

# RHINO PSL Series Power Supplies

## Specifications

### Low Cost NEC Class 2 Supplies\*

The RHINO PSL series power supplies are plastic low-profile switching supplies available in 5, 12 and 24VDC output models. There are 9 models with power ratings from 7.5W to 91W. They have an integral DIN rail mounting adapter and feature universal 90VAC to 264VAC input voltage, DC-OK LED indication, and output current limitation. Some models feature adjustable DC output.

These are designed to fit in shallow depth control panels often used in the building automation industry. Screw terminals are provided for simple and speedy terminations.

The RHINO PSL series is both UL508 listed for demanding industrial applications and UL60950-1 recognized for NEC Class 2\* compliance in industrial, commercial, and residential applications.



### Features

- Low-profile housing - only 2.15 inches (55mm) deep (MCB form factor)
- 5, 12, 24VDC outputs (adjustable models available in 12 and 24VDC)
- Output power ratings from 7.5 to 91W
- Integral DIN rail mounting adapter
- Universal input voltage range 90-264 VAC, 125-375 VDC
- DC-OK LED indication
- UL508 Listed, File No. E198298
- UL60950-1 Recognized for NEC Class 2 compliance\*
- Protection Class II Double Isolation

Note: \*PSL-12-090 is not NEC Class 2



**PSL-05-010,  
PSL-12-010,  
PSL-24-010**



**PSL-12-030, PSL-24-030**



**PSL-12-060, PSL-24-060**



**PSL-12-090, PSL-24-090**

### PSL Single-Phase Series Input Specifications

| Part Number                 | Price   | Drawing Link        | Input Voltage Range                                         | Input Frequency Range | Input Current Max<br>[ @ 115/230 VAC ] | Inrush Current<br>I2t @ 77°F [ +25°C ] typ<br>[ @ 115/230 VAC ] | Efficiency<br>[Typ @ 115VAC] | Recommended Backup Protection                       | Turn-on Time |
|-----------------------------|---------|---------------------|-------------------------------------------------------------|-----------------------|----------------------------------------|-----------------------------------------------------------------|------------------------------|-----------------------------------------------------|--------------|
| <a href="#">PSL-05-010</a>  | \$32.00 | <a href="#">PDF</a> | 100-240 VAC UL<br>Approved<br><br>90-264 VAC<br>125-375 VDC | 47-63Hz               | 0.3 A / 0.2 A                          | <15A / <30A                                                     | 81%                          | 8A B -or 4A C<br>characteristic circuit<br>breaker  | <3 sec       |
| <a href="#">PSL-12-010</a>  | \$29.00 | <a href="#">PDF</a> |                                                             |                       |                                        |                                                                 | 85%                          |                                                     |              |
| <a href="#">PSL-12-030</a>  | \$38.00 | <a href="#">PDF</a> |                                                             |                       | 0.8 A / 0.6 A                          | <25A / 50A                                                      | 86%                          | 13A B -or 8A C<br>characteristic circuit<br>breaker |              |
| <a href="#">PSL-12-060</a>  | \$52.00 | <a href="#">PDF</a> |                                                             |                       | 1.5 A / 1.0 A                          | <30A / 60A                                                      | 85%                          | 16A B -or 8A C<br>characteristic circuit<br>breaker | <1.5 sec     |
| <a href="#">PSL-12-090</a>  | \$66.00 | <a href="#">PDF</a> |                                                             |                       | 1.5 A / 0.9 A                          | <40A / <80A                                                     | 87%                          |                                                     |              |
| <a href="#">PSL-24-010</a>  | \$32.00 | <a href="#">PDF</a> |                                                             |                       | 0.3 A / 0.2 A                          | <15A / <30A                                                     | 85%                          | 16A B -or 8A C<br>characteristic circuit<br>breaker | <3 sec       |
| <a href="#">PSL-24-030</a>  | \$38.00 | <a href="#">PDF</a> |                                                             |                       | 0.8 A / 0.6 A                          | <25A / <50A                                                     | 88%                          | 13A B -or 8A C<br>characteristic circuit<br>breaker |              |
| <a href="#">PSL-24-060</a>  | \$52.00 | <a href="#">PDF</a> |                                                             |                       | 1.5 A / 1.0 A                          | <30A / <60A                                                     | 82%                          | 16A B -or 8A C<br>characteristic circuit<br>breaker |              |
| <a href="#">PSL-24-090*</a> | \$66.00 | <a href="#">PDF</a> |                                                             |                       | 2.2 A / 1.0 A                          | <30A / <60A                                                     | 82%                          |                                                     |              |

\*PSL-24-090 is UL Listed for 125-250 VDC input.

### Output Specifications

| Part Number                | Output Voltage | Output Voltage Range | Output Current<br>[A] | Output Power [Max]<br>[W] | Min. Hold-Up Time at Nominal Load<br>[ @ 115/230VAC ] |
|----------------------------|----------------|----------------------|-----------------------|---------------------------|-------------------------------------------------------|
| <a href="#">PSL-05-010</a> | 5VDC           | N/A                  | 1.5                   | 7.5                       | 10ms / 30ms                                           |
| <a href="#">PSL-12-010</a> | 12VDC          | N/A                  | 0.83                  | 10                        |                                                       |
| <a href="#">PSL-12-030</a> |                | 11.5-14.5 VDC        | 2.1                   | 25                        | 25ms / 30ms                                           |
| <a href="#">PSL-12-060</a> |                |                      | 4.5                   | 54                        | 16ms / 30ms                                           |
| <a href="#">PSL-12-090</a> |                | 12-14 VDC            | 6.0                   | 72                        | 18ms / 30ms                                           |
| <a href="#">PSL-24-010</a> | 24VDC          | N/A                  | 0.42                  | 10                        | 10ms / 30ms                                           |
| <a href="#">PSL-24-030</a> |                | 24-28 VDC            | 1.25                  | 30                        | 25ms / 30ms                                           |
| <a href="#">PSL-24-060</a> |                |                      | 2.5                   | 60                        | 16ms / 30ms                                           |
| <a href="#">PSL-24-090</a> |                | 22-24 VDC            | 3.8                   | 91.2                      | 10ms / 30ms                                           |

