

RSP Series Non-Dimming Power Supplies



The RSP series provides reliable, efficient DC power for a wide range of LED loads. Models are available in 5, 12 or 24V DC with power ratings from 150 – 1,500 Watts and can be linked to provide up to 6,000 Watts (select models only). All models share essential features like universal voltage AC inputs, power factor correction and output voltage adjustment. Select models provide additional features that can include remote turn-on, output current limiting, voltage-drop compensation and more. Additional detailed product information and wiring diagrams can be found in the specification sheet for each model.

Common Features

- Universal AC voltage input, power cables are available for various countries (sold separately).
- Built-in active Power Factor Correction (PFC): PF>0.98 at 115VAC.
- High efficiency, up to 90%.
- Low ripple noise.
- Output voltage adjustment.
- UL recognized, file E183223.
- Rugged metal housing.
- Fits in a standard 1U rack mount (RSP-1500 requires 2U).
- Overload, short-circuit, over-voltage protection and thermal protection.
- Working temperature up to 70°C/158°F (RSP-1000 limit is 60°C/140°F).

RSP-150 Features

- Convection cooling (no fan).
- Remote On/Off control.
- 3-year warranty.

RSP-200 Features

- Convection cooling (no fan).
- 3-year warranty.

RSP-320 Features

- Forced-air cooling with fan.
- 3-year warranty.

RSP-500 Features

- Forced-air cooling with fan.
- Remote On/Off.
- Remote voltage sense, compensates for up to 0.3V drop in the load wiring.
- 3-year warranty.

RSP-750 Features

- Forced-air cooling with fan.
- Remote On/Off.
- Remote voltage sense, compensates for up to 0.5V drop in the load wiring.
- Output voltage programming, set to 40-110% of rated.
- Output current programming, set to 40-110% of rated.
- Auxiliary 12V power (1A current limit).
- DC OK signal to remotely confirm the power supply is operating normally.
- 5-year warranty.

RSP-1000 Features

- Forced-air cooling with fan.
- Active current sharing, connect 4 units in parallel for 4,000W.
- Remote On/Off.
- Remote voltage sense, compensates for up to 0.5V drop in the load wiring.
- Output voltage programming, set to 40-110% of rated.
- Auxiliary 5V power (0.5A current limit).
- DC OK signal to remotely confirm the power supply is operating normally.
- 5-year warranty.

RSP-1500 Features

- Forced-air cooling with fan.
- Active current sharing, connect 4 units in parallel for 6,000W.
- Remote On/Off.
- Remote voltage sense, compensates for up to 0.3V drop in the load wiring.
- Output voltage programming, set to 70-100% of rated.
- Auxiliary 12V power (0.1A current limit).
- DC OK signal to remotely confirm the power supply is operating normally.
- 5-year warranty.

Specifications

| Part No. | RSP-150 | RSP-200 | RSP-320 | RSP-500 | RSP-750 | RSP-1000 | RSP-1500 |
|----------------------------|-------------|-------------|--------------|-------------|---------------|----------|----------------|
| Rated Output Power (Watts) | 150/150/150 | 200/200/200 | 300/320/320 | 450/500/500 | 500/750/750 | 720/960 | 1200/1500/1500 |
| Output Potential (VDC) | 5/12/24 | 5/12/24 | 5/12/24 | 5/12/24 | 5/12/24 | 12/24 | 5/12/24 |
| Output Current (amps) | 30/12.5/6.3 | 40/16.7/8.4 | 60/26.7/13.4 | 90/41.7/21 | 100/62.5/31.3 | 60/40 | 240/125/63 |
| Input Potential (VAC) | 85-264 | 88-264 | 88-264 | 85-264 | 90-264 | 90-264 | 90-264 |
| Input Auto-sensing | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Power Factor Correction | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Output Voltage Adjust | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Voltage Compensation | No | No | No | Yes | Yes | Yes | Yes |
| Remote Control | Yes | No | No | Yes | Yes | Yes | Yes |
| Active Current Sharing | No | No | No | No | No | Yes | Yes |
| Length (in) | 7.8 | 8.5 | 8.5 | 9.1 | 9.8 | 11.6 | 10.9 |
| Width (in) | 3.9 | 4.5 | 4.5 | 5.0 | 5.0 | 5.0 | 5.0 |
| Height (in) | 1.2 | 1.2 | 1.2 | 1.6 | 1.6 | 1.6 | 3.3 |
| Length (mm) | 199 | 215 | 215 | 230 | 250 | 295 | 278 |
| Width (mm) | 99 | 115 | 115 | 127 | 127 | 127 | 127 |
| Height (mm) | 30 | 30 | 30 | 40.5 | 41 | 41 | 83.5 |
| Warranty (years) | 3 | 3 | 3 | 3 | 5 | 5 | 5 |

