PS5R Standard Series
Switching Power Supplies

Key features:
• Wide power range: 7.5W-240W
• Universal input:
  7.5W-50W: 85-264V AC/105-370V DC
  100W: 85-132V AC/170-264V AC
  240-370V DC (selectable)
  75W, 120W, 240W: 85-264V AC/110-350V DC
• Overcurrent/overvoltage protection
• Power Factor Correction (75W, 120W, 240W models)
  EN61000-3-3
  EN61000-3-2
• Voltage adjustment +10%
• Spring-up crew terminal, IP20 (finger-safe)
• DIN rail or panel surface mount
• Approvals:
  CE marked
  UL 508 Listed
  c-UL
  TÜV approved
  EMC Directives:
  EN50081-2
  EN50082-2
  EN61000-6-2
  LVD EN60950:2000

Part Numbers

<table>
<thead>
<tr>
<th>Style</th>
<th>Watts</th>
<th>Rated Voltage</th>
<th>Rated Current</th>
<th>Part Number</th>
</tr>
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<tbody>
<tr>
<td>7.5</td>
<td>5V DC</td>
<td>1.5A</td>
<td>PSSR-A05</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12V DC</td>
<td>0.6A</td>
<td>PSSR-A12</td>
<td></td>
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<tr>
<td></td>
<td>24V DC</td>
<td>0.3A</td>
<td>PSSR-A24</td>
<td></td>
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<tr>
<td>15</td>
<td>5V DC</td>
<td>2.5A</td>
<td>PSSR-B05</td>
<td></td>
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<tr>
<td></td>
<td>12V DC</td>
<td>1.2A</td>
<td>PSSR-B12</td>
<td></td>
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<td>24V DC</td>
<td>0.6A</td>
<td>PSSR-B24</td>
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<tr>
<td>30</td>
<td>12V DC</td>
<td>2.5A</td>
<td>PSSR-C12</td>
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<td></td>
<td>24V DC</td>
<td>1.3A</td>
<td>PSSR-C24</td>
<td></td>
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<tr>
<td>50</td>
<td>24V DC</td>
<td>2.1A</td>
<td>PSSR-D24</td>
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</table>

<table>
<thead>
<tr>
<th>Style</th>
<th>Watts</th>
<th>Rated Voltage</th>
<th>Rated Current</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>75</td>
<td>24V DC</td>
<td>3.1A</td>
<td>PSSR-Q24</td>
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<tr>
<td>100</td>
<td>24V DC</td>
<td>4.2A</td>
<td>PSSR-E24</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>24V DC</td>
<td>5A</td>
<td>PSSR-F24</td>
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<tr>
<td>240</td>
<td>24V DC</td>
<td>10A</td>
<td>PSSR-G24</td>
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## Specifications