# RHINO PSL Series Power Supplies

## Specifications

| General Specifications                                             |                                                                                                             |
|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>Enclosure Material</b>                                          | Plastic [PC], closed                                                                                        |
| <b>Signals</b>                                                     | Green LED DC OK                                                                                             |
| <b>MTBF</b>                                                        | > 500,000 hrs. as per Telcordia                                                                             |
| <b>Connection method</b>                                           | Screw connection                                                                                            |
| <b>Protection Class II</b>                                         | to IEC/EN 60536                                                                                             |
| <b>Leakage Current</b>                                             | <0.25mA @ 240VAC                                                                                            |
| <b>Startup with capacitive loads</b>                               | Max. 3,000µF                                                                                                |
| <b>Line Regulation</b>                                             | < 1% typ. [ @ 90-264VAC, 100% load]                                                                         |
| <b>Load Regulation</b>                                             | < 2% typ. [ @ 90-264VAC, 100% load]                                                                         |
| <b>Residual ripple/ peak switching (20MHz) (at nominal values)</b> | < 50mVpp / < 150mVpp                                                                                        |
| <b>Operating Temperature (Surrounding air temperature)</b>         | -25 to 71°C [-13 to 160°F] Derate above +55°C [2.5%/°C]                                                     |
| <b>Storage Temperature</b>                                         | -25 to 85°C [-13 to 185°F]                                                                                  |
| <b>Humidity at 25°C, no condensation</b>                           | < 95% RH                                                                                                    |
| <b>Vibration (operating)</b>                                       | IEC60068-2-6, Sine Wave: 10-500Hz @ 19.6m/S² [2G peak]; 10 min per cycle, 60 min for all X, Y, Z directions |
| <b>Shock (operating)</b>                                           | IEC60068-2-27, Half Sine Wave: 4G for a duration of 22ms, 3 shocks for each 3 directions, 9 times in total  |
| <b>Pollution degree</b>                                            | Pollution degree 2                                                                                          |
| <b>Altitude (operating)</b>                                        | 2000m [6562ft] maximum                                                                                      |

| Certification and Standards                                    |                                                                                                                                      |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Safety entry low voltage</b>                                | SELV [EN60950]                                                                                                                       |
| <b>Electrical safety (of information technology equipment)</b> | UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1, CB scheme to IEC60950-1, Limited Power Source [LPS] PSL-12-090 is not LPS |
| <b>Industrial control equipment</b>                            | UL/C-UL listed to UL508 and CSA C22.2 No. 107.1-01; File No. E197592                                                                 |
| <b>Class 2 Power Supply</b>                                    | UL/C-UL recognized to UL60950-1 and CSA C22.2 No. 60950-1; File No. E198298<br>PSL-12-090 is not a Class 2 power supply              |
| <b>CE</b>                                                      | In conformance with EMC directive 2014/30/EC and low voltage directive 2014/35/EC                                                    |
| <b>ITE</b>                                                     | EN55032, EN61000-3-2, EN61000-3-3, EN55024                                                                                           |
| <b>RoHS</b>                                                    | Yes                                                                                                                                  |

| Additional Data                   |                |                                            |
|-----------------------------------|----------------|--------------------------------------------|
| Part Number                       | Weight kg [lb] | Wire Size / Torque*                        |
| <a href="#"><u>PSL-05-010</u></a> | 0.06 [0.13]    | 26-12AWG / 0.8 N·m [7.0 lb-in]             |
| <a href="#"><u>PSL-12-010</u></a> | 0.06 [0.13]    |                                            |
| <a href="#"><u>PSL-12-030</u></a> | 0.14 [0.31]    | 24-12AWG / 0.45 N·m [4.0 lb-in]            |
| <a href="#"><u>PSL-12-060</u></a> | 0.22 [0.49]    | 22-12AWG / 0.45 N·m [4.0 lb-in]            |
| <a href="#"><u>PSL-12-090</u></a> | 0.35 [0.77]    | 20-12AWG / 0.45 N·m [4.0 lb-in]            |
| <a href="#"><u>PSL-24-010</u></a> | 0.06 [0.13]    | 26-12AWG / 0.8 N·m [7.0 lb-in]             |
| <a href="#"><u>PSL-24-030</u></a> | 0.14 [0.31]    | 24-12AWG / 0.45 N·m [4.0 lb-in]            |
| <a href="#"><u>PSL-24-060</u></a> | 0.22 [0.49]    | 22-12AWG / 0.45 N·m [4.0 lb-in]            |
| <a href="#"><u>PSL-24-090</u></a> | 0.35 [0.77]    | 2x24 AWG or 22-12AWG / 0.45N·m [4.0 lb-in] |

\*Stripping length 7mm [0.28 in]