6.1 General Purpose and Sensor Power Supplies

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Power Supplies

General-Purpose and Sensor Power Supplies

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Product Selection Guide

Power Supply Series and Features

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<th>Features</th>
<th>PSL Series</th>
<th>PSC Series</th>
<th>PSG Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Universal AC input range 90–264 Vac (125–375 Vdc)</td>
<td>Ultra-compact size</td>
<td>General-purpose 12 Vdc and 24 Vdc output for 1.25 A to 40 A loads</td>
<td></td>
</tr>
<tr>
<td>10 to 100 W power output at 24 Vdc</td>
<td>Full power from –25 to +71 °C operation</td>
<td>Single-phase and three-phase inputs up to 500 Vac</td>
<td></td>
</tr>
<tr>
<td>Operating temperature range from –25 to +71 °C</td>
<td>Universal AC input voltage 100–240 Vac (120–375 Vdc)</td>
<td>150% power surge output</td>
<td></td>
</tr>
<tr>
<td>Output adjustable from 24 to 28 Vdc</td>
<td>Up to 88.0% efficiency at 230 Vac</td>
<td>Redundancy modules</td>
<td></td>
</tr>
<tr>
<td>Support up to 3000 microfarads of load capacitance</td>
<td>Extreme low temperature cold start at –40 °C</td>
<td>Buffer module</td>
<td></td>
</tr>
<tr>
<td>Protection Class 2, double isolation (no earth connection required) resulting in low leakage current</td>
<td>Overvoltage / overcurrent / overtemperature protections</td>
<td>DIN rail mount</td>
<td></td>
</tr>
<tr>
<td>Short-circuit protection using Hicc-up mode, non-latching and auto-recovery</td>
<td>Class 1 Protection (with primary earth connection)</td>
<td>Rugged metal and plastic housing options</td>
<td></td>
</tr>
<tr>
<td>MTBF greater than 500,000 hours ensures uptime and reliability</td>
<td>Protection from overvoltage, short circuit, overcurrent and overtemperature conditions</td>
<td>Hazardous Location Class I, Division 2 rated models</td>
<td></td>
</tr>
<tr>
<td>Protection from overvoltage, short circuit, overcurrent and overtemperature conditions</td>
<td>Plastic housings provide the durability required to withstand harsh environments</td>
<td>NEC Class 2 rated model</td>
<td></td>
</tr>
<tr>
<td>Plastic housings provide the durability required to withstand harsh environments</td>
<td>Finger-safe terminals</td>
<td>Protection from overvoltage, overcurrent and overtemperature conditions</td>
<td></td>
</tr>
<tr>
<td>Finger-safe terminals</td>
<td>LED indicating light for DC OK simplifies troubleshooting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LED indicating light for DC OK simplifies troubleshooting</td>
<td>Redundancy modules keep loads up and running in the event of a device failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Redundancy modules keep loads up and running in the event of a device failure</td>
<td>NEC® Class 2 rated model</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NEC® Class 2 rated model</td>
<td>150% power surge output</td>
<td></td>
<td></td>
</tr>
<tr>
<td>150% power surge output</td>
<td>IP20 Protection degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IP20 Protection degree</td>
<td></td>
<td></td>
<td></td>
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</table>

Technical Data and Specifications

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Page V7-T6-8</th>
<th>Page V7-T6-14</th>
<th>Page V7-T6-30</th>
</tr>
</thead>
</table>

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<table>
<thead>
<tr>
<th>Features</th>
<th>ELC Series</th>
<th>easyRelay Power Series</th>
<th>Sensor Power Supplies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact, low cost 24 Vdc control for loads up to 2 A</td>
<td>Low profile power supplies for 12 Vdc or 24 Vdc applications</td>
<td>27 Vdc supplies for tough sensor applications</td>
<td></td>
</tr>
<tr>
<td>Plastic enclosure can be DIN rail or panel mounted</td>
<td>8 W, 30 W, 60 W or 100 W output power</td>
<td>Rugged housings with integrated junction box for mounting outside of electrical enclosures</td>
<td></td>
</tr>
<tr>
<td>Single-phase (100–240 Vac) input</td>
<td>easyRelay styling provides optimal panel aesthetics</td>
<td>Advanced diagnostic features</td>
<td></td>
</tr>
<tr>
<td>Plastic enclosure can be DIN rail or panel mounted (with optional kit)</td>
<td>CSA Class 1, Division 2 qualified</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Single-phase (100–240 Vac) input</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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- easyRelay Power Series: Page V7-T6-40
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6.1 Power Supplies

General-Purpose and Sensor Power Supplies

PSL Series

Product Description
Eaton’s single-phase Low Profile DIN Rail Power Supply series offers double isolated input with no earth connection required, resulting in low leakage current and a longer lifespan. The PSL series provides a universal input voltage range of 90–264 Vac, and a wide temperature range of –25 °C to +71 °C with greater than 80% efficiency. The low-profile series is certified to safety standard according to IEC/EN/UL 62368-1 Audio/Video, Information and Communication Technology Equipment (ITE) and UL 508 Industrial Control Equipment (ICE). The series is also fully compliant with RoHS Directive 2011/65/EU for environmental protection. NEC Class 2 and Limited Power Source (LPS) approvals are available for this product.

Application Description
The Low Profile is part of the PSL DIN Rail Power Supply series, which is designed for use in compact cabinets for home automations and the food and beverage industry. Applications include communication networks, sensors, PLCs and many other electrical systems.

Features, Benefits and Functions
- Universal input voltage: 90–264 Vac or 125–375 Vdc
- Under 100 W power output at 24 Vdc
- Wide operating temperature range: –25 °C to +71 °C
- MTBF greater than 500,000 hours ensures uptime and reliability
- Protection from overvoltage, short circuit, overcurrent and over-temperature conditions
- Plastic housings provide the durability required to withstand harsh environments
- Finger-safe terminals
- LED indicating light for DC OK simplifies troubleshooting
- Redundancy modules keep loads up and running in the event of a device failure
- NEC Class 2 rated model
- 150% power surge output
- IP20 protection degree
- Protection Class 2, double isolation
- No earth connection required

Standards and Certifications
- UL/cUL 62368
- IEC
- NEC Class 2
- CE marked

Note: The NEC Class 2 model is certified as an NEC Class 2 power source. This means that after a small startup window, the power supply cannot exceed a maximum of 100 W under any circumstances, including overload, short-circuit or internal failure.

It also reduces wiring, labor and additional system components acting as a short-circuit current limiter. The redundancy modules allow for two or more power supplies to be connected together to perform parallel or redundancy operation. Parallel operation or load sharing is when the load is split evenly between two or more power supplies. Redundancy operation is where N (number of power supplies) is required for the load and one additional power supply is connected in the event that one should fail.
Catalog Number Selection

Note: Catalog number selection breakdown shown below is for illustrative purposes only and not to be used to create new catalog number configurations.

PSL Series

Product Selection

<table>
<thead>
<tr>
<th>Power</th>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc, output, single-phase power supplies</td>
<td>10 W, 0.42 A output, plastic housing</td>
<td>PSL10E24RP</td>
</tr>
<tr>
<td>(100–240 Vac nominal input)</td>
<td>30 W, 1.25 A output, plastic housing</td>
<td>PSL30E24RP</td>
</tr>
<tr>
<td></td>
<td>60 W, 2.5 A output, plastic housing</td>
<td>PSL60E24RP</td>
</tr>
<tr>
<td></td>
<td>100 W, 3.8 A output, plastic housing</td>
<td>PSL100E24RP</td>
</tr>
</tbody>
</table>
## 6.1 Power Supplies

### General-Purpose and Sensor Power Supplies

#### Technical Data and Specifications

**PSL Series**

<table>
<thead>
<tr>
<th>Input</th>
<th>PSL10E24RP</th>
<th>PSL30E24RP</th>
<th>PSL60E24RP</th>
<th>PSL100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>100–240 Vac</td>
<td>100–240 Vac</td>
<td>100–240 Vac</td>
<td>100–240 Vac / 125–250 Vdc</td>
</tr>
<tr>
<td>AC input range</td>
<td>90–264 Vac</td>
<td>90–264 Vac</td>
<td>90–264 Vac</td>
<td>90–264 Vac</td>
</tr>
<tr>
<td>DC input range</td>
<td>125–375 Vdc</td>
<td>125–375 Vdc</td>
<td>125–375 Vdc</td>
<td>125–375 Vdc</td>
</tr>
<tr>
<td>Input frequency range</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
</tr>
<tr>
<td>Nominal current</td>
<td>&lt;0.30 A at 115 Vac, &lt;0.20 A at 230 Vac</td>
<td>&lt;0.8 A at 115 Vac, &lt;0.6 A at 230 Vac</td>
<td>&lt;1.5 A at 115 Vac, &lt;1.0 A at 230 Vac</td>
<td>&lt;2.2 A at 115 Vac, &lt;1.0 A at 230 Vac</td>
</tr>
<tr>
<td>Inrush current limitation</td>
<td>&lt;15 A at 115 Vac, &lt;30 A at 230 Vac</td>
<td>&lt;25 A at 115 Vac, &lt;50 A at 230 Vac</td>
<td>&lt;30 A at 115 Vac, &lt;60 A at 230 Vac</td>
<td>&lt;30 A at 115 Vac, &lt;60 A at 230 Vac</td>
</tr>
<tr>
<td>Mains buffering at nominal load</td>
<td>&gt;10 ms at 115 Vac, &gt;30 ms at 230 Vac</td>
<td>&gt;25 ms at 115 Vac, &gt;30 ms at 230 Vac</td>
<td>&gt;16 ms at 115 Vac, &gt;30 ms at 230 Vac</td>
<td>&gt;10 ms at 115 Vac, &gt;30 ms at 230 Vac</td>
</tr>
<tr>
<td>Turn-on time</td>
<td>&lt;3 sec.</td>
<td>&lt;3 sec.</td>
<td>&lt;3 sec.</td>
<td>&lt;1.5 sec. at 115 Vac, &lt;1 sec. at 230 Vac</td>
</tr>
<tr>
<td>Internal fuse</td>
<td>T 1 A / 250 V</td>
<td>T 3.15 A / 250 V</td>
<td>T 3.15 A / 250 V</td>
<td>T 3.15 A / 250 V</td>
</tr>
<tr>
<td>Leakage current</td>
<td>&lt;0.25 mA at 240 Vac</td>
<td>&lt;0.25 mA at 240 Vac</td>
<td>&lt;0.25 mA at 240 Vac</td>
<td>&lt;0.25 mA at 240 Vac</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output</th>
<th>PSL10E24RP</th>
<th>PSL30E24RP</th>
<th>PSL60E24RP</th>
<th>PSL100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>10 W</td>
<td>30 W</td>
<td>60 W</td>
<td>91.2 W</td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
</tr>
<tr>
<td>Nominal current</td>
<td>0.25 A</td>
<td>1.25 A</td>
<td>2.5 A</td>
<td>3.8 A</td>
</tr>
<tr>
<td>Derating</td>
<td>&gt;55 °C (2.5% / °C) in vertical</td>
<td>&gt;55 °C (2.5% / °C) in vertical</td>
<td>&gt;55 °C (2.5% / °C) in vertical</td>
<td>&gt;55 °C (2.5% / °C) in vertical</td>
</tr>
<tr>
<td>Power derating—horizontal mounting</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Startup with capacitive loads</td>
<td>Max. 3,000 μF</td>
<td>Max. 3,000 μF</td>
<td>Max. 3,000 μF</td>
<td>Max. 3,000 μF</td>
</tr>
<tr>
<td>Max. power dissipation idling / nominal load approx.</td>
<td>2 W</td>
<td>3.8 W</td>
<td>8.5 W</td>
<td>12 W</td>
</tr>
<tr>
<td>Efficiency</td>
<td>&gt;80.0% at 115 Vac and 230 Vac</td>
<td>&gt;83.0% at 115 Vac and 230 Vac</td>
<td>&gt;86.0% at 115 Vac and 230 Vac</td>
<td>&gt;85.0% at 115 Vac, &gt;87.0% at 230 Vac</td>
</tr>
<tr>
<td>Residual ripple / peak switching (20 MHz)</td>
<td>&lt;50 mVpp / 150 mVpp</td>
<td>&lt;50 mVpp / 150 mVpp</td>
<td>&lt;50 mVpp / 150 mVpp</td>
<td>&lt;50 mVpp / 150 mVpp</td>
</tr>
<tr>
<td>Parallel operation</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
</tr>
</tbody>
</table>