<table>
<thead>
<tr>
<th>Model</th>
<th>PS5R-A05</th>
<th>PS5R-B05</th>
<th>—</th>
<th>—</th>
<th>—</th>
<th>—</th>
<th>—</th>
<th>PS5R-Q24</th>
<th>PS5R-E24</th>
<th>PS5R-F24</th>
<th>PS5R-G24</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Capacity</strong></td>
<td>7.5W</td>
<td>15W</td>
<td>30W</td>
<td>50W</td>
<td>75W</td>
<td>100W</td>
<td>—</td>
<td>100W</td>
<td>120W</td>
<td>240W</td>
<td>240W</td>
</tr>
<tr>
<td><strong>Input Voltage (single-phase, 2-wire)</strong></td>
<td>100 to 240V AC nominal (85 to 264V AC, 50/60Hz (47 to 63Hz)</td>
<td>110 to 340V DC nominal (105 to 370V DC)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>100 to 240V AC, 50/60Hz</td>
<td>100 to 240V AC, 50/60Hz (jumper selectable)</td>
<td>110 to 340V DC</td>
<td></td>
</tr>
<tr>
<td><strong>Input Current (typical)</strong></td>
<td>0.17A at 100V AC</td>
<td>0.3A at 100V AC</td>
<td>0.68A at 100V AC</td>
<td>1.15A at 100V AC</td>
<td>1.1A at 100V AC</td>
<td>2.5A at 100V AC</td>
<td>1.5A at 200V AC</td>
<td>1.8A at 100V AC</td>
<td>4A at 100V AC</td>
<td>6.3A</td>
<td></td>
</tr>
<tr>
<td><strong>Internal Fuse Rating</strong></td>
<td>2A</td>
<td>2A</td>
<td>3.15A</td>
<td>3.15A</td>
<td>3.15A</td>
<td>4A</td>
<td>4A</td>
<td>4A</td>
<td>6.3A</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inrush Current</strong></td>
<td>50A maximum (at cold start at 200V AC)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>70A maximum (at cold start at 230V AC)</td>
<td>50A maximum (at cold start at 200V AC)</td>
<td>70A maximum (at cold start at 230V AC)</td>
<td></td>
</tr>
<tr>
<td><strong>Leakage Current (at no load)</strong></td>
<td>0.75mA maximum (60Hz, measured in conformance with UL, CSA, VDE)</td>
<td>—</td>
<td>—</td>
<td>—</td>
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</tr>
<tr>
<td><strong>Typical Efficiency</strong></td>
<td>69% at 5V</td>
<td>75% at 12V</td>
<td>79% at 24V</td>
<td>75% at 12V</td>
<td>79% at 24V</td>
<td>83% at 24V</td>
<td>85% at 24V</td>
<td>83% at 24V</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Overvoltage Protection</strong></td>
<td>Outputs turns off at 105% (typical)</td>
<td>—</td>
<td>—</td>
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</tr>
<tr>
<td><strong>Voltage and Current Ratings</strong></td>
<td>5V, 1.5A</td>
<td>12V, 0.6A</td>
<td>24V, 0.3A</td>
<td>12V, 2.5A</td>
<td>24V, 1.3A</td>
<td>24V, 2.1A</td>
<td>24V, 3.1A</td>
<td>24V, 4.2A</td>
<td>24V, 5A</td>
<td>24V, 10A</td>
<td></td>
</tr>
<tr>
<td><strong>Voltage Adjustments</strong></td>
<td>±10% (V.ADJ screw on top)</td>
<td>—</td>
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<tr>
<td><strong>Output Holding Time</strong></td>
<td>20ms minimum (at full rated input and output)</td>
<td>—</td>
<td>—</td>
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<tr>
<td><strong>Rise Time</strong></td>
<td>200ms maximum (at full rated input and output)</td>
<td>150ms max.</td>
<td>—</td>
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<tr>
<td><strong>Line Regulation</strong></td>
<td>0.4% maximum</td>
<td>—</td>
<td>—</td>
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<tr>
<td><strong>Load Regulation</strong></td>
<td>1.5% maximum</td>
<td>—</td>
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<tr>
<td><strong>Fluctuation due to Ambient Temperature Change</strong></td>
<td>0.05% maximum</td>
<td>—</td>
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<tr>
<td><strong>Ripple Voltage</strong></td>
<td>2% peak to peak maximum (including noise)</td>
<td>—</td>
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<tr>
<td><strong>Overload Protection</strong></td>
<td>120% typical (Zener-limiting)</td>
<td>—</td>
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<tr>
<td><strong>Operation Indicator</strong></td>
<td>LED (green)</td>
<td>—</td>
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<tr>
<td><strong>Parallel Operation Allowed</strong></td>
<td>PS5R-A</td>
<td>PS5R-B</td>
<td>PS5R-C</td>
<td>PS5R-D</td>
<td>PS5R-Q</td>
<td>PS5R-E</td>
<td>PS5R-F</td>
<td>PS5R-G</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Dielectric Strength</strong></td>
<td>Between input and output terminals: 3,000V AC, 1 minute</td>
<td>—</td>
<td>—</td>
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</tr>
<tr>
<td><strong>Insulation Resistance</strong></td>
<td>Between input terminals and housing: 2,000V AC, 1 minute</td>
<td>—</td>
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</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>–10°C to +60°C (14°F to 140°F) (see derating curves)</td>
<td>—</td>
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<tr>
<td><strong>Storage Temperature</strong></td>
<td>–30°C to +85°C (-22°F to 185°F)</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
</tr>
<tr>
<td><strong>Operating Humidity</strong></td>
<td>20 to 90% relative humidity (no condensation)</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td><strong>Vibration Resistance</strong></td>
<td>45m/s², 10 to 55Hz, 2 hours on each of 3 axes</td>
<td>10 to 50Hz, 0.75mm p-p, 2 hrs on each of 3 axes</td>
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</tr>
<tr>
<td><strong>Shock Resistance</strong></td>
<td>300m/s² (30G), 3 shocks in each of 6 directions</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Approvals</strong></td>
<td>Conforms to EMC Directives EN50081-2 &amp; EN50082-2. LVD Directive EN60529 — Certified to EN60950. UL508 listed. c-UL, TUV approved. CE marked. EN61000-3-2</td>
<td>—</td>
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<td>—</td>
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</tr>
<tr>
<td><strong>Weight</strong></td>
<td>150g</td>
<td>170g</td>
<td>360g</td>
<td>390g</td>
<td>800g</td>
<td>600g</td>
<td>1200g</td>
<td>2000g</td>
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<tr>
<td><strong>Termination</strong></td>
<td>Spring-up, fingersafe terminals with captive M3.5 screws</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
</tr>
<tr>
<td><strong>IP protection</strong></td>
<td>IP20 (finger safe)</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
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<td>—</td>
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<td>—</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D (mm)</strong></td>
<td>75 x 45 x 70</td>
<td>75 x 45 x 95</td>
<td>75 x 90 x 95</td>
<td>75 x 90 x 95</td>
<td>120 x 85 x 140</td>
<td>75 x 145 x 95</td>
<td>120 x 115 x 140</td>
<td>120 x 200 x 140</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>Dimensions H x W x D (inches)</strong></td>
<td>2.95 x 1.77 x 2.78</td>
<td>2.95 x 1.77 x 3.74</td>
<td>2.95 x 3.54 x 3.74</td>
<td>2.95 x 3.54 x 3.74</td>
<td>4.72 x 3.35 x 5.52</td>
<td>2.95 x 5.71 x 3.74</td>
<td>4.72 x 4.53 x 5.52</td>
<td>4.72 x 7.87 x 5.51</td>
<td>—</td>
<td>—</td>
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</tbody>
</table>

