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 Number	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
PSB24-060S-3	$63.00	0.66 kg [1.46 lb]	Aluminum	Nominal 480VAC UL/CSA approved to 500VAC	47–63 Hz	<0.3 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
PSB24-120S-3	$83.00					<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)				
PSB24-240S-3	$137.00	0.89 kg [1.96 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)				
PSB24-480S-3	$195.00	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)				
PSB24-960S-3	$288.00	2.6 kg [5.73 lb]				1.7 A Max / Phase	<50A @ 500VAC @ 25°C	<3mA @ 575VAC		>20ms @ 3 x 400VAC & 3 x 500VAC	

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PSB Three-Phase Series Output Specifications									
Part Number	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 (Typ 3 @ 400VAC and 500VAC)	MTBF
PSB24-060S-3	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%	>500,000 hrs
PSB24-120S-3	24–28 VDC (maximum power ≤120W)	120W	5A (120W Max)				16.5 W	88%	
PSB24-240S-3	24–28 VDC (maximum power m240W)	240W	10A (240W Max)				26.7 W	92%	>300,000 hrs
PSB24-480S-3	24–28 VDC (maximum power ≤480W)	480W	20A (480W Max)				53W	91%	
PSB24-960S-3	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	94W	92%	

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

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

PSB Three-Phase Series Certification and Standards	
EMC / Emissions	FCC Title 47, Class B / EN55032, CISPR32, CISPR11, Class B
Immunity	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
Approvals	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)
Voltage Dips	EN61000-4-11

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

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Additional Data					
Part Number	Wire Size / Torque*		Terminal Block Type	Ambient Operating Temperature**	Storage Temperature
	Input	Output			
PSB24-060S-3	0.82–3.3 mm² [AWG 18–12] / 0.92 Nm [8.1 lb-in]	0.82–3.3 mm² [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]
PSB24-120S-3					
PSB24-240S-3	0.82–3.3 mm² [AWG 18–12] / 0.92 Nm [8.1 lb-in]	1.3–3.3 mm² [AWG 16–12] / 0.61 Nm (5.4 lb-in)			
PSB24-480S-3	0.82–8.4 mm² [AWG 18–8] / 0.92 Nm [8.1 lb-in]	3.3–5.3 mm² [AWG 12–10] / 0.92 Nm [8.1 lb-in]			
PSB24-960S-3				-25°C to +65°C [-13°F to 149°F]	

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

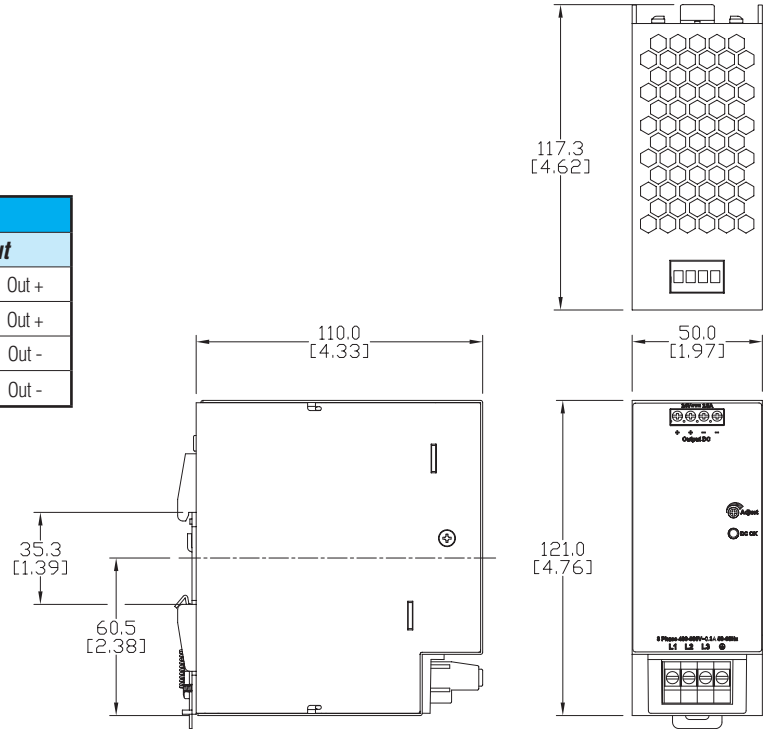
*** See output specifications for temperature derating*