### Galvanic isolation

| Input / output | 3.0 K Vac | 3.0 K Vac | 3.0 K Vac | 3.0 K Vac |
| Input / ground | N/A | N/A | N/A | N/A |
| Output / ground | N/A | N/A | N/A | N/A |

### General / physical data

| Housing material | Plastic (PC), enclosed | Plastic (PC), enclosed | Plastic (PC), enclosed | Plastic (PC), enclosed |
| Signals | Green LED DC OK | Green LED DC OK | Green LED DC OK | Green LED DC OK |
| MTBF | >500,000 hr | >500,000 hr | >500,000 hr | >500,000 hr |
| Dimensions (length) | 91 mm | 91 mm | 91 mm | 91 mm |
| Dimensions (width) | 18 mm | 53 mm | 71 mm | 89.9 mm |
| Dimensions (height) | 55.6 mm | 55.6 mm | 55.6 mm | 55.6 mm |
| Weight | 0.065 kg | 0.14 kg | 0.24 kg | 0.35 kg |
| Terminals | Finger-safe | Finger-safe | Finger-safe | Finger-safe |
| Wire size | AWG 26-12 | AWG 24-12 | AWG 22-12 | AWG 22-12 (1 piece) AWG 24-12 (2 pieces) |
| Operating temperature | –25 °C to +71 °C | –25 °C to +71 °C | –25 °C to +71 °C | –25 °C to +71 °C |
| Storage temperature | –25 °C to +85 °C | –25 °C to +85 °C | –25 °C to +85 °C | –25 °C to +85 °C |
| Operating humidity | <95% RH | <95% RH | <95% RH | <95% RH |
### General / physical data, continued

<table>
<thead>
<tr>
<th>PSL Series</th>
<th>PSL10E24RP</th>
<th>PSL30E24RP</th>
<th>PSL60E24RP</th>
<th>PSL100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vibration</td>
<td>IEC60068–2–6, Sine wave: 10–500 Hz at 19.6 m/s² (2G peak); 10 min per cycle, 60 min for all X, Y, Z directions</td>
<td>IEC60068–2–6, Sine wave: 10–500 Hz at 19.6 m/s² (2G peak); 10 min per cycle, 60 min for all X, Y, Z directions</td>
<td>IEC60068–2–6, Sine wave: 10–500 Hz at 19.6 m/s² (2G peak); 10 min per cycle, 60 min for all X, Y, Z directions</td>
<td>IEC60068–2–6, Sine wave: 10–500 Hz at 19.6 m/s² (2G peak); 10 min per cycle, 60 min for all X, Y, Z directions</td>
</tr>
<tr>
<td>Shock (operating)</td>
<td>IEC60068–2–27, Half sine wave: 4 G for a duration of 22 ms, 3 shocks for each 3 directions, 9 times in total</td>
<td>IEC60068–2–27, Half sine wave: 4 G for a duration of 22 ms, 3 shocks for each 3 directions, 9 times in total</td>
<td>IEC60068–2–27, Half sine wave: 4 G for a duration of 22 ms, 3 shocks for each 3 directions, 9 times in total</td>
<td>IEC60068–2–27, Half sine wave: 4 G for a duration of 22 ms, 3 shocks for each 3 directions, 9 times in total</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Altitude</td>
<td>2000 m</td>
<td>2000 m</td>
<td>2000 m</td>
<td>2000 m</td>
</tr>
</tbody>
</table>

### Certification and protection

<table>
<thead>
<tr>
<th></th>
<th>PSL10E24RP</th>
<th>PSL30E24RP</th>
<th>PSL60E24RP</th>
<th>PSL100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety entry low voltage</td>
<td>UL 62368-1</td>
<td>UL 62368-1</td>
<td>UL 62368-1</td>
<td>UL 62368-1</td>
</tr>
<tr>
<td>Electrical safety (of information technology equipment)</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
</tr>
<tr>
<td>Industrial control equipment</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
</tr>
<tr>
<td>Class 2 power supply</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
<td>UL/C–UL recognized to UL 62368-1</td>
</tr>
<tr>
<td>CE</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
</tr>
<tr>
<td>Immunity</td>
<td>EN 55024 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
<td>EN 55024 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
<td>EN 55024 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
<td>EN 55024 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
</tr>
<tr>
<td>RoHS compliant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Safety and protection

<table>
<thead>
<tr>
<th></th>
<th>PSL10E24RP</th>
<th>PSL30E24RP</th>
<th>PSL60E24RP</th>
<th>PSL100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current limitation at short-circuits approx.</td>
<td>(I_{\text{surge}} = 150% \text{ of } P_{\text{max}}) typically</td>
<td>(I_{\text{surge}} = 150% \text{ of } P_{\text{max}}) typically</td>
<td>(I_{\text{surge}} = 150% \text{ of } P_{\text{max}}) typically</td>
<td>(I_{\text{surge}} = 150% \text{ of } P_{\text{max}}) typically</td>
</tr>
<tr>
<td>Surge voltage protection against internal surges</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP20</td>
<td>IP20</td>
<td>IP20</td>
<td>IP20</td>
</tr>
<tr>
<td>Safety class</td>
<td>Class II (No primary earth connection is required)</td>
<td>Class II without PE connection</td>
<td>Class II without PE connection</td>
<td>Class II without PE connection</td>
</tr>
</tbody>
</table>
6.1 Power Supplies
General-Purpose and Sensor Power Supplies

Power Derating Curves

Vertical Mounting Position PSL10E24RP

Vertical Mounting Position PSL30E24RP

Vertical Mounting Position PSL60E24RP

Vertical Mounting Position PSL100E24RP

Dimensions
Approximate Dimensions in mm

Note: Dimensions are for reference only.

PSL10E24RP

<table>
<thead>
<tr>
<th>Load (%)</th>
<th>110</th>
<th>100</th>
<th>90</th>
<th>80</th>
<th>70</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
<th>20</th>
<th>10</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-25</td>
<td>-20</td>
<td>-15</td>
<td>-10</td>
<td>-5</td>
<td>0</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>43.0</td>
<td>55.6±0.5</td>
<td>18.0</td>
<td>63.0</td>
<td>91.0</td>
<td>43.0</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
</tr>
</tbody>
</table>

PSL30E24RP

<table>
<thead>
<tr>
<th>Load (%)</th>
<th>110</th>
<th>100</th>
<th>90</th>
<th>80</th>
<th>70</th>
<th>60</th>
<th>50</th>
<th>40</th>
<th>30</th>
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<tr>
<td>0</td>
<td>-25</td>
<td>-20</td>
<td>-15</td>
<td>-10</td>
<td>-5</td>
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<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
<td>25</td>
<td>30</td>
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<tr>
<td>10</td>
<td>43.1</td>
<td>55.6±0.5</td>
<td>62.6</td>
<td>49.0</td>
<td>32.1</td>
<td>43.1</td>
<td>62.6</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
<td>32.1</td>
</tr>
</tbody>
</table>

Note:

- Dimensions are for reference only.
- Dimensions are approximate in mm.
- Load (%) and Ambient Temperature values are shown in the graphs.
Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

**PSL60E24RP**

**PSL100E24RP**
PSC Series

Product Description
The PSC Compact series operates with universal AC input range and offers full power up to 55 °C. The output is adjustable from 24 to 28 volts and can support up to 3000 microfarads of load capacitance. All models in the series are certified according to IEC/EN/UL 62328-1 Audio/Video, Information and Communication Technology Equipment (ITE) and UL 508 Industrial Control Equipment (ICE). The series is also fully compliant with RoHS Directive 2011/65/EU for environmental protection. NEC Class 2 and Limited Power Source (LPS) approvals are available for this product.

Application Description
The ultra-compact and competitively priced Eaton Compact DIN Rail Power Supply series is designed for industrial applications requiring highly reliable power supply within a tight space. Simple to operate with HMI displays and industrial ethernet.

Features, Benefits and Functions
- 30 W, 50 W and 100 W ratings
- Ultra-compact size
- Universal AC input voltage 100–240 Vac (120–375 Vdc)
- Up to 87% efficiency at 230 Vac
- Extreme low temperature cold start at –40 °C
- Overvoltage / overcurrent / over-temperature protections
- Under 100 W power output at 24 Vdc
- Wide operating temperature range: -20 °C to +70 °C
- Storage temperature: -20 °C to +85 °C
- MTBF greater than 350,000 hours ensures uptime and reliability
- Protection from overvoltage, short circuit, overcurrent and over temperature conditions
- Plastic housings provide the durability required to withstand harsh environments
- Finger-safe terminals
- LED indicating light for DC OK simplifies troubleshooting
- Redundancy modules keep loads up and running in the event of a device failure
- NEC Class 2 rated model
- 150% power surge output
- IP20 protection degree
- Earth connection is required
- A green LED indicates output is present

Standards and Certifications
- UL 508
- NEC Class 2
- CE marked
- RoHS compliant

Note
The NEC Class 2 model is certified as an NEC Class 2 power source. This means that after a small startup window, the power supply cannot exceed a maximum of 100 W under any circumstances, including overload, short-circuit or internal failure.
Catalog Number Selection

Note: Catalog number selection breakdown shown below is for illustrative purposes only and not to be used to create new catalog number configurations.

PSC Series

Product Selection

PSC Series

<table>
<thead>
<tr>
<th>Power Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 Vdc output single-phase power supplies (100–240 Vac nominal input)</td>
<td>PSC100E24RP</td>
</tr>
<tr>
<td>30 W, 1.25 A output, plastic housing</td>
<td>PSC30E24RP</td>
</tr>
<tr>
<td>50 W, 2.1 A output, plastic housing</td>
<td>PSC50E24RP</td>
</tr>
<tr>
<td>100 W, 4.0 A output, plastic housing</td>
<td>PSC100E24RP</td>
</tr>
</tbody>
</table>
## Technical Data and Specifications

