

RHINO PSX Series Power Supplies

Ruggedized Power Supplies

AutomationDirect's RHINO PSX series of ruggedized power supplies are Class I, Div. 2 hazardous location rated. There are 2 models available, with 12 and 24VDC output voltages. They feature universal 120/240 VAC input voltage, adjustable DC output, DC-OK LED indication, and output current limitation.

The rugged aluminum housings offer IP67 and NEMA 4X ratings for harsh outdoor environments. These high-quality power supplies are UL 508 listed, UL 60950 recognized, CE marked and RoHS compliant.



Features

- Ruggedized for harsh outdoor environments
- IP67 and NEMA 4X rated (dust, water, ice and oil resistant enclosure)
- Connection via waterproof I/O plug connectors
- Shock & vibration per IEC 60068
- Operating temperature range: -40°C to 85°C
- Universal input 85 to 264 VAC
- Output voltage adjustable
- DC-OK indicator
- Worldwide safety approvals
- Hazardous location Class I, Div 2
- 3-year warranty



PSX Series Specifications					
Part Number	Price	Drawing Link	Output Voltage	Maximum Output Power	Efficiency (Typ @ 115VAC)
<u>PSX-12-100</u>	\$311.00	<u>PDF</u>	12V	96W	82
<u>PSX-24-120</u>	\$289.00	<u>PDF</u>	24V	120W	82

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Technical Specifications		
Part Number	PSX-12-100	PSX-24-120
Input (AC/DC)		
Nominal Input Voltage	100–240 VAC	
Nominal Input Current (115/230VAC)	2.0 A / 1.0 A	2.4 A / 1.2 A
Power Consumption (115/230VAC)	114W/112W typ.	140W/136W typ.
Operational Input Voltage Range	85–264 VAC, 85*–375 VDC [*see derating chart for PSX-24-120]	
Input Voltage Frequency Range	47–63 Hz	
Circuit Breaker Rating / Characteristic	5.0 A/C	
Output (DC)		
Max. Output Power	96W	120W
Output Voltage	12V	24V
Max. Output Current	8.0 A	5.0 A
Output Voltage Adjustment Range	12.0–15.0 V	24.0–28.0 V
Output Regulation	[10–90 % load variation] 2.5 % max.	
Output Power Derating - Temperature	2%/K above 60°C [140°F]	
Hold-up time	20 ms min.	
Ripple and Noise (20MHz bandwidth)	<50 mVp-p max.	
Output Overvoltage Protection (OVP)	<40V	
Short Circuit Protection	Current limitation at 110% typ., automatic restart	
Parallel Operation	Only parallel redundancy is possible, with external decoupling diode. [See diagram on next page.]	
Indicator LED	DC-OK	
General Data		
Weight	1000g [35.3 oz]	
Network Configuration	TN-S, TT, IT	
Enclosure Material (Chassis/Cover)	Die-cast Aluminum	
Cooling	Convection cooling, no internal fan	
Power Connectors	Input Connector:	ADC p/n PSX-CON1 , Binder Circular Connector Series 693: 99-4222-14-04 ADC p/n PSX-CON2 , Binder Circular Connector Series 693: 99-4217-160-07
	Output Connector:	
Wiring	Input: 3 x 18–14AWG (1 x Live, 1 x Neutral, 1 x Protective Earth Ground) Output: 7 x 18–16AWG (3 x +Vout, 3 x -Vout, 1 x Protective Earth Ground)	

