

# RHINO PSP Series DC to DC Converters

## Overview

Both 25W and 60W DC-DC converters are available in the Rhino PSP DIN rail series. Wide input ranges of 9.5 to 18VDC and 18 to 75VDC allow these models to operate from all popular DC supply voltage systems. With tightly regulated output voltage these DC-DC converters provide a reliable power source for sensitive loads in industrial process controls, factory automation and other equipment exposed to a critical industrial environment. They can be used to isolate a specific load from the 24 volt bus voltage, and offer easy installation with snap-on DIN rail mounting and detachable screw terminal blocks.

## Features

- Ultra-wide input voltage range
- Output voltage adjustable
- Overload and short circuit protection
- Low ripple and noise
- I/O-isolation 1500 VDC
- Compact, slim plastic case
- Reliable snap-on 35mm DIN rail mount
- Wall-mount bracket included
- 3-year warranty



**PSP 25 Watt DC-DC Converters**



**PSP 60 Watt DC-DC Converters**

PSP Series DC-DC Converters								
Part Number	Price	Drawing Link	Input Voltage Range	Input Current Max. @ Vin, [Iout = 0% / 100%]	Output Voltage [Adjustable]	Output Current Max	Output Power	Weight [lbs]
<a href="#">PSP24-DC12-1</a>	\$100.00	<a href="#">PDF</a>	9.5 - 18.0 VDC	80mA / 2.5 A @ 12VDC	24VDC	1A	25W	0.31
<a href="#">PSP05-DC24-5</a>	\$98.00	<a href="#">PDF</a>			5VDC	5A		0.31
<a href="#">PSP12-DC24-2</a>	\$80.00	<a href="#">PDF</a>			12VDC	2A		0.31
<a href="#">PSP24-DC24-1</a>	\$96.00	<a href="#">PDF</a>			24VDC	1A		0.31
<a href="#">PSP12-DC24-5</a>	\$114.00	<a href="#">PDF</a>	18.0 - 75.0 VDC	31mA / 2.9 A @ 24VDC 19mA / 1.4 A @ 48VDC	12VDC	5A	60W	0.59
<a href="#">PSP24-DC24-2</a>	\$117.00	<a href="#">PDF</a>			24VDC	2.5 A		0.59

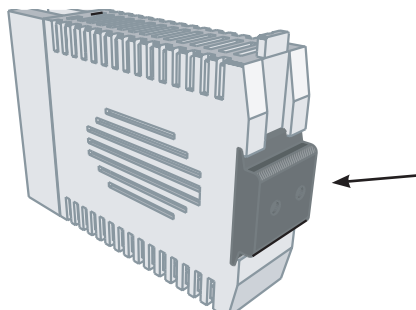
# RHINO PSP Series DC to DC Converters

General Specifications	
<b>Startup Voltage / Undervoltage Shut-down</b>	17.2 VDC / 15.7 VDC [PSP24-DC12-1: 8.4 VDC / 7.6 VDC]
<b>Efficiency (Typical)</b>	86%
<b>Output Voltage Adjustable Range</b>	5VDC model: 5.0 - 5.25 VDC 12VDC models: 12.0 - 15.0 VDC 24VDC models: 24.0 - 28.0 VDC
<b>Overvoltage Protection, Trigger Point</b>	5VDC model: <6.5 V 12VDC models: <24V 24VDC models: <42V
<b>Output Voltage Regulation*</b>	0.5% max
<b>Ripple/Noise (20MHz bandwidth)</b>	<50mV [pk-pk]
<b>Temperature: Operating Storage (non-operating) Derating</b>	-25 to 70°C max [-13 to 158°F max] -25 to 85°C max, [-13 to 185°F max] 1.5%/K above 50°C [122°F] for 25W models, 2%/K above 40°C [104°F] for 60W models
<b>Humidity (Non-condensing)</b>	95 % relative humidity max.
<b>Temperature Coefficient</b>	0.02%/K
<b>Switching Frequency</b>	55 – 180kHz depending on load [frequency modulation]
<b>Isolation Voltage (1 min.) – Input/Output</b>	1500VDC
<b>Safety Standards</b>	IEC 60950-1, EN 60950-1 [output SELV], UL 60950-1, EN 60204, CSA 22.2 60950-1-07, EN50178, UL 508
<b>Electromagnetic Compatibility (EMC)</b>	Emissions: EN 61000-6-3; Immunity: EN 61000-6-2
<b>Parallel Operation</b>	No parallel operation
<b>Safety Class</b>	Degree of protection class 1
<b>Environmental Air</b>	No corrosive gases permitted
<b>Enclosure Rating</b>	IP 20 [IEC 60529]
<b>Enclosure Material</b>	Plastic FR2010-110C [UL 94V-0 rated]
<b>Mounting</b>	DIN rails per EN 50022-35x15/7.5 [snap-on with self-locking spring]; bracket for wall/chassis mount included
<b>Mounting Orientation</b>	Vertical only
<b>Wiring</b>	12-24 AWG [3.16-0.21 mm <sup>2</sup> ]
<b>Connections</b>	Screw type plug-in connector [standard], Recommended tightening torque 0.5-0.7 Nm [4.5-6.2 in-lb]
<b>Short Circuit Protection</b>	Current limited at 110% typical
<b>MTBF (IEC 61709 @ 25°C)</b>	>2.5 million hours
<b>Agency Approvals**</b>	UL/cUL 508 listed, File No. E197592; CSA File 229285; CE; Reach; RoHS

\* Input variation Vin min to Vin max and load variation 0 to 100%

\*\*To obtain the most current agency approval information, see the Agency Approval Checklist section on the specific part number's web page at [www.automationdirect.com](http://www.automationdirect.com)

Note: All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.



The unit can be mounted on a chassis or wall using the included mounting bracket.

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Part Numbers:  
[PSP24-DC12-1](#)  
[PSP05-DC24-5](#)  
[PSP12-DC24-2](#)  
[PSP24-DC24-1](#)

Input		Output	
1	Ground	1	+Vout
2	-Vin	2	-Vout
3	+Vin		



Part Numbers:  
[PSP12-DC24-5](#)  
[PSP24-DC24-2](#)

Input		Output	
1	Ground	1	+Vout
2	-Vin	2	-Vout
3	+Vin	NC	No Connect