### PSC Series

<table>
<thead>
<tr>
<th></th>
<th>PSC30E24RP</th>
<th>PSC50E24RP</th>
<th>PSC100E24RP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>100–240 Vac / 50–60 Hz</td>
<td>100–240 Vac / 50–60 Hz</td>
<td>100–240 Vac / 50–60 Hz</td>
</tr>
<tr>
<td>AC input range</td>
<td>85–264 Vac</td>
<td>85–264 Vac</td>
<td>85–264 Vac</td>
</tr>
<tr>
<td>DC input range</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
</tr>
<tr>
<td>Input frequency range</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
</tr>
<tr>
<td>Nominal current</td>
<td>&lt;0.8 A at 115 Vac, &lt;0.4 A at 230 Vac</td>
<td>&lt;1.0 A at 115 Vac, &lt;0.6 A at 230 Vac</td>
<td>&lt;1.2 A at 115 Vac, &lt;0.6 A at 230 Vac</td>
</tr>
<tr>
<td>Inrush current limitation</td>
<td>&lt;35 A at 115 Vac, &lt;35 A at 230 Vac</td>
<td>&lt;35 A at 115 Vac, &lt;35 A at 230 Vac</td>
<td>&lt;35 A at 115 Vac, &lt;35 A at 230 Vac</td>
</tr>
<tr>
<td>Mains buffering at nominal load</td>
<td>20 ms typ. at 115 Vac, 100 ms typ. at 230 Vac</td>
<td>20 ms typ. at 115 Vac, 90 ms typ. at 230 Vac</td>
<td>25 ms typ. at 115 Vac, 50 ms typ. at 230 Vac</td>
</tr>
<tr>
<td>Turn-on time</td>
<td>&lt;3 sec. at 115 Vac, &lt;1.6 sec. at 230 Vac</td>
<td>&lt;3 sec. at 115 Vac, &lt;1.5 sec. at 230 Vac</td>
<td>&lt;3 sec. at 115 Vac, &lt;1.5 sec. at 230 Vac</td>
</tr>
<tr>
<td>Internal fuse</td>
<td>T 3.15 A / 250 V</td>
<td>T 3.15 A / 250 V</td>
<td>T 3.15 A / 250 V</td>
</tr>
<tr>
<td>Leakage current</td>
<td>&lt;1 mA at 240 Vac</td>
<td>&lt;1 mA at 240 Vac</td>
<td>&lt;1 mA at 240 Vac</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>30 W</td>
<td>50 W</td>
<td>91.2 / 96 W</td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
</tr>
<tr>
<td>Adjustment range</td>
<td>24–28 Vdc (Maximum power ≤ 30 W)</td>
<td>24–28 Vdc (Maximum power ≤ 30 W)</td>
<td>22–24 Vdc (Maximum power ≤ 91.2W)</td>
</tr>
<tr>
<td>Nominal current</td>
<td>2.1 A</td>
<td>3.8 A</td>
<td></td>
</tr>
<tr>
<td>Derating</td>
<td>–10 °C to –20 °C (2% / °C), &gt;55 °C (3.33% / °C) in Vertical</td>
<td>–10 °C to –20 °C (2% / °C), &gt;55 °C (3.33% / °C) in Vertical</td>
<td>–10 °C to –20 °C (2% / °C), &gt;55 °C (3.33% / °C) in Vertical</td>
</tr>
<tr>
<td>Power derating–horizontal mounting</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Startup with capacitive loads</td>
<td>Max. 3,000 μF</td>
<td>Max. 3,000 μF</td>
<td>Max. 3,000 μF</td>
</tr>
<tr>
<td>Max. power dissipation idling / nominal load approx.</td>
<td>0.5 W / 4.5 W</td>
<td>0.5 W / 7 W</td>
<td>0.4 W / 10 W</td>
</tr>
<tr>
<td>Efficiency</td>
<td>87.0% typ. at 115 Vac, 88.0% typ. at 230 Vac</td>
<td>86.0% typ. at 115 Vac, 88.0% typ. at 230 Vac</td>
<td>87.0% typ. at 115 Vac, 89.0% typ. at 230 Vac</td>
</tr>
<tr>
<td>Residual ripple/peak switching (20 M Hz)</td>
<td>&lt;75 mVpp</td>
<td>&lt;75 mVpp</td>
<td>&lt;75 mVpp</td>
</tr>
<tr>
<td>Parallel operation</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring Diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring Diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring Diode</td>
</tr>
<tr>
<td><strong>Galvanic isolation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Input/output</td>
<td>3.0K Vac</td>
<td>3.0K Vac</td>
<td>3.0K Vac</td>
</tr>
<tr>
<td>Input/ground</td>
<td>3.0K Vac</td>
<td>3.0K Vac</td>
<td>3.0K Vac</td>
</tr>
<tr>
<td>Output/ground</td>
<td>0.5K Vac</td>
<td>0.5K Vac</td>
<td>0.5K Vac</td>
</tr>
<tr>
<td><strong>General / physical data</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing material</td>
<td>Plastic (PC), enclosed</td>
<td>Plastic (PC), enclosed</td>
<td>Plastic (PC), enclosed</td>
</tr>
<tr>
<td>Signals</td>
<td>Green LED DC OK</td>
<td>Green LED DC OK</td>
<td>Green LED DC OK</td>
</tr>
<tr>
<td>MTBF</td>
<td>&gt;350,000 hr</td>
<td>&gt;350,000 hr</td>
<td>&gt;350,000 hr</td>
</tr>
<tr>
<td>Dimensions (length)</td>
<td>75 mm</td>
<td>75 mm</td>
<td>75 mm</td>
</tr>
<tr>
<td>Dimensions (width)</td>
<td>21 mm</td>
<td>30 mm</td>
<td>45 mm</td>
</tr>
<tr>
<td>Dimensions (height)</td>
<td>89.5 mm</td>
<td>89.5 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.11 kg</td>
<td>0.18 kg</td>
<td>0.32 kg</td>
</tr>
<tr>
<td>Terminals</td>
<td>Finger safe</td>
<td>Finger safe</td>
<td>Finger safe</td>
</tr>
<tr>
<td>Wire size</td>
<td>AWG 22-12 / AWG 20-12</td>
<td>AWG 22-12 / AWG 20-12</td>
<td>AWG 22-12 / AWG 20-12</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–20 °C to +70 °C</td>
<td>–20 °C to +70 °C</td>
<td>–20 °C to +70 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>–40 °C to +85 °C</td>
<td>–40 °C to +85 °C</td>
<td>–40 °C to +85 °C</td>
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<tr>
<td>Operating humidity</td>
<td>5 to 95% RH</td>
<td>5 to 95% RH</td>
<td>5 to 95% RH</td>
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# PSC Series, continued

<table>
<thead>
<tr>
<th></th>
<th>PSC30E24RP</th>
<th>PSC50E24RP</th>
<th>PSC100E24RP</th>
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<tbody>
<tr>
<td><strong>General / physical data, continued</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vibration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>IEC60068–2–6, sine wave: 10 Hz to 500 Hz at 19.6 m/s²; displacement of 0.35 mm, 60 min. per axis for all X, Y, Z directions</td>
<td>IEC60068–2–6, sine wave: 10 Hz to 500 Hz at 19.6 m/s²; displacement of 0.35 mm, 60 min. per axis for all X, Y, Z directions</td>
<td>IEC60068–2–6, sine wave: 10 Hz to 500 Hz at 19.6 m/s²; displacement of 0.35 mm, 60 min. per axis for all X, Y, Z directions</td>
</tr>
<tr>
<td>Non-operating</td>
<td>IEC60068–2–6, Random: 5 Hz to 500 Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions</td>
<td>IEC60068–2–6, Random: 5 Hz to 500 Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions</td>
<td>IEC60068–2–6, Random: 5 Hz to 500 Hz (2.09 Grms); 20 min. per axis for all X, Y, Z directions</td>
</tr>
<tr>
<td><strong>Shock (operating)</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td>IEC60068–2–27, half sine wave: 10 G for a duration of 11 ms, shock for 1 direction (X axis)</td>
<td>IEC60068–2–27, half sine wave: 10 G for a duration of 11 ms, shock for 1 direction (X axis)</td>
<td>IEC60068–2–27, half sine wave: 10 G for a duration of 11 ms, shock for 1 direction (X axis)</td>
</tr>
<tr>
<td>Non-operating</td>
<td>IEC60068–2–27, half sine wave: 50 G for a duration of 11 ms, 3 shocks for each 3 directions</td>
<td>IEC60068–2–27, half sine wave: 50 G for a duration of 11 ms, 3 shocks for each 3 directions</td>
<td>IEC60068–2–27, half sine wave: 50 G for a duration of 11 ms, 3 shocks for each 3 directions</td>
</tr>
<tr>
<td><strong>Pollution degree</strong></td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td><strong>Altitude</strong></td>
<td>2000 m</td>
<td>2000 m</td>
<td>2000 m</td>
</tr>
<tr>
<td><strong>Certification and protection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety entry low voltage</td>
<td>UL 62368-1</td>
<td>UL 62368-1</td>
<td>UL 62368-1</td>
</tr>
<tr>
<td>Electrical safety (of information technology equipment)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Industrial control equipment</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
</tr>
<tr>
<td>Class 2 power supply</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
<td>UL/C–UL listed to UL 508</td>
</tr>
<tr>
<td>CE</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
<td>In conformance with EMC directive 2014/30/EU and low-voltage directive 2014/35/EU</td>
</tr>
<tr>
<td>Immunity</td>
<td>EN 55024, EN 61000–6–1, EN 61000–6–2 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
<td>EN 55024, EN 61000–6–1, EN 61000–6–2 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
<td>EN 55024, EN 61000–6–1, EN 61000–6–2 (EN 61000–4–2, 3, 4, 5, 6, 8, 11)</td>
</tr>
<tr>
<td>RoHS compliant</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Safety and protection</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current limitation at short-circuits approx.</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Surge voltage protection against internal surge voltages</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Protection degree</td>
<td>IP20</td>
<td>IP20</td>
<td>IP20</td>
</tr>
<tr>
<td>Safety class</td>
<td>Class I with primary earth connection</td>
<td>Class I with primary earth connection</td>
<td>Class I with primary earth connection</td>
</tr>
</tbody>
</table>
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

Power Derating Curves

Vertical Mounting Position PSC30E24RP

Vertical Mounting Position PSC50E24RP

Vertical Mounting Position PSC100E24RP

Dimensions

Approximate Dimensions in mm

Note: Dimensions are for reference only.

PSC30E24RP

PSC50E24RP

PSC100E24RP

Ambient Temperature (°C)

Load [%]

Ambient Temperature (°C)

Load [%]

Ambient Temperature (°C)

Load [%]

0
10
20
30
40
50
60
70
80
90
100

-25 -20 -15 -10 -5 0 5 10 15 20 25

Load (%)

Ambient Temperature (°C)

Load [%]

Ambient Temperature (°C)

Load [%]

Ambient Temperature (°C)

Load [%]
Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

**PSC50E24RP**

**PSC100E24RP**
6.1 Power Supplies
General-Purpose and Sensor Power Supplies

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<tr>
<td>PSC Series</td>
<td>V7-T6-10</td>
</tr>
<tr>
<td>PSG Series</td>
<td></td>
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<tr>
<td>Catalog Number Selection</td>
<td>V7-T6-17</td>
</tr>
<tr>
<td>Product Selection</td>
<td>V7-T6-18</td>
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<td>Technical Data and Specifications</td>
<td>V7-T6-19</td>
</tr>
<tr>
<td>Power Derating Curves</td>
<td>V7-T6-27</td>
</tr>
<tr>
<td>Dimensions</td>
<td>V7-T6-30</td>
</tr>
<tr>
<td>ELC Series</td>
<td>V7-T6-36</td>
</tr>
<tr>
<td>easyRelay Power Supply</td>
<td>V7-T6-39</td>
</tr>
<tr>
<td>Sensor Power Supply</td>
<td>V7-T6-43</td>
</tr>
</tbody>
</table>

PSG Series

Product Description

Eaton’s PSG Series of power supplies is designed to be a high-performance, high-quality line of products covering a majority of 12 Vdc and 24 Vdc control applications. With global certifications, a compact size and an impressive operating temperature range, the PSG Series fits a wide variety of applications at a competitive price.

Our expansive 22 model offering is able to provide solutions for most applications with PSG outputs ranging from 12 Vdc at 1.25 A up to 24 Vdc at 40 A, plus redundancy and buffer modules to ensure uptime.

Application Description

The PSG Series is a line of general-purpose power supplies for use in a wide variety of industrial control applications. Applications include communication networks, sensors, PLCs and many other electrical systems. Each model is equipped with the options of a rugged metal or plastic housing, heavy-duty screw or finger-safe terminals and a variety of protection features, making the PSG one of the most versatile industrial power supply lines on the market.