Mounting and Installation Instructions

WARNING: The drivers specified here must be installed by a qualified electrician in accordance with the National Electrical Code (NEC) and local building codes. Failure to do so voids the warranty and may result in serious injury or permanent damage to the unit.

For connection, use 12-22 AWG copper wires insulated for a minimum of 90°C rated for 600 V. Use wire connectors suitable for the number and size conductors being connected and applied in accordance with the manufacturer's instructions. There must be at least 20 amp supply side branch current. A disconnect device shall be located in the field wiring.

Important Safety Instructions

When using electrical products, basic precautions should be practiced including the following:

1. READ AND FOLLOW ALL SAFETY INSTRUCTIONS.
2. Read and follow all instructions that are on the product or provided with the product.
3. Reference the National Code, ANSI/NFPA 70, specifically for the installation of wiring and clearances from power and lighting conductors.
4. Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
5. **WARNING:** Risk of fire. Installation involves special wiring methods to run wiring through a building structure. Consult a qualified electrician.
6. **WARNING:** Risk of electric shock. Mount the unit higher than 1 foot from the ground surface.

Troubleshooting

Wiring should be done by qualified people only. “Qualified” means, among other things, knowing what safety precautions to take to avoid injury. If you experience issues, double check all wiring and make sure your connections are secure. This goes for both the power supply and the load. If possible, substitute a known good power supply or LED load. This will help identify any defective parts in the unlikely event that you received one. Call Environmental Lights if you are still having trouble and need assistance.

SAVE THESE INSTRUCTIONS-This manual contains important safety and operating instructions for power units.

Wiring RSP Power Supplies

All RSP power supply models have the same basic connections for AC power input and DC output. These are shown below. Wiring for any additional features is different depending on the specific power supply model. Model specific wiring diagrams can be found in the specification sheets.

| | |
|-----------|-------------------------|
| L | AC Input Line |
| N | AC Input Neutral |
| \perp | AC Input Ground |
| +V | Load Terminal (Anode) |
| -V | Load Terminal (Cathode) |



1. Wire the primary side. Start by ensuring that the power cable is completely unplugged. Connect AC Line voltage (typically black wire) to the “L” terminal. Connect AC Neutral (typically white wire) to the “N” terminal. Connect AC Ground (typically green wire) to the “ \perp ” terminal.
2. Wire the secondary side. Connect the positive load wire(s) to the “V+” terminal(s). Connect the negative or ground side load wire(s) to the “V-” terminal(s). It is not necessary to split the load across all V+ and V- terminals, but it is a good idea if the load will be using a lot of current. Refer to the [voltage drop calculator](#) when selecting the size and number of wires used.
3. Wire secondary functions (optional). Some RSP models have extra functions like remote On/Off or active current sharing. These functions should be connected based on the wiring diagrams found in the specification sheet for that particular model. Links to the specification sheets are below.

| | | | | | | |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|
| RSP-150 | RSP-200 | RSP-320 | RSP-500 | RSP-750 | RSP-1000 | RSP-1500 |
|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|--------------------------|--------------------------|