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 -



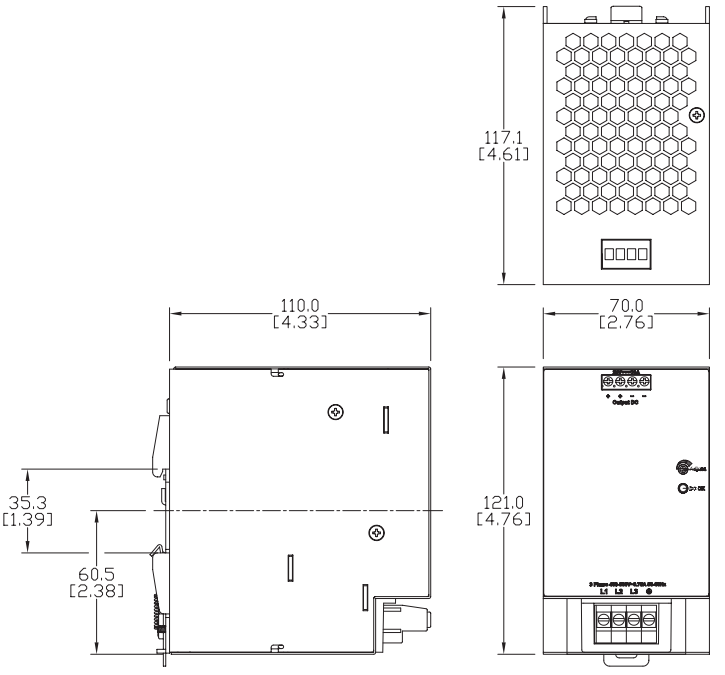
RHINO PSB Series DIN Rail Power Supply Dimensions

Dimensions

mm [inches]

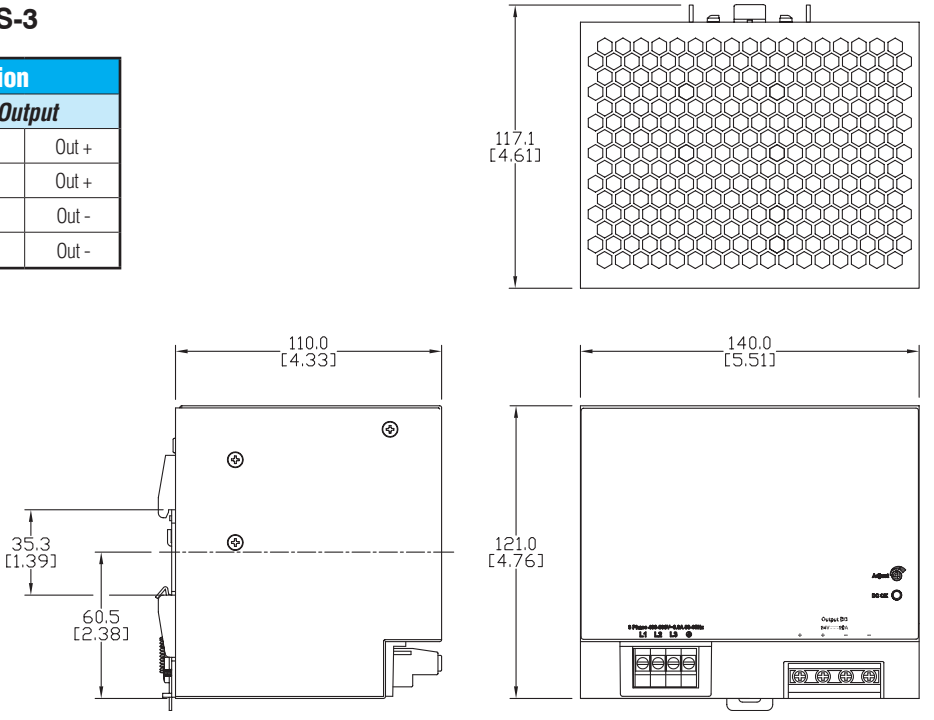
PSB24-240S-3

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



PSB24-480S-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]

PSB24-960S-3

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