Features, Benefits and Functions

- Universal input voltages: 100–240 Vac for single-phase units, 400–500 Vac for three-phase units
- General-purpose 12 Vdc and 24 Vdc adjustable output
- 150% power surge output
- Wide operating temperature range: –25 °C to +80 °C
- MTBF up to 1,000,000 hours ensures uptime and reliability
- Protection from overvoltage, overcurrent and over-temperature conditions
- Rugged aluminum and plastic housings provide the durability required to stand up to harsh environments
- All-metal DIN rail mounting hardware
- Heavy-duty screw and finger-safe terminals
- LED indicating light for DC OK simplifies troubleshooting
- Conformal coated electronics
- Hazardous Location Class I, Division 2 rated models
- UL/NEC® Class 2 rated model
- Redundancy modules keep loads up and running in the event of a device failure
- Buffer module has the stored power needed to keep loads running through a short duration power failure
- Three-year standard warranty

Standards and Certifications

- cULus listed—UL 508
- CSA listed—CSA 22.2 No. 107.1-01
- Hazardous Location, Class I, Div. 2, Groups A, B, C, D
- IEC
- EN
- NEC Class 2
- UL Class 2
- CE marked
- RoHS compliant

Note: Some models may not carry all certifications listed.
**Catalog Number Selection**

**Note:** Catalog number selection breakdown shown below is for illustrative purposes only and not to be used to create new catalog number configurations.

**PSG Series**

<table>
<thead>
<tr>
<th>PSG Series</th>
<th>PSG = PSG Power Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Output Power</strong></td>
<td></td>
</tr>
<tr>
<td>15 = 15 W</td>
<td>120 = 120 W</td>
</tr>
<tr>
<td>30 = 30 W</td>
<td>240 = 240 W</td>
</tr>
<tr>
<td>60 = 60 W</td>
<td>480 = 480 W</td>
</tr>
<tr>
<td>100 = 100 W</td>
<td>960 = 960 W</td>
</tr>
<tr>
<td><strong>Model</strong></td>
<td></td>
</tr>
<tr>
<td>E = Single-phase</td>
<td></td>
</tr>
<tr>
<td>F = Three-phase</td>
<td></td>
</tr>
<tr>
<td>R = Redundancy module</td>
<td></td>
</tr>
<tr>
<td>B = Buffer module</td>
<td></td>
</tr>
<tr>
<td>N = NEC Class 2</td>
<td></td>
</tr>
</tbody>
</table>

**Housing**

- M = Aluminum
- P = Plastic
- Blank = Aluminum

**Terminals**

- S = Screw
- R = Finger-safe
- Blank = Screw

**Output Voltage**

- 24 = 24 Vdc
- 12 = 12 Vdc
- Blank = 24 Vdc

**Note:** Not all combinations are available. See Pages V7-T6-19-V7-T6-26 for all available combinations.
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**Product Selection**

**PSG Series**

*Screw Type Terminals*—Connections for those that require multiple types of terminations and lug connections.

<table>
<thead>
<tr>
<th>Power Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw Type Terminals</td>
<td></td>
</tr>
<tr>
<td>PSG100E12SM</td>
<td></td>
</tr>
<tr>
<td>12 Vdc output single-phase power supplies (100–240 Vac nominal input)</td>
<td></td>
</tr>
<tr>
<td>15 W 1.25 A output, plastic housing</td>
<td>PSG15E12SP</td>
</tr>
<tr>
<td>30 W 2.5 A output, plastic housings</td>
<td>PSG30E12SP</td>
</tr>
<tr>
<td>60 W 5 A output, aluminum housing</td>
<td>PSG60E12SM</td>
</tr>
<tr>
<td>100 W 8.33 A output, aluminum housing</td>
<td>PSG100E12SM</td>
</tr>
</tbody>
</table>

| PSG60E | |
| 24 Vdc output single-phase power supplies (100–240 Vac nominal input) | |
| 60 W 2.5 A output, aluminum housing | PSG60E |
| 60 W 2.5 A output, plastic housing | PSG60E24SP |
| 120 W 5 A, aluminum housing | PSG120E |
| 240 W 10 A, aluminum housing | PSG240E |
| 480 W 20 A, aluminum housing | PSG480E |

| PSG60E24RM | |
| 24 Vdc output single-phase power supplies (100–240 Vac nominal input) | |
| 60 W 2.5 A output, aluminum housing | PSG60E24RM |
| 120 W 5 A, aluminum housing | PSG120E24RM |
| 240 W 10 A, aluminum housing | PSG240E24RM |
| 480 W 20 A, aluminum housing | PSG480E24RM |
| 60 W 2.5 A output, plastic housing, UL/NEC Class 2 | PSG60N24RP |

| PSG480F24RM | |
| 24 Vdc output, three-phase power supplies (400–500 Vac nominal input) | |
| 60 W 2.5 A, aluminum housing | PSG60F24RM |
| 120 W 5 A, aluminum housing | PSG120F24RM |
| 240 W 10 A, aluminum housing | PSG240F24RM |
| 480 W 20 A, aluminum housing | PSG480F24RM |
| 960 W 40 A, aluminum housing | PSG960F24RM |

| PSG480B24RM | |
| Module power supplies (24 Vdc input) | |
| Buffer module, 480 W 20 A output, aluminum housing | PSG480B24RM |
| Redundancy module, 480 W <20 A output, aluminum housing | PSG480R24RM |
| Redundancy module, 960 W <40 A output, aluminum housing | PSG960R24RM |
### Technical Data and Specifications

**PSG Series**

<table>
<thead>
<tr>
<th>Single-Phase</th>
<th>PSG15E12SP</th>
<th>PSG30E12SP</th>
<th>PSG60E12SP</th>
<th>PSG60E12SM</th>
<th>PSG100E12SM</th>
<th>PSG60E</th>
<th>PSG60E24SP</th>
<th>PSG60E24RM</th>
</tr>
</thead>
</table>

#### Input
- **Nominal voltage**: 100–240 Vac, 100–240 Vac, 100–240 Vac, 100–240 Vac, 100–240 Vac, 100–240 Vac, 100–240 Vac
- **Frequency**: 47–63 Hz, 47–63 Hz, 47–63 Hz, 47–63 Hz, 47–63 Hz, 47–63 Hz, 47–63 Hz
- **Nominal current**: <0.37 A, <0.7 A, <1.35 A, <2.5 A, 1.1 A, <1.10 A, <1.4 A
- **Inrush current limitation**: <30 A, <30 A, <50 A, <100 A, 30 A, <40 A, <20 A
- **Internal fuse**: T3.15 AH / 250 V, T3.15 AH / 250 V, T3.15 AH / 250 V, T3.15 AH / 250 V, T3.15 AH / 250 V, T3.15 AH / 250 V, T3.15 AH / 250 V
- **External fusing**: 4 A or 6 A, 4 A or 6 A, 6 A, 10 A or 16 A, 6 A, 10 A or 16 A, 6 A, 10 A or 16 A

#### Output
- **Power**: 15 W, 30 W, 60 W, 100 W, 60 W, 60 W, 60 W
- **Nominal output voltage**: 12 Vdc ±2%, 12 Vdc ±2%, 12 Vdc ±2%, 12 Vdc ±2%, 12 Vdc ±2%, 12 Vdc ±2%, 12 Vdc ±2%
- **Nominal current**: 1.25 A, 2.5 A, 5 A, 8.33 A, 2.5 A, 2.5 A, 2.5 A
- **Startup with capacitive loads**: Max. 5000 μF, Max. 6600 μF, Max. 8000 μF, Max. 10,000 μF, Max. 8000 μF, Max. 8000 μF, Max. 8000 μF
- **Efficiency**: >84% at 115 Vac, >83% at 230 Vac, >85% at 115 Vac and 230 Vac, >85% at 115 Vac and 230 Vac, >85% at 115 Vac and 230 Vac, >85% at 115 Vac and 230 Vac, >85% at 115 Vac and 230 Vac
- **Current surge**: 1.875 A, 3.75 A, 7.5 A, 12.495 A, 3.75 A, 3.75 A, 3.75 A
- **Current surge time**: 3 s, 3 s, 3 s, 3 s, 3 s, 3 s, 3 s
- **Residual ripple/peak switching (20 MHz)**: <100 mVpp, <100 mVpp, <100 mVpp, <100 mVpp, <100 mVpp, <100 mVpp, <100 mVpp
- **Turn-on time**: <2.5 s, <2.5 s, <2.5 s, <2.5 s, <2.5 s, <2.5 s, <2.5 s
- **Mains buffering at nominal load**: Max. 5000 μF, Max. 6600 μF, Max. 8000 μF, Max. 10,000 μF, Max. 8000 μF, Max. 8000 μF, Max. 8000 μF

#### Galvanic Isolation
- **Input/output**: 4 k Vac, 4 k Vac, 4 k Vac, 4 k Vac, 4 k Vac, 4 k Vac, 4 k Vac
- **Input/ground**: 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac
- **Output/ground**: 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac, 1.5 k Vac

#### General/Physical Data
- **Housing material**: Plastic, Plastic, Aluminum, Aluminum, Plastic, Plastic, Aluminum
- **Signals**: Green LED for DC OK, Green LED for DC OK, Green LED for DC OK, Green LED for DC OK, Green LED for DC OK, Green LED for DC OK, Green LED for DC OK
- **MTBF**: >1,000,000 hr, >1,000,000 hr, >800,000 hr, >800,000 hr, >800,000 hr, >800,000 hr, >1,000,000 hr
- **Dimensions (L)**: 100 mm, 100 mm, 121 mm, 121 mm, 121 mm, 121 mm, 121 mm
- **Dimensions (W)**: 32 mm, 32 mm, 32 mm, 32 mm, 32 mm, 32 mm, 32 mm
- **Dimensions (H)**: 100.6 mm, 100.6 mm, 118.7 mm, 118.7 mm, 120 mm, 120 mm, 125 mm
- **Weight (kg)**: 0.18, 0.2, 0.33, 0.64, 0.37, 0.33, 0.37
- **Terminals**: Screw, Screw, Screw, Screw, Screw, Screw, Finger-safe, removable
- **Wire size**: AWG 22–14, AWG 22–14, AWG 22–14, AWG 22–14, AWG 22–14, AWG 22–14, AWG 22–12
- **Operating temperature**: –20 °C to +75 °C, –20 °C to +75 °C, –20 °C to +75 °C, –20 °C to +75 °C, –20 °C to +75 °C, –20 °C to +75 °C, –20 °C to +80 °C

**Note**: Ratings for single-phase models are at 115 Vac; three-phase models are at 400 Vac.
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**PSG Series, continued**

<table>
<thead>
<tr>
<th>Single-Phase</th>
<th>PSG01E12SP</th>
<th>PSG03E12SP</th>
<th>PSG06E12SM</th>
<th>PSG100E12SM</th>
<th>PSG60E</th>
<th>PSG60E24SP</th>
<th>PSG60E24RM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General/Physical Data, continued</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power derating—vertical mounting</td>
<td>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</td>
<td>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</td>
<td>&gt;50 °C derate power by 2.5% / °C</td>
<td>&gt;50 °C derate power by 2.5% / °C</td>
<td>&gt;30 °C to 70 °C derate power by 1% / °C, &gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</td>
<td>&gt;50 °C derate power by 2.5% / °C</td>
<td></td>
</tr>
<tr>
<td>Power derating—horizontal mounting</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>&gt;50 °C derate power by 2.5% / °C</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
</tr>
<tr>
<td>Vibration</td>
<td>10 to 150 Hz, 0.35 mm acc. 50 m/s², single amplitude (5G max.) for 90 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Climatic class</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
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<tr>
<td><strong>Safety and Protection</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient surge voltage</td>
<td>Varistor</td>
<td>Varistor</td>
<td>Varistor</td>
<td>Varistor</td>
<td>Varistor</td>
<td>Varistor</td>
<td>Varistor</td>
</tr>
<tr>
<td>Surge voltage protection against internal surge</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Safety class</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
</tr>
<tr>
<td>Shock</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
</tr>
</tbody>
</table>
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**PSG Series, continued**

