

# RHINO PSB Series DIN rail Power Supplies

## Three-Phase Input

AutomationDirect's RHINO PSB series of DIN rail three-phase input 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 three-phase input eliminates the need for a separate step down transformer and the output of 24VDC is available from 60 to 960 Watts. The rugged 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, CSA certified, CE marked and RoHS compliant. Units are covered by a 3-year warranty.



PSB Three-Phase Series Input Specifications											
Part No.	Price	Weight	Housing	Input Voltage	Input Frequency Range	Max. Input Current	Inrush Current Limitation $I^2t$ @ 77°F (+25°C) typ.	Leakage Current	Recommended Circuit Breaker	Hold-Up Time at Nominal Load (Typ.) (Mains Buffering)	Turn-on Time
<b>PSB24-060S-3</b>	<--->	0.66 kg [1.46 lb]	Aluminum	320 to 600VAC	47-63 Hz	<1.3 A / Phase @ 400VAC and <0.25 A / Phase @ 500VAC	<30A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 3KVA) <55A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 18KVA)	<3.5 mA	3 x circuit breakers 16A "B" Curve	>20ms @ 3 x 400VAC, >40ms @ 3 x 500VAC	<1000ms @ 100% load (25°C) and typical line input
<b>PSB24-120S-3</b>	<--->	<0.5 A / Phase @ 400VAC and <0.4 A / Phase @ 500VAC				<30A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 3KVA) <60A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 18KVA)					
<b>PSB24-240S-3</b>	<--->	0.89 kg [1.98 lb]				<0.75 A / Phase @ 400VAC and <0.65 A / Phase @ 500VAC	<40A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 3KVA) <60A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 18KVA)				
<b>PSB24-480S-3</b>	<--->	1.35 kg [2.98 lb]				<0.95 A / Phase @ 400VAC and <0.75 A / Phase @ 500VAC	<50A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 3KVA) <70A @ 400VAC & 500VAC @ 25°C (With 3Ph AC source capability up to 18KVA)				
<b>PSB24-960S-3</b>	<--->	2.6 kg [5.73 lb]				1.7 A Max / Phase	<50A @ 500VAC @ 25°C				

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PSB Three-Phase Series Output Specifications									
Part No.	Output Voltage (Vnom) / Adjustment Range	Output Power	Output Current	Ripple and Noise (20 MHz)	Startup with Capacitive Loads	Derating	Max Power Dissipation Idling / Nominal Load Approx.	Efficiency	MTBF
<b>PSB24-060S-3</b>	24-28 VDC (maximum power ≤60W)	60W	2.5 A (60W Max)	<150mVpp at 320VAC to 600VAC input	Max 10,000µF	>50°C de-rate power by 2.5%/°C >70°C de-rate power by 5%/°C	9.8 W	>86% @ 3 x 400VAC & 3 x 500VAC	>500,000 hrs
<b>PSB24-120S-3</b>	24-28 VDC (maximum power ≤120W)	120W	5A (120W Max)				16.5 W	>87% @ 3 x 400VAC, >86% @ 3 x 500VAC	
<b>PSB24-240S-3</b>	24-28 VDC (maximum power ≤240W)	240W	10A (240W Max)				26.7 W	>90% @ 3 x 400VAC & 3 x 500VAC	
<b>PSB24-480S-3</b>	24-28 VDC (maximum power ≤480W)	480W	20A (480W Max)				53W		
<b>PSB24-960S-3</b>	24-28 VDC (maximum power ≤960W)	960W	40A (960W Max)				<240mVpp at 320VAC to 575VAC input		>50°C de-rate power by 2.5%/°C

PSB Three-Phase Series General Specifications	
<b>Output Line Regulation</b>	<0.5% typ. (@ 320 to 600VAC input, 100% load)
<b>Output Load Regulation</b>	<1% typical (with rated input, 0 to 100% load)
<b>Parallel Operation</b>	PSB60-REM20S* / PSB60-REM40S or with ORing Diode
<b>Case Cover</b>	Aluminium (Al5052)
<b>Signals</b>	Green LED DC OK
<b>Humidity at +25°C [77°F], no condensation</b>	<95% RH (non-condensing)
<b>Shock</b>	IEC 60068-2-27
<b>Vibration (Non-operating)</b>	IEC 60068-2-6
<b>Pollution Degree</b>	2
<b>Climatic Class</b>	3K3 according to EN 60721

