [AWG 20–14] / 0.78–0.98 Nm [6.94–8.68 lb-in]		-20 to 75°C [-4 to 167°F]	-25 to 85°C [-13 to 185°F]	<a href="#">PDF</a>
<a href="#"><u>PSB24-060-P</u></a>	0.52–5.3 mm <sup>2</sup> [AWG 20–10] / 0.45 Nm [3.96 lb-in]				<a href="#">PDF</a>
<a href="#"><u>PSB24-120</u></a>	0.52–2.1 mm <sup>2</sup> [AWG 20–14] / 0.78–0.98 Nm [6.94–8.68 lb-in]				<a href="#">PDF</a>
<a href="#"><u>PSB24-240-1</u></a>	0.82–2.1 mm <sup>2</sup> [AWG 18-14] 0.78–0.98Nm [6.94–8.68lb-in]				<a href="#">PDF</a>
<a href="#"><u>PSB24-480</u></a>	1.3–2.1 mm <sup>2</sup> [AWG 16–14] / 1.18–1.57 Nm [10.41–13.89 lb-in]	3.3–5.3 mm <sup>2</sup> [AWG 12–10] / 1.18–1.57 Nm [10.41–13.89 lb-in]			<a href="#">PDF</a>

\*Stripping length 7mm [0.28 in] or use suitable lug to crimp

\*\* See output specifications for temperature derating

## [PSB24-240-1](#) Features Power Boost Technology

Power Boost is the reserve power available constantly that allows reliable startup to support sudden and short spike of loads with high inrush current typically, during turn on to remove the need of more expensive higher rated power supply unit. After the output has reached its steady state set value, the power supply can support surge loads with a higher short-term power demand up to 150% of maximum rated load (IO Max), for a maximum duration of 3 seconds.

## PSB Power Supply Accessories

PSB Series Power Supply Accessories		
Part Number	Price	Description
<a href="#"><u>PSB-CVR</u></a>	\$6.00	Universal replacement terminal cover kit for all RHINO PSB series power supplies. Universal kit includes (9) terminal covers to replace all terminal covers on any PSB power supply model