<table>
<thead>
<tr>
<th><strong>Input</strong></th>
<th><strong>Nominal voltage</strong></th>
<th>100–240 Vac</th>
<th>100–240 Vac</th>
<th>100–240 Vac</th>
<th>100–240 Vac</th>
<th>100–240 Vac</th>
<th>100–240 Vac</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DC input range</strong></td>
<td>N/A</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
<td>120–375 Vdc</td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
</tr>
<tr>
<td><strong>Nominal current</strong></td>
<td>&lt;1.5 A at 100 Vac</td>
<td>1.4 A</td>
<td>&lt;2.2 A</td>
<td>2.9 A</td>
<td>&lt;2.5 A</td>
<td>5.7 A</td>
<td>&lt;5 A</td>
</tr>
<tr>
<td><strong>Inrush current limitation</strong></td>
<td>&lt;40 A</td>
<td>&lt;80 A</td>
<td>&lt;35 A</td>
<td>N/A</td>
<td>&lt;35 A</td>
<td>N/A</td>
<td>&lt;35 A</td>
</tr>
<tr>
<td><strong>Internal fuse</strong></td>
<td>T3.15 AH / 250 V</td>
<td>T3.15 AH / 250 V</td>
<td>T4 AH / 250 V</td>
<td>T6.3 AH / 250 V</td>
<td>T6.3 AH / 250 V</td>
<td>F10H / 250 A</td>
<td>T8 AH / 250 V</td>
</tr>
<tr>
<td><strong>External fusing</strong></td>
<td>6 A, 10 A or 16 A</td>
<td>6 A, 10 A or 16 A</td>
<td>6 A, 10 A or 16 A</td>
<td>10 A or 16 A</td>
<td>10 A or 16 A</td>
<td>10 A or 16 A</td>
<td>10 A or 16 A</td>
</tr>
<tr>
<td><strong>Leakage current</strong></td>
<td>&lt;1 mA</td>
<td>&lt;1 mA</td>
<td>&lt;1 mA</td>
<td>&lt;3.5 mA</td>
<td>&lt;1 mA</td>
<td>&lt;1 mA</td>
<td>&lt;3 mA</td>
</tr>
</tbody>
</table>

#### Output

| **Power** | 60 W | 120 W | 120 W | 240 W | 240 W | 480 W | 480 W |
| **Nominal output voltage** | 24 Vdc ±2% | 24 Vdc ±2% | 24 Vdc ±2% | 24 Vdc ±2% | 24 Vdc ±2% | 24 Vdc ±2% | 24 Vdc ±2% |
| **Nominal current** | 2.5 A | 5 A | 5 A | 10 A | 10 A | 20 A | 20 A |
| **Startup with capacitive loads** | Max. 8000 μF | Max. 10,000 μF | Max. 10,000 μF | Max. 10,000 μF | Max. 10,000 μF | Max. 10,000 μF | Max. 10,000 μF |
| **Efficiency** | >84% typ | >84% typ | >90% at 115 Vac | >84% typ | >84% typ | >84% typ | >84% typ |
| **Current surge** | N/A | 7.5 A | 7.5 A | 15 A | 15 A | 30 A | 30 A |
| **Current surge time** | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) | 1 s (at 10 s intervals) |

#### Galvanic Isolation

| **Input/output** | 4 k Vac | 4 k Vac | 4 k Vac | 4 k Vac | 4 k Vac | 4 k Vac | 4 k Vac |
| **Input/ground** | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac |
| **Output/ground** | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac | 1.5 k Vac |

#### General/Physical Data

| **Housing material** | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| **Signals** | Green LED for DC OK | Green LED for DC OK | Green LED for DC OK | Green LED for DC OK | Green LED for DC OK | Green LED for DC OK | Green LED for DC OK |
| **MTBF** | >800,000 hr | >800,000 hr | >800,000 hr | >300,000 hr | >500,000 hr | >300,000 hr | >500,000 hr |
| **Dimensions (L)** | 120.6 mm | 121 mm | 121 mm | 121 mm | 121 mm | 121 mm | 121 mm |
| **Dimensions (W)** | 32 mm | 32 mm | 50 mm | 85 mm | 85 mm | 160 mm | 144 mm |
| **Dimensions (H)** | 119.3 mm | 120 mm | 123.1 mm | 118.5 mm | 124.1 mm | 115 mm | 118.8 mm |
| **Weight (kg)** | 0.33 | 0.54 | 0.72 | 1.04 | 1.1 | 1.8 | 1.37 |
| **Terminals** | Finger-safe, fixed | Screw | Finger-safe, removable | Screw | Finger-safe, removable | Screw | Finger-safe, fixed |
| **Wire size** | AWG 22–10 | AWG 22–14 | AWG 20–12 | AWG 22–14 | AWG 16–12 | AWG 18–14 (input) | AWG 18–12 |
| **Operating temperature** | –20 °C to +85 °C | –20 °C to +85 °C | –20 °C to +85 °C | –20 °C to +85 °C | –20 °C to +85 °C | –20 °C to +85 °C | –20 °C to +85 °C |

#### Note

- Ratings for single-phase models are at 115 Vac; three-phase models are at 480 Vac.

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**Volume 7—Logic Control, Operator Interface and Connectivity Solutions**

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### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**PSG Series, continued**

<table>
<thead>
<tr>
<th>Single-Phase, continued</th>
<th>PSG120E</th>
<th>PSG120E24RM</th>
<th>PSG240E</th>
<th>PSG240E24RM</th>
<th>PSG480E</th>
<th>PSG480E24RM</th>
</tr>
</thead>
</table>

#### General/Physical Data, continued

<table>
<thead>
<tr>
<th>Power derating—vertical mounting</th>
<th>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</th>
<th>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</th>
<th>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</th>
<th>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 4% / °C</th>
<th>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 5% / °C</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Power derating—horizontal mounting</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Operating humidity</th>
<th>&lt;95% RH, noncondensing</th>
<th>&lt;95% RH, noncondensing</th>
<th>&lt;95% RH, noncondensing</th>
<th>&lt;95% RH, noncondensing</th>
<th>&lt;95% RH, noncondensing</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Vibration</th>
<th>10 to 150 Hz, 0.35 mm acc. 50 m/s², single amplitude (50 m/s²) for 90 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</th>
<th>10 to 150 Hz, 0.35 mm acc. 50 m/s², single amplitude (50 m/s²) for 90 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</th>
<th>10 to 150 Hz, 0.35 mm acc. 50 m/s², single amplitude (50 m/s²) for 90 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</th>
<th>10 to 150 Hz, 0.35 mm acc. 50 m/s², single amplitude (50 m/s²) for 90 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</th>
</tr>
</thead>
</table>

#### Pollution degree

| 2 | 2 | 2 | 2 | 2 | 2 |

<table>
<thead>
<tr>
<th>Climatic class</th>
<th>3K3 according to EN 60721</th>
<th>3K3 according to EN 60721</th>
<th>3K3 according to EN 60721</th>
<th>3K3 according to EN 60721</th>
<th>3K3 according to EN 60721</th>
</tr>
</thead>
</table>

#### Safety and Protection

<table>
<thead>
<tr>
<th>Safety class</th>
<th>Class I with ground connection</th>
<th>Class I with ground connection</th>
<th>Class I with ground connection</th>
<th>Class I with ground connection</th>
<th>Class I with ground connection</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Shock</th>
<th>30 G (100 m/s²) in all directions according to IEC 60068-2-27</th>
<th>30 G (100 m/s²) in all directions according to IEC 60068-2-27</th>
<th>30 G (100 m/s²) in all directions according to IEC 60068-2-27</th>
<th>30 G (100 m/s²) in all directions according to IEC 60068-2-27</th>
<th>30 G (100 m/s²) in all directions according to IEC 60068-2-27</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>UL 1310</th>
<th>Class 2</th>
<th>—</th>
<th>—</th>
<th>—</th>
<th>—</th>
</tr>
</thead>
</table>

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*Note: The table continues with similar details for other specifications.*
### PSG Series, continued

#### Three-Phase

<table>
<thead>
<tr>
<th>Model</th>
<th>PSG60F24RM</th>
<th>PSG120F24RM</th>
<th>PSG240F24RM</th>
<th>PSG480F24RM</th>
<th>PSG960F24RM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>3 x 400–500 Vac</td>
<td>3 x 400–500 Vac</td>
<td>3 x 400–500 Vac</td>
<td>3 x 400–500 Vac</td>
<td>3 x 400–500 Vac</td>
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<tr>
<td>AC input range</td>
<td>3 x 320–600 Vac</td>
<td>3 x 320–600 Vac</td>
<td>3 x 320–600 Vac</td>
<td>3 x 320–600 Vac</td>
<td>3 x 320–600 Vac</td>
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<tr>
<td>DC input range</td>
<td>450–800 Vdc</td>
<td>450–800 Vdc</td>
<td>450–800 Vdc</td>
<td>450–800 Vdc</td>
<td>450–800 Vdc</td>
</tr>
<tr>
<td>Frequency</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
</tr>
<tr>
<td>Nominal current</td>
<td>&lt;0.3 A</td>
<td>&lt;0.5 A</td>
<td>&lt;0.75 A</td>
<td>1 A</td>
<td>1.7 A</td>
</tr>
<tr>
<td>Inrush current limitation</td>
<td>&lt;30 A</td>
<td>&lt;30 A</td>
<td>&lt;40 A</td>
<td>&lt;50 A</td>
<td>&lt;40 A</td>
</tr>
<tr>
<td><strong>Internal fuse</strong></td>
<td>T 3.15 AH / 500 V, 600 V</td>
<td>T 3.15 AH / 500 V, 600 V</td>
<td>T 3.15 AH / 500 V, 600 V</td>
<td>T 3.15 AH / 500 V</td>
<td>T 4 AH / 500 V</td>
</tr>
<tr>
<td><strong>External fusing</strong></td>
<td>3 x circuit breakers 6 A, 10 A or 16 A</td>
<td>3 x circuit breakers 6 A, 10 A or 16 A</td>
<td>3 x circuit breakers 6 A, 10 A or 16 A</td>
<td>3 x circuit breakers 6 A, 10 A or 16 A</td>
<td>3 x circuit breakers 10 A or 16 A</td>
</tr>
<tr>
<td>Leakage current</td>
<td>&lt;3.5 mA</td>
<td>&lt;3.5 mA</td>
<td>&lt;3.5 mA</td>
<td>&lt;3.5 mA</td>
<td>&lt;3.5 mA</td>
</tr>
</tbody>
</table>

#### Output

<table>
<thead>
<tr>
<th></th>
<th>PSG60F24RM</th>
<th>PSG120F24RM</th>
<th>PSG240F24RM</th>
<th>PSG480F24RM</th>
<th>PSG960F24RM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Power</strong></td>
<td>60 W</td>
<td>120 W</td>
<td>240 W</td>
<td>480 W</td>
<td>960 W</td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
<td>24 Vdc ±2%</td>
</tr>
<tr>
<td>Nominal current</td>
<td>2.5 A</td>
<td>5 A</td>
<td>10 A</td>
<td>20 A</td>
<td>40 A</td>
</tr>
<tr>
<td>Startup with capacitive loads</td>
<td>Max. 10,000 μF</td>
<td>Max. 10,000 μF</td>
<td>Max. 10,000 μF</td>
<td>Max. 10,000 μF</td>
<td>Max. 10,000 μF</td>
</tr>
<tr>
<td>Efficiency</td>
<td>&gt;88% at 3 x 400 Vac and 3 x 560 Vac</td>
<td>&gt;88% at 3 x 400 Vac and 3 x 560 Vac</td>
<td>&gt;87% at 3 x 400 Vac and 3 x 560 Vac</td>
<td>&gt;91% at 3 x 400 Vac and 3 x 560 Vac</td>
<td>&gt;92% at 3 x 400 Vac and 3 x 560 Vac</td>
</tr>
<tr>
<td>Current surge</td>
<td>3.75 A</td>
<td>7.5 A</td>
<td>15 A</td>
<td>30 A</td>
<td>60 A</td>
</tr>
<tr>
<td>Current surge time</td>
<td>5 s</td>
<td>5 s</td>
<td>5 s</td>
<td>5 s</td>
<td>5 s</td>
</tr>
<tr>
<td>Residual ripple/peak switching (20 MHz)</td>
<td>&lt;50 mVpp</td>
<td>&lt;50 mVpp</td>
<td>&lt;150 mVpp</td>
<td>&lt;150 mVpp</td>
<td>&lt;240 mVpp</td>
</tr>
<tr>
<td>Turn-on time</td>
<td>&lt;1 s</td>
<td>&lt;1 s</td>
<td>&lt;1 s</td>
<td>&lt;1 s</td>
<td>&lt;1.5 s</td>
</tr>
<tr>
<td>Mains buffering at nominal load (typ.)</td>
<td>&gt;20 ms</td>
<td>&gt;20 ms</td>
<td>&gt;20 ms</td>
<td>&gt;20 ms</td>
<td>&gt;20 ms</td>
</tr>
<tr>
<td>Parallel operation</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td>PSG480R24RM / PSG960R24RM / With o-ring diode</td>
<td></td>
</tr>
</tbody>
</table>