\* Does not apply to the PSB24-960S-3

PSB Three-Phase Series Certification and Standards	
<b>EMC / Emissions</b>	FCC Title 47, Class B / EN55022, CISPR22, CISPR11, Class B
<b>Immunity</b>	EN61000-4-2, 1995; EN61000-4-4, 1995; EN61000-4-5, 1995; IEC61000-4-12 or IEEE C62.41; EN61000-4-3, 1998; EN61000-4-8; EN61000-4-6, 1996
<b>Approvals</b>	UL/cUL listed to UL508 and CSA C22.2 No. 107.1-01 (file no. E197592), CSA to CSA C22.2 No. 107.1-01 (file no. 249074) UR/cUR recognized to UL60950-1 and CSA C22.2 No. 60950-1 (file no. E198298) CE (EMC and Low Voltage directive)
<b>Voltage Dips</b>	EN61000-4-11

PSB Three-Phase Series Safety and Protection	
<b>Transient Surge Voltage Protection</b>	Varistor
<b>Overload/Short Circuit Protection</b>	> 150% of rated load current, auto recovery (hiccup mode)
<b>Overvoltage Protection</b>	<32V, ±10%, SELV output, non-latching (autorecovery)
<b>Isolation Voltage:</b> Input/output Input/GND Output/GND	4 KVac 1.5 KVac 1.5 KVac
<b>Protection Degree</b>	IP20
<b>Safety Class</b>	Class I with GND connection

# RHINO PSB Series DIN rail Power Supplies

Additional Data					
Part No.	Wire Size / Torque*		Terminal Block Type	Ambient Operating Temperature**	Storage Temperature
	Input	Output			
<b>PSB24-060S-3</b>	0.82–3.3 mm <sup>2</sup> [AWG 18–12] / 0.92 Nm [8.1 lb-in]	0.82–3.3 mm <sup>2</sup> [AWG 18–12] / 0.61 Nm [5.4 lb-in]	Fixed screw terminals	-25°C to +80°C [-13°F to 176°F]	-25°C to +85°C [-13°F to 185°F]
<b>PSB24-120S-3</b>					
<b>PSB24-240S-3</b>	1.3–3.3 mm <sup>2</sup> [AWG 16–12] / 0.61 Nm [5.4 lb-in]				
<b>PSB24-480S-3</b>	0.82–8.4 mm <sup>2</sup> [AWG 18–8] / 0.92 Nm [8.1 lb-in]	3.3–5.3 mm <sup>2</sup> [AWG 12–10] / 0.92 Nm [8.1 lb-in]		-25°C to +65°C [-13°F to 149°F]	
<b>PSB24-960S-3</b>					

\*Stripping length 7 mm (0.28 in) or use suitable lug to crimp

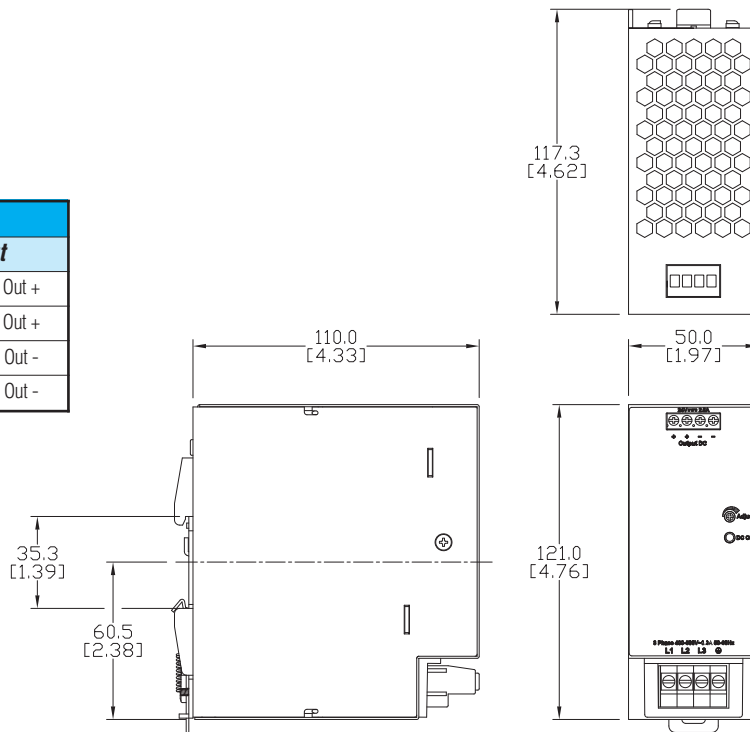
\*\* See output specifications for temperature derating

## Dimensions

mm [inches]

**PSB24-060S-3**  
**PSB24-120S-3**

Wiring Connection			
Input		Output	
L1	Line 1	+	Out +
L2	Line 2	+	Out +
L3	Line 3	-	Out -
⏏	AC Ground	-	Out -