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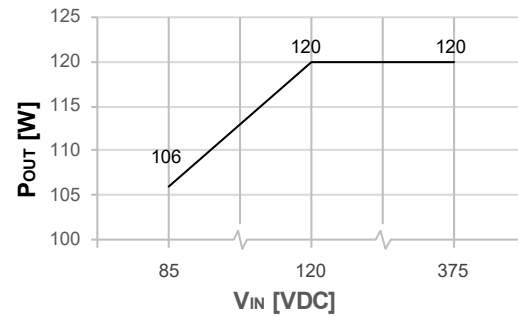
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Technical Specifications (continued)		
Part Number	PSX-12-100	PSX-24-120
Safety / Environmental		
Surrounding Ambient Temperature Range (Natural Air Convection Cooling)	-40 to 85°C [-40 to 185°F] [Observe derating] ATEX: -40 to 70°C [-40 to 158°F] [Observe derating]	
Humidity	Up to 100%, with condensation	
Storage Temperature	-40 to 85°C [-40 to 185°F]	
Maximum Altitude	3000m	
MTBF (acc. to IEC 61709 at 40°C)	> 900,000 hrs	
Protection Class	Class I	
Degree of Protection	IP67 (IEC 60529), NEMA 6P, UL50 4X Test to: Water intrusion, Dust, Icing, Oil exclusion, Salt spray, Gasket aging, Hosedown.	
Safety Standards	Information technology equipment IEC/EN 60950-1 Control equipment for hazardous location UL File No. E197886 (Class I, Division 2, group A, B, C & D, T4) Electrical equip. for potentially explosive atmospheres IEC/EN 60079-15 (Class I, Zone 2, EEx nA IIC T4) Industrial control equipment UL 508, File No. E197592 CSA (Tested to 61010), File No. 229285 Electrical equip. for measurement, control, laboratory IEC/EN 61010-1, C22.2 61010-1-12, UL 61010-1 3rd Electrical equipment for machines EN 60204-3 Electronic equipment for power installation EN 50178 Safety transformers EN 61558-2-8	
Environmental Compliance	Reach, RoHS directive 2011/65/EU	
Electromagnetic compatibility (EMC)		
Emissions	EN 61000-6-3	
Conducted RI Suppression On Input	EN 55032 class B	
Radiated RI Suppression	EN 55032 class B	
Harmonic Limits	EN 61000-3-2, class A	
Immunity	EN 61000-6-2	
Electrostatic Discharge (ESD)	IEC/EN 61000-4-2 8 kV/ 15 kV, perf criteria A	
Radiated RF Field Immunity	IEC/EN 61000-4-3 10 V/m, perf criteria A	
Electrical Fast Transient / Burst Immunity	Input: IEC/EN 61000-4-4 4 kV, perf criteria A Output: IEC/EN 61000-4-4 2 kV, perf criteria A	
Surge Immunity	Line-Neutral: IEC/EN 61000-4-5 4 kV, perf criteria A Line-Ground: IEC/EN 61000-4-5 2 kV, perf criteria A Neutral-Ground: IEC/EN 61000-4-5 4 kV, perf criteria A Output: IEC/EN 61000-4-5 0.5 kV, perf criteria A	
Immunity To Conducted RF Disturbances	IEC/EN 61000-4-6 10 V, perf criteria A	
Mains Voltage Dips And Interruptions	IEC/EN 61000-4-11 30%/10mS, criteria B; 60%/100mS, criteria C	
Environment		
Vibration Acc. IEC 60068-2-6-3	3 axis, 1g sine sweep, 10-55Hz, 1 oct/min	
Shock Acc. IEC 60068-2-27	3 axis, 15g half sine, 11ms	
Safety Approvals and Certifications	<div>CECBIP67cULUS</div> <div>SchemeUL 508</div> <div>SP229285US</div>	

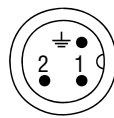
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PSX-24-120 Output Power Derating (with DC Input Voltage)

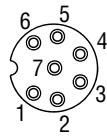


Connector Pinouts	
Input	
1	Input Terminal L
2	Input Terminal N
3	Input Terminal PE (GND)
Output	
1	Output Connection Terminal -
2	Output Connection Terminal -
3	Output Connection Terminal -
4	Output Connection Terminal +
5	Output Connection Terminal +
6	Output Connection Terminal +
7	Case Ground



INPUT

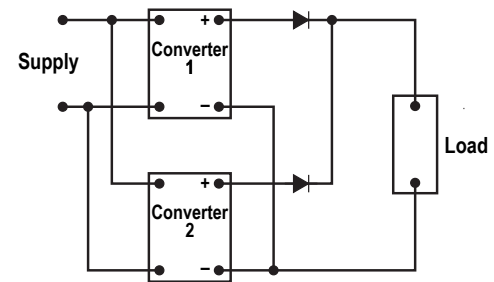
1 L
2 N
≡ PE



OUTPUT

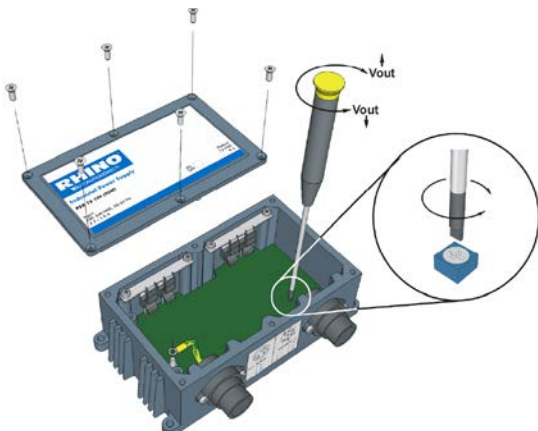
1 - 4 +
2 - 5 +
3 - 6 +
7 case

Parallel Redundancy Wiring



Note:

1. The total current draw should not exceed the rated current of the power supply.
2. O-Ring diode current and voltage rating should be selected accordingly.



Note: The integrity of the seal cannot be guaranteed and warranty is void once the cover has been removed in the field!

To adjust the output voltage, the case cover must be removed. Carefully loosen and remove all six screws, then remove the cover. The output voltage of the unit can be adjusted by turning the potentiometer screw, using an insulated screwdriver. By turning the screw clockwise (cw) the output voltage will increase; by turning the screw counter-clockwise (ccw), the output voltage will decrease. The output voltage level should only be adjusted with the output connected to a load, (similar to the load used in the application). After adjusting the output voltage to the required value, the case must be carefully reassembled. Place the cover over the case and ensure that the rubber-sealing gasket is undamaged and is correctly positioned. Secure the lid with the six screws. Tighten the screws gradually, moving diagonally from one to another. The recommended tightening torque is 0.6 N·m [5.310 lb·in].

Accessories

Part Number	Price	Description
PSX-CON1	\$36.00	AC Input connector: Binder 3-pin female circular plug 99-4222-14-04
PSX-CON2	\$36.00	DC Output connector: Binder 7-pin male circular plug 99-4225-160-07