#### Galvanic Isolation

<table>
<thead>
<tr>
<th></th>
<th>PSG60F24RM</th>
<th>PSG120F24RM</th>
<th>PSG240F24RM</th>
<th>PSG480F24RM</th>
<th>PSG960F24RM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input/output</td>
<td>4 k Vac</td>
<td>4 k Vac</td>
<td>4 k Vac</td>
<td>4 k Vac</td>
<td>4 k Vac</td>
</tr>
<tr>
<td>Input/ground</td>
<td>2 k Vac</td>
<td>2 k Vac</td>
<td>2 k Vac</td>
<td>2 k Vac</td>
<td>2 k Vac</td>
</tr>
<tr>
<td>Output/ground</td>
<td>1.5 k Vac</td>
<td>1.5 k Vac</td>
<td>1.5 k Vac</td>
<td>1.5 k Vac</td>
<td>1.5 k Vac</td>
</tr>
</tbody>
</table>

#### General/Physical Data

<table>
<thead>
<tr>
<th></th>
<th>Aluminum</th>
<th>Aluminum</th>
<th>Aluminum</th>
<th>Aluminum</th>
<th>Aluminum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing material</td>
<td>Aluminum</td>
<td>Aluminum</td>
<td>Aluminum</td>
<td>Aluminum</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Signals</td>
<td>Green LED for DC OK</td>
<td>Green LED for DC OK</td>
<td>Green LED for DC OK</td>
<td>Green LED for DC OK</td>
<td>Green LED for DC OK</td>
</tr>
<tr>
<td>MTBF</td>
<td>&gt;500,000 hr</td>
<td>&gt;500,000 hr</td>
<td>&gt;300,000 hr</td>
<td>&gt;500,000 hr</td>
<td>&gt;300,000 hr</td>
</tr>
<tr>
<td>Dimensions (L)</td>
<td>121 mm</td>
<td>121 mm</td>
<td>121 mm</td>
<td>121 mm</td>
<td>121 mm</td>
</tr>
<tr>
<td>Dimensions (W)</td>
<td>50 mm</td>
<td>50 mm</td>
<td>70 mm</td>
<td>140 mm</td>
<td>255 mm</td>
</tr>
<tr>
<td>Dimensions (H)</td>
<td>117.3 mm</td>
<td>117.3 mm</td>
<td>117.3 mm</td>
<td>117.3 mm</td>
<td>117.3 mm</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.66</td>
<td>0.66</td>
<td>0.89</td>
<td>1.35</td>
<td>2.6</td>
</tr>
<tr>
<td>Terminals</td>
<td>Finger-safe, fixed</td>
<td>Finger-safe, fixed</td>
<td>Finger-safe, fixed</td>
<td>Finger-safe, fixed</td>
<td>Finger-safe, fixed</td>
</tr>
<tr>
<td>Wire size</td>
<td>AWG 18–12</td>
<td>AWG 18–12</td>
<td>AWG 18–12 (input)</td>
<td>AWG 18–8 (input)</td>
<td>AWG 18–8 (input)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–25 °C to +75 °C</td>
<td>–25 °C to +75 °C</td>
<td>–25 °C to +75 °C</td>
<td>–25 °C to +85 °C</td>
<td>–25 °C to +85 °C</td>
</tr>
</tbody>
</table>

**Notes**

1. PSG is only intended to be run continuously within its nominal voltage range. Short fluctuations in voltage can be tolerated providing they do not rise above the AC input range.
2. Ratings for single-phase models are at 115 Vac; three-phase models are at 408 Vac.
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

<table>
<thead>
<tr>
<th>PSG Series, continued</th>
<th>Three-Phase, continued</th>
<th>General/Physical Data, continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSG600F24RM</td>
<td>PSG1200F24RM</td>
<td>PSG2400F24RM</td>
</tr>
<tr>
<td><strong>Power derating</strong>—vertical mounting</td>
<td>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 5% / °C</td>
<td>&gt;50 °C derate power by 2.5% / °C, &gt;70 °C derate power by 5% / °C</td>
</tr>
<tr>
<td><strong>Power derating</strong>—horizontal mounting</td>
<td>&gt;45 °C derate power by 2.5% / °C, &gt;55 °C derate power by 1.66% / °C, &gt;70 °C derate power by 5% / °C</td>
<td>&gt;40 °C derate power by 2.5% / °C, &gt;60 °C derate power by 5% / °C</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>&lt;95% RH, noncondensing</td>
<td>&lt;95% RH, noncondensing</td>
</tr>
<tr>
<td>Vibration</td>
<td>10 to 500 Hz, 0.35 mm acc. 30 m/s², single amplitude (3 G max.) for 60 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</td>
<td></td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Climatic class</td>
<td>3K3 according to EN 60721</td>
<td>3K3 according to EN 60721</td>
</tr>
<tr>
<td><strong>Safety and Protection</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transient surge voltage</td>
<td>Varistor</td>
<td>Varistor</td>
</tr>
<tr>
<td>Surge voltage protection against internal surge</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Safety class</td>
<td>Class I with ground connection</td>
<td>Class I with ground connection</td>
</tr>
<tr>
<td>Shock</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
</tr>
</tbody>
</table>
### PSG Series, continued

#### Redundancy Modules

<table>
<thead>
<tr>
<th>PSG480R24RM</th>
<th>PSG960R24RM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>24–48 Vdc</td>
</tr>
<tr>
<td>DC input range</td>
<td>22–60 Vdc</td>
</tr>
<tr>
<td>Nominal current</td>
<td>&lt;20 A</td>
</tr>
<tr>
<td>Inrush current limitation</td>
<td>&lt;25 A</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>Vin–0.65 V (typ.)</td>
</tr>
<tr>
<td>Nominal current</td>
<td>&lt;20 A</td>
</tr>
<tr>
<td>Efficiency</td>
<td>&gt;97% typ.</td>
</tr>
<tr>
<td><strong>Galvanic Isolation</strong></td>
<td></td>
</tr>
<tr>
<td>Input/ground</td>
<td>1.5 k Vac</td>
</tr>
<tr>
<td>Output/ground</td>
<td>1.5 k Vac</td>
</tr>
<tr>
<td><strong>General/Physical Data</strong></td>
<td></td>
</tr>
<tr>
<td>Housing material</td>
<td>Aluminum</td>
</tr>
<tr>
<td>Signals</td>
<td>Green LED for DC Vin1 OK and DC Vin2 OK</td>
</tr>
<tr>
<td>MTBF</td>
<td>&gt;800,000 hr</td>
</tr>
<tr>
<td>Dimensions (L)</td>
<td>121 mm</td>
</tr>
<tr>
<td>Dimensions (W)</td>
<td>50 mm</td>
</tr>
<tr>
<td>Dimensions (H)</td>
<td>122.1 mm</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>0.375</td>
</tr>
<tr>
<td>Terminals</td>
<td>Finger safe—fixed</td>
</tr>
<tr>
<td>Wire size</td>
<td>AWG 12–10</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>–40 °C to +80 °C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>–40 °C to +85 °C</td>
</tr>
<tr>
<td>Power de-rating—vertical mounting</td>
<td>&gt; 50 °C de-rate power by 2.5% / °C</td>
</tr>
<tr>
<td>Power de-rating—horizontal mounting</td>
<td>N/A</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>&lt; 95% RH, noncondensing</td>
</tr>
<tr>
<td>Vibration</td>
<td>10 to 500 Hz, 0.35 mm acc. 30m/s², single amplitude (3 G max.) for 60 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
</tr>
<tr>
<td>Climatic class</td>
<td>3K3 according to EN 60721</td>
</tr>
<tr>
<td><strong>Safety and Protection</strong></td>
<td></td>
</tr>
<tr>
<td>Safety class</td>
<td>Class 2 with ground connection</td>
</tr>
<tr>
<td>Shock</td>
<td>30 G (300 m/s²) in all directions according to IEC 60068-2-27</td>
</tr>
</tbody>
</table>

**Note**

The LED will turn on when the Vin1 and Vin2 > 18 V ±5% (for 24 V system) or > 36 V ±5% (for 48 V system) and not more than 30 V (for 24 V system) or not more than 60 V (for 48 V system), the relay contacts will be closed. If Vin1 and Vin2 is under or over this range, the LED will be turned off.
## PSG Series, continued

### Buffer Module

**PSG480B24RM**

#### Input

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>24 Vdc</td>
</tr>
<tr>
<td>DC input range</td>
<td>22.8–28.8 Vdc</td>
</tr>
<tr>
<td>Maximum voltage</td>
<td>35 Vdc</td>
</tr>
<tr>
<td>Current Charging mode</td>
<td>&lt;0.6 A</td>
</tr>
<tr>
<td>Discharging mode</td>
<td>20 A max.</td>
</tr>
<tr>
<td>Power (standby mode)</td>
<td>2.5 W average</td>
</tr>
<tr>
<td>Maximum signal (inhibit)</td>
<td>35 V / 10 mA</td>
</tr>
<tr>
<td>Max inrush current</td>
<td>&lt; 20 A</td>
</tr>
<tr>
<td>Charging time</td>
<td>&lt; 30s</td>
</tr>
</tbody>
</table>

#### Output

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>24 Vdc typ.</td>
</tr>
</tbody>
</table>
| DC adjustment range        | Switch = “Fix 22V”: Buffering starts if terminal voltage falls below 22 V  
                            | Switch = “Vin–1V” (Factory Setting): Buffering starts if terminal voltage is decreased by >1 V  |
| Maximum voltage            | 35 Vdc                 |
| Current                    | 20 A max.              |
| Buffering time             | 250 ms min. at 24 V/20 A load, 5 s min. at 24 V/1 A load |
| Maximum signal             | 35 V / 10 mA           |
| PARD (20MHz)               | <200 mVpp              |
| Galvanic isolation         |                        |
| Input/ground               | 1.5 k Vac              |
| Output/ground              | 1.5 k Vac              |
| Signal/ground              | 1.5 k Vac              |

#### General/Physical Data

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing material</td>
<td>Aluminum</td>
</tr>
</tbody>
</table>
| Signals                    | Green LED off: unit is discharged or Vin < 22 Vdc  
                            | Green LED on: unit is fully charged  
                            | Green LED blinking slowly: unit is charging  
                            | Green LED blinking quickly: unit is discharging |
| MTBF                       | >800,000 hr            |
| Parallel connection        | Yes                    |
| Series connection          | No                     |
| Dimensions (L)             | 121 mm                 |
| Dimensions (W)             | 70 mm                  |
| Dimensions (H)             | 120.1 mm               |
| Weight (kg)                | 0.76                   |
| Terminals                  | Finger safe–fixed      |
| Wire Size                  | Input / Output: AWG 12–10  
                            | Signal: AWG 24–10       |
| Operating temperature      | –25 °C to +75 °C       |
| Storage temperature        | –25 °C to +85 °C       |
| Power de-rating—vertical mounting | >70 °C de-rate power by 5% / °C |
| Operating humidity         | < 95% RH, noncondensing |
| Vibration                  | 10 to 500 Hz, 0.35 mm acc. 30 m/s², single amplitude (3 G max.) for 60 min. in each X, Y and Z directions, in accordance with IEC 60068-2-6 |
| Pollution degree           | 2                      |