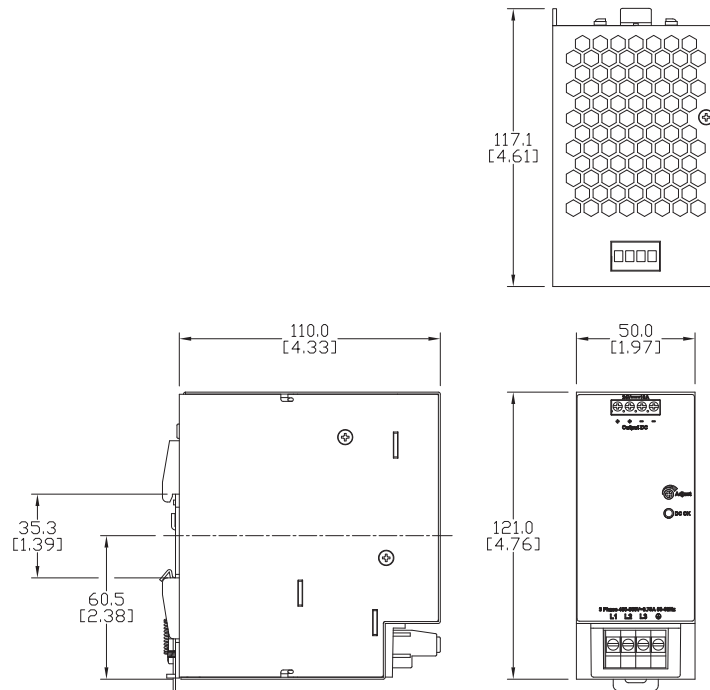
# RHINO PSB Series DIN rail Power Supply Dimensions

## Dimensions

mm [inches]

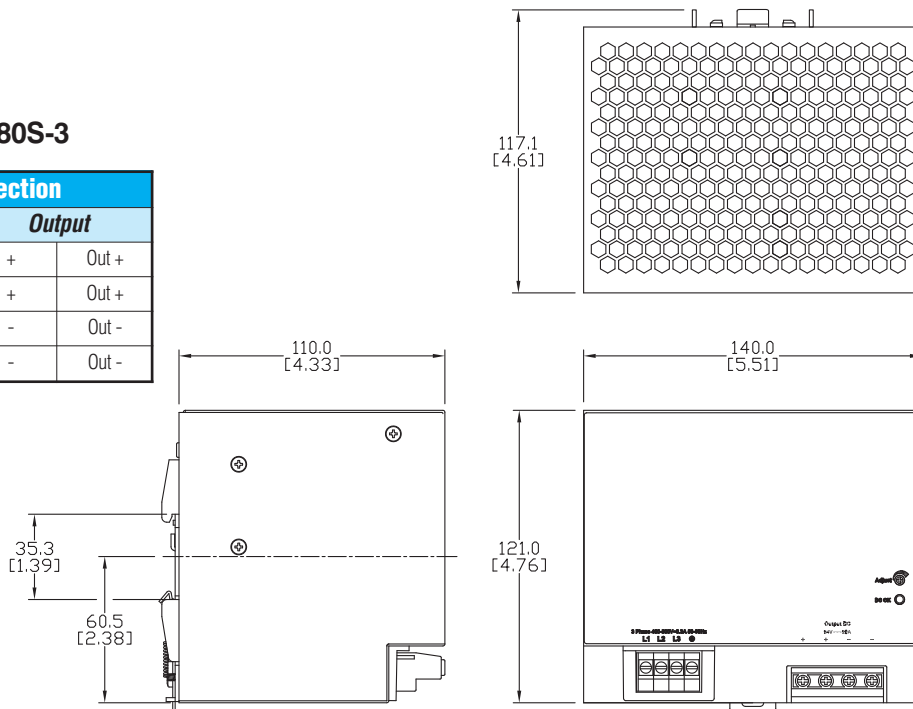
### PSB24-240S-3

Wiring Connection			
Input		Output	
L1	Line 1	+	Out +
L2	Line 2	+	Out +
L3	Line 3	-	Out -
$\perp$	AC Ground	-	Out -



### PSB24-480S-3

Wiring Connection			
Input		Output	
L1	Line 1	+	Out +
L2	Line 2	+	Out +
L3	Line 3	-	Out -
$\perp$	AC Ground	-	Out -



# RHINO PSB Series DIN rail Power Supply Dimensions

## Dimensions

mm [inches]

**PSB24-960S-3**

Wiring Connection			
Input		Output	
L1	Line 1	+	Out +
L2	Line 2	+	Out +
L3	Line 3	-	Out -
⏏	AC Ground	-	Out -