1. For dimensions, see page 151.  
2. For usage instructions, see page 150.  
3. *12.5W for 5VDC model.
Temperature Derating Curves

**PS5R-A/B**

![Graph for PS5R-A/B showing Mounting style B.]

**PS5R-C/D**

![Graph for PS5R-C/D showing Mounting style B.]

**PS5R-E**

![Graph for PS5R-E showing Mounting style B.]

**PS5R-Q**

![Graph for PS5R-Q showing Mounting style B.]

**PS5R-F/G**

![Graph for PS5R-F/G showing Mounting style B.]

Mounting style A

Mounting style B

A Mounting (standard)

B Mounting (Facing Upward)
Accessories

### Part Numbers: PS5R Accessories

<table>
<thead>
<tr>
<th>Appearance</th>
<th>Description</th>
<th>Part Number</th>
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<tbody>
<tr>
<td></td>
<td>DIN rail (1000mm)</td>
<td>BNDN1000</td>
</tr>
<tr>
<td></td>
<td>DIN rail end clip</td>
<td>BNL5</td>
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</table>

### Installation Instructions

#### Time-Saving Spring-up Terminals

The innovative terminals on the PS5R series use a spring-loaded screw. This makes installation as easy as pushing down and turning with a screwdriver. Installation time is cut in half since the screws do not need to be backed out to install wiring. The screws are held captive once installed and are 100% finger-safe. Screw terminals accept bare wire or ring or fork connectors.

1. Insert the wire connector into the slot on the side of the power supply.

2. Using a flat head or Phillips screwdriver, push down and turn the screw.

The wire is now connected, and the screw terminal is fingersafe!

### Front Panel (terminals)

<table>
<thead>
<tr>
<th>Markings</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>V. ADJ</td>
<td>Voltage adjustment</td>
<td>Adjusts within ±10%; turn clockwise to increase output voltage</td>
</tr>
<tr>
<td>DC ON</td>
<td>Operation indicator</td>
<td>Green LED is lit when output voltage is on</td>
</tr>
</tbody>
</table>
| +V, –V   | DC output terminals | +V: Positive output Terminal  
|          |                | –V: Negative output terminal                                                                   |
| Frame ground | Ground terminal          | Ground this terminal to reduce high-frequency currents caused by switching                    |
| L, N     | Input terminals | Accept a wide range of voltages and frequencies (no polarity at DC input)                     |
| NC       | No connection | Do not insert wires here, as this may damage the power supply                                 |

### Overcurrent Protection Characteristics

#### PS5R-A/B

![Graph showing overcurrent protection characteristics for PS5R-A/B](image)

#### PS5R-C/D/E

![Graph showing overcurrent protection characteristics for PS5R-C/D/E](image)

### Parallel Operation

1. Parallel operation only recommended for PS5R-Q24, PS5R-F24, and PS5R-G24.
2. Factory recommended diode ST Microelectronics BYV54V-50, BYV54V-100, BYV54V-200, BYV541V-200 or with equivalent electrical specifications.
3. Using the voltage adjustment make sure out-voltage is the same for all power supplies.
**Power Supplies**

**PS5R Standard Series**

**PS5R-A (7.5W)**

**Dimensions**

**PS5R-B (15W)**

**PS5R-C (30W)**

**PS5R-D (50W)**

**PS5R-Q (75W)**

**PS5R-F (120W)**

**PS5R-E (100W)**

**PS5R-G (240W)**

**Terminal Markings**

- **PS5R-A/B**
- **PS5R-C/D/Q/F/G**
- **PS5R-E**

---

**Dimensions**

- **PS5R-A/B**
  - Dimensions: [Image]
  - M3.5 Terminal Screws

- **PS5R-C/D/Q/F/G**
  - Dimensions: [Image]
  - M3.5 Terminal Screws

- **PS5R-E**
  - Dimensions: [Image]
  - M3.5 Terminal Screws

---

**PS5R-A (7.5W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-B (15W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-C (30W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-D (50W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-Q (75W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-F (120W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-E (100W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

**PS5R-G (240W)**

- Power Supplies
- OI Touchscreens
- PLCs
- Automation Software
- Power Supplies
- Sensors
- Communication
- Barriers

---

**Terminal Markings**

- **PS5R-A/B**
  - [Image]

- **PS5R-C/D/Q/F/G**
  - [Image]

- **PS5R-E**
  - [Image]