#### Safety and Protection

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shock</td>
<td>30 G (300 m/s²) in all directions according to IEC60068-2-27</td>
</tr>
<tr>
<td>Safety class</td>
<td>Class 1 with ground connection</td>
</tr>
</tbody>
</table>
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

Power Derating Curves

**Vertical Mounting Position PSG15E12SP**

![Power Derating Curve for PSG15E12SP](image)

**Vertical Mounting Position PSG30E12SP**

![Power Derating Curve for PSG30E12SP](image)

**Vertical Mounting Position PSG60E12SM**

![Power Derating Curve for PSG60E12SM](image)

**Vertical and Horizontal Mounting Position PSG100E12SM**

![Power Derating Curve for PSG100E12SM](image)

**Vertical Mounting Position PSG60E**

![Power Derating Curve for PSG60E](image)

**Vertical Mounting Position PSG60E24SP**

![Power Derating Curve for PSG60E24SP](image)

**Vertical and Horizontal Mounting Position PSG60E24RM**

![Power Derating Curve for PSG60E24RM](image)

**Vertical and Horizontal Mounting Position PSG60N24RP**

![Power Derating Curve for PSG60N24RP](image)
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

**Vertical Mounting Position PSG120E**

**Vertical Mounting Position PSG480E**

**Vertical and Horizontal Mounting Position PSG120E24RM**

**Vertical and Horizontal Mounting Position PSG480E24RM**

**Vertical Mounting Position PSG240E**

**Vertical and Horizontal Mounting Position PSG60F24RM**

**Vertical and Horizontal Mounting Position PSG240E24RM**

**Vertical and Horizontal Mounting Position PSG120F24RM**
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

Vertical and Horizontal Mounting Position PSG240F24RM

Vertical Mounting Position PSG480R24RM

Vertical Mounting Position PSG960R24RM

Vertical Mounting Position PSG480B24RM
### 6.1 Power Supplies

**General-Purpose and Sensor Power Supplies**

#### Dimensions

Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Catalog Number</th>
<th>Voltage</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSG15E12SP</td>
<td>32.0 ±0.5 x 10.6 x 90.0 ±0.5</td>
<td>PSG15E12SP</td>
<td>24V</td>
<td>2.5A</td>
</tr>
<tr>
<td>PSG30E12SP</td>
<td>32.0 ±0.5 x 10.6 x 90.0 ±0.5</td>
<td>PSG30E12SP</td>
<td>24V</td>
<td>2.5A</td>
</tr>
<tr>
<td>PSG60E12SM</td>
<td>32.0 ±0.5 x 5.0 x 120.5 ±0.5</td>
<td>PSG60E12SM</td>
<td>24V</td>
<td>2.5A</td>
</tr>
<tr>
<td>PSG100E12SM</td>
<td>32.0 ±0.5 x 5.0 x 120.5 ±0.5</td>
<td>PSG100E12SM</td>
<td>24V</td>
<td>2.5A</td>
</tr>
</tbody>
</table>
Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

### PSG60E

- PSG60E: 32.0 ±0.5
- 105.2 ±0.5
- 120.5 ±0.5
- 121.0 ±0.5
- 5.0 ±0.2

### PSG60E24RM

- PSG60E24RM: 32.0 ±0.5
- 106.6 ±0.5
- 125.0 ±1.0
- 121.0 ±0.5
- 1.5 ±0.4

### PSG60E24SP

- PSG60E24SP: 32.0 ±0.3
- 106.6 ±0.5
- 125.0 ±1.0
- 121.0 ±0.4
- 5.5 ±0.4

### PSG60N24RP

- PSG60N24RP: 32.0 ±0.6
- 120.6 ±0.6
- 126.0 ±0.6
- 35.5 ±0.2
- 119.3 (ref.)
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

Approximate Dimensions in mm

*Note:* Dimensions are for reference only.

**PSG120E**

- **Catalog Number:** PSG120E24RM
- **DC 24V 5A**
- **AC 100-240V 2A**
- **50-60 Hz**
- **Adjust DC OK**

**PSG240E**

- **Catalog Number:** PSG240E
- **24V 10A**
- **100-240V~ 3.5A**
- **50–60 Hz**
- **Adjust DC OK**

**CAUTION**

**HOT SURFACE**

**PSG120E24RM**

- **Catalog Number:** PSG120E24RM
- **24V 5A**
- **100–240V~ 2.5A**
- **50–60 Hz**
- **Adjust DC OK**
### 6.1 Power Supplies

**General-Purpose and Sensor Power Supplies**

Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

**PSG480E**

![Diagram of PSG480E]

**PSG480E24RM**

![Diagram of PSG480E24RM]

**PSG60F24RM**

![Diagram of PSG60F24RM]

**PSG120F24RM**

![Diagram of PSG120F24RM]
6.1 Power Supplies
General-Purpose and Sensor Power Supplies

Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

**PSG240F24RM**

- 70.0 ±0.5
- 117.3 ±0.5
- 86.8 ±0.5
- 110.2 ±0.5

**PSG480F24RM**

- 140.0 ±0.5
- 117.3 ±0.7
- 87.0 ±0.5
- 110.2 ±0.5

**PSG960F24RM**

- 255.0 ±0.5
- 117.3 ±0.5

**PSG480R24RM**

- 50.0 ±0.5
- 115.0 ±1.0
- 98.0 ±0.5
- 7.1 (ref)
Approximate Dimensions in mm

**Note:** Dimensions are for reference only.

**PSG960R24RM**

- 50.0 ± 0.5
- 121.0 ± 0.5
- 115.0 ± 1.0
- 98.0 ± 0.5
- 1.6

**PSG480B24RM**

- 70.0 ± 0.5
- 121.0 ± 0.5
- 35.5 ± 0.5
- 5.0
- 5.5 ± 0.5
- 7.1 ± 0.5
- 96.6 ± 0.8
- 113.0 ± 1.0
6.1 Power Supplies
General-Purpose and Sensor Power Supplies

ELC Series

Product Description
Eaton’s ELC power supplies are the perfect products for those applications requiring a very compact and low-cost source for 24 Vdc power. While these products were developed to be a perfect match for our Eaton Logic Controllers, they can be used in a variety of applications.

The lightweight, DIN rail mounted enclosures, wide input voltage range and robust screw terminals make these power supplies easy to install and use. They are available in 1 A and 2 A models.

Features, Benefits and Functions
- Universal input voltage: 85–264 Vac
- Compact size, with common depth and height across models allows for common panel depths and family consistency
- ELC styling provides maximum aesthetic appeal when used with Eaton Logic Controllers
- Front-mounted pressure plate screw terminals for a robust connection
- Removable finger-safe protective cover for terminals
- Power ON indication LED
- Integrated mounting hardware for panel mounting or DIN rail mounting

Standards and Certifications
- cULus listed
- CE marked
- RoHS compliant

Contents

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<tr>
<td>Sensor Power Supply</td>
<td></td>
</tr>
</tbody>
</table>
## Product Selection

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 watt, 1 amp power supply</td>
<td>ELC-PS01</td>
</tr>
<tr>
<td>48 watt, 2 amp power supply</td>
<td>ELC-PS02</td>
</tr>
</tbody>
</table>

## Technical Data and Specifications

### ELC Series

<table>
<thead>
<tr>
<th>Capacity</th>
<th>ELC-PS01</th>
<th>ELC-PS02</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 W</td>
<td>24 Vdc ± 3%</td>
<td>24 Vdc ± 3%</td>
</tr>
<tr>
<td>48 W</td>
<td>2 A</td>
<td>2 A</td>
</tr>
</tbody>
</table>

#### Input

- **Nominal voltage**: 100–240 Vac
- **Voltage range**: 85–264 Vac
- **Frequency**: 47–63 Hz

#### Output

- **Nominal output voltage**: 24 Vdc ± 3%
- **Nominal current**: 1 A
- **Efficiency**: 78% to 87% typical at full load
- **Residual ripple/peak switching (20 MHz)**: < 100 mV typical at full load

#### General/Physical Data

<table>
<thead>
<tr>
<th>Housing material</th>
<th>Plastic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (D)</td>
<td>60 mm</td>
</tr>
<tr>
<td>Dimensions (W)</td>
<td>36.5 mm</td>
</tr>
<tr>
<td>Dimensions (H)</td>
<td>90 mm</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>158</td>
</tr>
</tbody>
</table>

| Operating temperature | 0 °C to +55 °C |
| Storage temperature   | −25 °C to +70 °C |
| Operating humidity    | 50% to 95% RH, noncondensing |

<table>
<thead>
<tr>
<th>Approvals/Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>UL 508, CE, RoHS, EMC directive 89/336/EEC, low voltage directive 73/23/EEC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Safety and Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overload/short circuit protection</td>
</tr>
</tbody>
</table>

---
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**Dimensions**

Approximate Dimensions in Inches (mm)

**ELC-PS01 Power Supply**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>3.54 (90.0)</td>
<td>90.0</td>
</tr>
<tr>
<td>Height</td>
<td>2.36 (60.0)</td>
<td>60.0</td>
</tr>
<tr>
<td>Depth</td>
<td>0.12 (3.0)</td>
<td>3.0</td>
</tr>
</tbody>
</table>

**ELC-PS02 Power Supply**

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Width</td>
<td>0.12 (3.0)</td>
<td>3.0</td>
</tr>
<tr>
<td>Height</td>
<td>3.94 (100.0)</td>
<td>100.0</td>
</tr>
<tr>
<td>Depth</td>
<td>3.54 (90.0)</td>
<td>90.0</td>
</tr>
</tbody>
</table>

![Image of ELC-PS01 Power Supply]

![Image of ELC-PS02 Power Supply]
**easyRelay Power Supply**

**Product Description**

Eaton’s easyRelay power supplies are the perfect products for those applications requiring a low amperage 24 Vdc power source. While these products were developed to be a perfect match for our easyRelay products, they can be used in a variety of applications.

**Features, Benefits and Functions**

- Universal input voltage: 85–264 Vac, 50/60 Hz
- Wide operating temperature range (–25 °C to +55 °C)
- Power ON / diagnostics LED: continuous light on—fault-free operation; flashing LED—short circuit overload on voltage output
- Optional mounting hardware for panel mounting (EZB4-101-GF1) or standard DIN rail mounting
- Finger-safe, side-entry screw clamp terminals for clean wiring
- Primary switched-mode power supplies
- Output voltages can be connected in parallel to increase power output or for redundant operation to achieve greater system availability
- Safety extra low voltage (SELV to EN 55 022)
- Radio interference Class B to EN 55 011 and EN 55 022 for use in industrial and public networks

**Standards and Certifications**

- UL listed
- CSA certified
- CE marked
- RoHS compliant
- CSA Class I, Division 2 rated for groups A, B, C, D
6.1 Power Supplies

General-Purpose and Sensor Power Supplies

**Product Selection**

**easyRelay Power Supply Units**
Rated input voltage 100–240 Vac, single-phase.

<table>
<thead>
<tr>
<th><strong>Input Voltage Range</strong></th>
<th><strong>Rated Output Voltage</strong></th>
<th><strong>Output Voltage Setting Range</strong></th>
<th><strong>Rated Output Power</strong></th>
<th><strong>Rated Output Current</strong></th>
<th><strong>Catalog Number</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>EASY200-POW</td>
<td>100–240 Vac</td>
<td>24 Vdc/12 Vdc</td>
<td>—</td>
<td>8 W</td>
<td>0.35 A / 20 mA</td>
</tr>
<tr>
<td>EASY400-POW</td>
<td>100–240 Vac</td>
<td>24 Vdc</td>
<td>—</td>
<td>30 W</td>
<td>1.25 A</td>
</tr>
<tr>
<td>EASY500-POW</td>
<td>100–240 Vac</td>
<td>24 Vdc</td>
<td>—</td>
<td>60 W</td>
<td>2.5 A</td>
</tr>
<tr>
<td>EASY600-POW</td>
<td>100–240 Vac</td>
<td>24 Vdc</td>
<td>—</td>
<td>100 W</td>
<td>4.2 A</td>
</tr>
</tbody>
</table>
## Technical Data and Specifications

