RHINO POWER SUPPLIES – PSP SERIES

INSTALLATION INSTRUCTIONS PSP Series Industrial Power Supply

PSP Series Industrial Power Supplies Technical Specifications					
Part Number	**AC-Input Voltage Range**	**Output Power Max.**	**Output**	*** Output Voltage Adjustment Range**	**Recommended Circuit Breaker (Characteristic C)**
PSP05-020S	Universal Input 85VAC to 264VAC 50/60 Hz 85 to 375 VDC	20 Watt	5.1VDC / 4.0A	5.0 to 5.25VDC	5A
PSP12-024S		24 Watt	12.0VDC / 2.0A	12.0 to 16.0VDC	
PSP24-024S			24.0VDC / 1.0A	24.0 to 28.0VDC	
PSP24-024C					
PSP12-060S		60 Watt	12.0VDC / 4.0A	12.0 to 15.0VDC	
PSP12-060C					
PSP24-060S			24.0VDC / 2.5A	24.0 to 28.0VDC	
PSP24-060C					
PSP12-120S		120 Watt	12.0VDC / 8.0A	12.0 to 15.0VDC	
PSP12-120C					
PSP24-120S			24.0VDC / 5.0A	24.0 to 28.0VDC	
PSP24-120C					
PSP24-240S	85 VAC to 132 VAC 187 VAC to 264 VAC 50/60 Hz, Auto Selection	240 Watt	24.0VDC / 10.0A	24.0 to 28.0VDC	

Adjustable by potentiometer with a screwdriver.

The PSP series power supplies meet EN 61000-3-2 (PFHC: Power Factor Harmonic Current) Class A)

Input Signals

Input current:	@ Vin=115VAC	@ Vin=230VAC	Power Consumption	@ Vin=115VAC	@ Vin=230VAC
PSPxx-020S	0.7A typ.	0.4A typ.	**PSPxx-020S**	28 Watt typ.	27 Watt typ.
PSPxx-024x	0.7A typ.	0.4A typ.	**PSPxx-024x**	28 Watt typ.	27 Watt typ.
PSPxx-060x	1.4A typ.	0.8A typ.	**PSPxx-060x**	71 Watt typ.	68 Watt typ.
PSPxx-120x	2.4A typ.	1.2A typ.	**PSPxx-120x**	137 Watt typ.	133 Watt typ.
PSP24-240S	4.7A typ.	2.0A typ.	**PSP24-240S**	274 Watt typ.	272 Watt typ.

Output Signals

Output Voltage Nominal	12.0 / 15.0 VDC	24.0 VDC
Output Voltage Threshold (DC is OK)	9.0 to 11.0V	18.0 to 22.0V
DC OK Signal Voltage	11.0 V ± 1.0 V	22.0 V ± 2.0 V
DC OK Signal Current	60 mA	30 mA
Load Characteristic	Resistive or inductive	Resistive or inductive

General Specifications:

Operating Temperature Range **Storage Temperature Range** **Natural Air Convection Cooling**	-10°C to +70°C max , -14°F to +158°F max -25°C to +85°C max (-13°F to +185°F max)
Output Power Derating	Above +50°C ..... 1.7%/K at an input voltage of 187 to 264VAC or 265 to 375VDC Above 122°F..... 1.7%/K at an input voltage of 187 to 264VAC or 265 to 375VDC Above +40°C ..... 1.1%/K at an input voltage of 93 to 132VAC or 130 to 187VDC Above 104°F..... 1.1%/K at an input voltage of 93 to 132VAC or 130 to 187VDC Above +30°C ..... 1.3%/K at an input voltage of 85 to 93VAC or 85 to 130VDC Above 86°F..... 1.3%/K at an input voltage of 85 to 93VAC or 85 to 130VDC
Output Power Derating of PSP24-240S	200 Watt max up to 30°C/above 30°C ..... 1.3w/k and above 60°C 8.63 w/k at an input voltage of 80 to 93 VAC 200 Watt max up to 86°F/above 86°F..... 1.3w/k and above 140°F 8.63 w/k at an input voltage of 80 to 93 VAC Above +40°C ..... 4 w/k at an input voltage of 93 to 132VAC Above 104°F..... 4 w/k at an input voltage of 93 to 132VAC Above 50°C ..... 6 w/k at an input voltage of 187 to 264VAC Above 122°F..... 6 w/k at an input voltage of 187 to 264VAC
Parallel Operation	Up to 5 power supplies possible (standard unit). PSP24-240S cannot be paralleled
Connections	Screw type plug-in connector (standard). Recommended tightening torque 0.5 to 0.7Nm (4.5 to 6.2lb.in). Spring-clamp connector (option C)
Case Material	Grey plastic..... FR2010-110C (PC-ABS V0)