### easyRelay Series

<table>
<thead>
<tr>
<th>Capacity</th>
<th>EASY200-POW 8 W</th>
<th>EASY400-POW 30 W</th>
<th>EASY500-POW 60 W</th>
<th>EASY600-POW 100 W</th>
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<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>100–240 Vac</td>
<td>100–240 Vac</td>
<td>100–240 Vac</td>
<td>100–240 Vac</td>
</tr>
<tr>
<td>Voltage range</td>
<td>85–264 Vac</td>
<td>85–264 Vac</td>
<td>85–264 Vac</td>
<td>85–264 Vac</td>
</tr>
<tr>
<td>Frequency</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
<td>47–63 Hz</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Vdc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>24 Vdc ± 3%</td>
<td>24 Vdc ± 3%</td>
<td>24 Vdc ± 3%</td>
<td>24 Vdc ± 3%</td>
</tr>
<tr>
<td>Nominal current</td>
<td>0.35 A</td>
<td>1.25 A</td>
<td>2.5 A</td>
<td>4.2 A</td>
</tr>
<tr>
<td>12 Vdc</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nominal output voltage</td>
<td>12 Vdc</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>Nominal current</td>
<td>20 mA</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td><strong>General/Physical Data</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing material</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
<td>Plastic</td>
</tr>
<tr>
<td>Dimensions (D)</td>
<td>2.22 in (56.5 mm)</td>
<td>2.22 in (56.5 mm)</td>
<td>2.22 in (56.5 mm)</td>
<td>2.22 in (56.5 mm)</td>
</tr>
<tr>
<td>Dimensions (W)</td>
<td>1.40 in (35.5 mm)</td>
<td>2.81 in (71.5 mm)</td>
<td>2.81 in (71.5 mm)</td>
<td>4.23 in (107.5 mm)</td>
</tr>
<tr>
<td>Dimensions (H)</td>
<td>3.54 in (90 mm)</td>
<td>3.54 in (90 mm)</td>
<td>3.54 in (90 mm)</td>
<td>3.54 in (90 mm)</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>–40 °C to +70 °C</td>
<td>–40 °C to +70 °C</td>
<td>–40 °C to +70 °C</td>
<td>–40 °C to +70 °C</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Connection cables</td>
<td>Solid</td>
<td>0.2–4.0 mm² (AWG 22–12)</td>
<td>0.2–4.0 mm² (AWG 22–12)</td>
<td>0.2–4.0 mm² (AWG 22–12)</td>
</tr>
<tr>
<td></td>
<td>Flexible</td>
<td>0.2–2.5 mm² (AWG 22–12)</td>
<td>0.2–2.5 mm² (AWG 22–12)</td>
<td>0.2–2.5 mm² (AWG 22–12)</td>
</tr>
<tr>
<td><strong>Approvals/Certifications</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety and Protection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overload/short circuit protection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Overcurrent limitation form</td>
<td>0.3 A</td>
<td>1.4 A</td>
<td>2.8 A</td>
<td>4.8 A</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP20</td>
<td>IP20</td>
<td>IP20</td>
<td>IP20</td>
</tr>
<tr>
<td>RF suppression</td>
<td>EN 55011, EN 55022 Class B, IEC 61000-8-1, 2, 3, 4</td>
<td>EN 55011, EN 55022 Class B, IEC 61000-8-1, 2, 3, 4</td>
<td>EN 55011, EN 55022 Class B, IEC 61000-8-1, 2, 3, 4</td>
<td>EN 55011, EN 55022 Class B, IEC 61000-8-1, 2, 3, 4</td>
</tr>
<tr>
<td>Potential isolation (prim./sec.)</td>
<td>Yes, SELV (to EN 600950, VDE 805)</td>
<td>Yes, SELV (to EN 600950, VDE 805)</td>
<td>Yes, SELV (to EN 600950, VDE 805)</td>
<td>Yes, SELV (to EN 600950, VDE 805)</td>
</tr>
</tbody>
</table>
### Dimensions

Approximate Dimensions in Inches (mm)

#### EASY200-POW, EASY400-POW and EASY500-POW Series

<table>
<thead>
<tr>
<th>Dimension</th>
<th>EASY200-POW</th>
<th>EASY400-POW</th>
<th>EASY500-POW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>3.54 (90.0)</td>
<td>4.02 (102.0)</td>
<td>4.33 (110.0)</td>
</tr>
<tr>
<td>Width</td>
<td>2.81 (71.5)</td>
<td>2.81 (71.5)</td>
<td>2.81 (71.5)</td>
</tr>
<tr>
<td>Depth</td>
<td>1.97 (50.0)</td>
<td>1.97 (50.0)</td>
<td>1.97 (50.0)</td>
</tr>
<tr>
<td>M4 Diameter</td>
<td>1.57 (3.9)</td>
<td>1.57 (3.9)</td>
<td>1.57 (3.9)</td>
</tr>
</tbody>
</table>

#### EASY600-POW Series

<table>
<thead>
<tr>
<th>Dimension</th>
<th>EASY600-POW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>2.96 (75.0)</td>
</tr>
<tr>
<td>Width</td>
<td>0.64 (16.25)</td>
</tr>
<tr>
<td>M4 Diameter</td>
<td>1.57 (3.9)</td>
</tr>
</tbody>
</table>

---

**Diagram**: Visual representation of the dimensions for each series.
Sensor Power Supply

**Product Description**

Eaton’s sensor power supply was specially designed to be used with the 200 Series and E68 Series zero pressure accumulation systems, but is also suitable for use in a wide variety of applications. The unit delivers 100 W output at 27 Vdc and supports easy, Class II wiring. The power supply is a tamper-proof, rugged component easily mounted to a conveyor side-channel or support. Internal components are fully encapsulated in a strong die-cast housing to stand up to rugged handling, ensuring flawless performance in any material handling environment.

**Features, Benefits and Functions**

- Integrated AC junction box for one-step mounting and wiring without the need for additional accessories
- Built-in DC power health contact allows easy monitoring of power supply status
- Unitized design features a tamper-proof encapsulated construction to reduce the risk of damage associated with conventional open control-panel type construction
- Built-in slug-release input converts an AC or DC input to the appropriate DC signal for integration with the 200 Series and E68 Series zero pressure accumulation systems
- Dual output connection terminals to make it easy and convenient to locate the power supply at the center of the cable run
- Power switch protected against accidental operation
- Power in and out indicators show status at a glance
- Conduit entry box for NEC compliance
- Simple mounting with two 1/4-inch bolts
- Rugged die-cast housing
- Fully encapsulated electronics

**Standards and Certifications**

- UL listed
- CSA approved

---

**Contents**

- **Description**
  - PSL Series .......................................... V7-T6-4
  - PSC Series .......................................... V7-T6-10
  - PSG Series .......................................... V7-T6-16
  - ELC Series .......................................... V7-T6-36
  - easyRelay Power Supply ............................ V7-T6-39
  - Sensor Power Supply
    - Product Selection ................................... V7-T6-44
    - Technical Data and Specifications ............... V7-T6-44
    - Wiring Diagram ...................................... V7-T6-45
    - Dimensions ......................................... V7-T6-45

---

**Sensor Power Supply**
### 6.1 Power Supplies

#### General-Purpose and Sensor Power Supplies

**Product Selection**

**Sensor Power Supply**

<table>
<thead>
<tr>
<th>Output Voltage 105–132 Vac</th>
<th>Slug Input</th>
<th>Type</th>
<th>Slug Output</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>27 Vdc, 100 W; short circuit, overload and overvoltage protection (cycle power to reset)</td>
<td>15–132 Vac/Vdc; 3 mA minimum</td>
<td>Standard For use with 200 Series and E88 systems</td>
<td>Sinking or sourcing, switch selectable; 80 mA maximum; short circuit protection for loads less than 32 Vac or Vdc (auto reset)</td>
<td>PS256 A-01B1</td>
</tr>
<tr>
<td>15–132 Vac/Vdc; 3 mA minimum</td>
<td>High current slug For use with solenoid valve systems requiring full current slug signals</td>
<td>Sinking only; 100 W output; short circuit, overload and overvoltage protection (cycle power to reset)</td>
<td>PS256 A-04B1</td>
<td></td>
</tr>
</tbody>
</table>

#### Technical Data and Specifications

**Sensor Power Supply**

<table>
<thead>
<tr>
<th>Description</th>
<th>PS256 A-01B1</th>
<th>PS256 A-04B1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input power</td>
<td>144 W, maximum inrush 30 A from cold start</td>
<td>144 W, maximum inrush 30 A from cold start</td>
</tr>
<tr>
<td>Input voltage</td>
<td>105–132 Vac</td>
<td>105–132 Vac</td>
</tr>
<tr>
<td>Input current (full load)</td>
<td>105 Vac–1.92 A, 115 Vac–1.85 A, 132 Vac–1.5 A</td>
<td>105 Vac–1.92 A, 115 Vac–1.85 A, 132 Vac–1.5 A</td>
</tr>
<tr>
<td>Output power</td>
<td>100 W</td>
<td>100 W</td>
</tr>
<tr>
<td>Output voltage</td>
<td>27 Vdc</td>
<td>27 Vdc</td>
</tr>
<tr>
<td>Output protection</td>
<td>Short circuit, overload and overvoltage protection (cycle power to reset), diode protected</td>
<td>Short circuit, overload and overvoltage protection (cycle power to reset), diode protected</td>
</tr>
<tr>
<td>Regulation</td>
<td>± 3%</td>
<td>± 3%</td>
</tr>
<tr>
<td>Slug input</td>
<td>15–132 Vac/Vdc</td>
<td>15–132 Vac/Vdc</td>
</tr>
<tr>
<td>Slug output</td>
<td>Sinking or sourcing, switch selectable; 80 mA maximum; short circuit protection for loads less than 32 Vac or Vdc (auto reset)</td>
<td>Sinking only; 100 W output; short circuit, overload and overvoltage protection (cycle power to reset)</td>
</tr>
<tr>
<td>Indicators</td>
<td>Red LED: AC In; Green LED: DC Out</td>
<td>Red LED: AC In; Green LED: DC Out</td>
</tr>
<tr>
<td>DC fail indication output</td>
<td>NO contact, solid-state relay, 80 mA maximum</td>
<td>NO contact, solid-state relay, 80 mA maximum</td>
</tr>
<tr>
<td>Temperature range</td>
<td>–13 ° to 131 °F (–25 ° to 55 °C)</td>
<td>–13 ° to 131 °F (–25 ° to 55 °C)</td>
</tr>
<tr>
<td>Vibration</td>
<td>20 g</td>
<td>20 g</td>
</tr>
<tr>
<td>Enclosure material</td>
<td>Die-cast aluminum</td>
<td>Die-cast aluminum</td>
</tr>
<tr>
<td>Enclosure rating</td>
<td>NEMA 1</td>
<td>NEMA 1</td>
</tr>
<tr>
<td>Connections</td>
<td>Main output/slug output: Two three-position finger protected barrier strips; AC line input, DC fail indication and slug input: 8-position screw terminal strip inside conduit entry box</td>
<td>Main output/slug output: Two three-position finger protected barrier strips; AC line input, DC fail indication and slug input: 8-position screw terminal strip inside conduit entry box</td>
</tr>
</tbody>
</table>

**Notes**

- Total output power of supply is 100 W. Total supply output power (100 W) = main output power + slug output power.
- Stocked product, typical order quantities guaranteed in stock.
Power Supplies

General-Purpose and Sensor Power Supplies

6.1 Power Supplies

Wiring Diagram

Sensor Power Supply

Dimensions

Approximate Dimensions in Inches (mm)

Sensor Power Supply

---

Hole for 1/4 Inch Hardware

 Slug
Output
Com

 Slug
Output
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6.1 Power Supplies