To Install

1. Read and follow Safety and Installation instructions on the back of this page.
2. Hook top of power supply's DIN rail clip on DIN rail
3. Push down tab on top of power supply to open DIN rail clip.
4. Rotate power supply into DIN rail and release tab.
5. Verify the DIN rail clip is securely fastened on DIN rail.
6. Connect wires as indicated on power supply.

Safety Instructions:

- Before installation read these instructions carefully and completely. These installation instructions cannot cover every possible installation, operation or maintenance situation. Further information can be obtained from the product datasheets, which can be downloaded, from the Internet at http://www.automationdirect.com.
- The power supplies are constructed in accordance with the safety requirements of IEC/EN60950-1, UL60950-1 and UL508. They are approved (BG-mark) in accordance with EN60950-1, EN50178, EN61558-2-8, and fulfil the requirements of the Low Voltage Directive (LVD). They are UL and cUL approved by CSA in accordance to UL60950-1 (recognised) and UL508 (listed).
- Before any installation, maintenance or modification work, ensure that the main switch is switched off and prevented from being switched on again. Non-observance, touching of any live components or improper handling of this power supply can result in death, severe personal injury or substantial property damage. Proper and safe operation is dependent on proper storage, handling, installation and operation.
- Compliance with the relevant national regulations (in the USA, Europe and other countries) must be ensured. Before operation is started the following conditions must be ensured:
    - Connection to mains supply in compliance with national regulations (NEC, NEMA, VDE0100 and EN50178).
    - Use of stranded wires, all strands must be fastened in the terminal blocks. (Potential danger of contact with the case)
    - Power supply and mains cables must be sufficiently fused.
    - Degree of protection I to IEC536.The non-fused protective earth connection must be connected to the FG terminal (Protection Class I).
    - All output wires must be rated for the power supply output current and must be connected with the correct polarity.
    - Sufficient cooling must be ensured.
- ***Never work on the power supply if power is connected!*** There is risk of electric arcs and electrical shock, which can cause death, severe personal injury or substantial property damage.
- ***Warning:*** Hazardous voltages and components storing a very substantial amount of energy are present in this power supply during normal operating conditions. However, these are inaccessible. Improper handling may result in an electric shock or serious burns! ***Do not open the power supply until at least 5 minutes after it has been disconnected from the mains on all poles.***
- Only trained personnel may open the power supply.
- Do not introduce any objects into the power supply. The output voltage adjustment potentiometer may only be actuated using an insulated screwdriver.
- Keep away from fire and water

Installation Instructions:

- This power supply is designed for professional indoor systems. In operation the power supply must not be accessible. It may be installed and put into service by qualified personnel only.
- Do not operate without PE connection! To comply with EMC and safety standards (CE mark, approvals) the power supply must be operated only if PE terminal is connected to the non-fused earth conductor.
- The correct mounting position for optimal cooling performance must be observed. ***Do not cover any ventilation holes***. Please allow minimum free space of 80 mm (3.15") above and below, and 50mm (2") on each side of the power supply for air convection. Observe power derating.
- The internal fuse is not accessible, as it may not be replaced by the user. If this internal fuse has blown, the power supply likely has an internal defect and, for safety reasons, must be discarded, or, if under warranty, returned. In case this internal fuse has to be replaced in the field, replace only with same type and rating of fuse for continued protection against risk of fire.
- ***Recycling:*** The unit contains elements that are suitable for recycling, and components that need special disposal. You are therefore requested to make sure that the power supply will be recycled in an environmentally friendly way at the end of its service life.
- ***Warning:*** To minimize the risk of potential safety problems, follow all applicaable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.
    - Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation or operations.
    - If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call us at 770-844-4200.
    - This publication is based on information that was available at the time it was printed. At ***Automationdirect.com®*** we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation. This publication may also discuss features that may not be available in certain revisions of the product.