DIN Rail Power Supplies

IDEC PS5R-S Slim Line Series

Reliable power for your automation
Switching power supplies from IDEC
- Ease of use, convience and reliability

A reliable power supply is an important part of an automation system. IDEC PSR5-S Series power supplies are designed for industrial applications and for fulfilling all requirements to insure a reliable and stable power supply for PLCs, HMI panels, sensors, actuators and other electronics used in the industry. The design is in all details carefully made to have an easy and optimum mounting in standard electrical panels, both saving time and insuring a good final solution.

- 85-264 V AC and 100-350V DC Input
- 5, 12 or 24 V DC Output
- 10 - 240 Watt
- Only 22.5 mm on a DIN rail (15W)

Designed with the user in mind

DC Low Indicator
(15W, 120W & 240W only)
The indicator turns on when the output voltage drops below 80 % of the rated value. This assists in troubleshooting power supply problems.

DC ON Indicator
The indicator turns on when the unit is powered up. This is a convenient way to know when the power supply is receiving power.

Output Voltage Adjustment
The output voltage can be easily adjusted within +/- 10 % of the rated voltage.

Universal Inputs
The power inputs have a range of 85-264V AC to 100-350V DC, and automatically adjust to the correct input power. This makes IDEC power supplies suitable for use anywhere in the world. Power factor correction has also been included to minimize harmonic distortion, resulting in a longer operating life and increased reliability. The power supplies come with spring-up, fingersafe screw terminals.

Output Channel
With very low output ripples of less than 1 % peak to peak, the power supplies are some of the best in the industry. The output comes with overload protection that prevents damage of the power supply and the spring-up, fingersafe screw terminals add a level of safety and ease for the user. The 240W power supply also has the convenience of two output terminals.

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Fingersafe, Spring-up Screw Terminals
Don’t worry about losing screws or getting an inadvertent shock from a terminal. The terminals are captive spring-up screws, which makes using them as easy as pushing a screw down and tightening it. They are shock- and vibration resistant, and work with ring lugs, fork connectors or stripped wire connections. The terminals are rated IP20 (when tightened) meaning they are recessed to keep fingers and objects from touching the input contacts.

Overload Protection
All IDEC power supplies are designed with overcurrent and overvoltage protection to eliminate power supply or equipment damage. With overcurrent protection, the output voltage automatically drops due to excessive current. When the load returns to a normal level, normal output voltage is restored. With overvoltage protection, the power shuts down when an overvoltage occurs. Only a manual reset can turn the power back on.

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Long Life Expectancy
IDEC power supplies are very reliable, with a life expectancy of 70,000 hrs (minimum) or longer, depending on usage.

AUDIN - 8, avenue de la malle - 51370 Saint Brice Courcelles - Tel : 03.26.04.20.21 - Fax : 03.26.04.28.20 - Web : http: www.audin.fr - Email : info@audin.fr
SEMI F47 approved
SEMI F47 defines requirements for semiconductor processing and automated test equipment. The equipment must tolerate voltage sags on the AC power line without interrupting operations.

Power Factor Correction for 60W to 240W (EN61000-3-2)
Meets SEMI F47 Sag Immunity (120W & 240W only)
Approved for Class 1, Div. 2 Hazardous Locations

Derating
All IDEC Slim Line power supplies are listed to UL508, which allows operation at 100% capacity inside a panel. This eliminates the need to use oversize power supplies.

Overcurrent protection, auto-reset
Overvoltage protection, shut down
Spring-up Screw Terminal type, IP20
DIN Rail or panel surface mount
Indicators for: Overload and Low voltage

Output Current (%)
100 90 80 70 60 50 40 30 20 10

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100 90 80 70 60 50 40 30 20 10

Approvals

The charts above show that the PS5R-S 10W and 15W (at 60º C), 30W/60W/90W (at 55º C), 120W (at 40º C), and 240W (at 45º C) meet the ambient temperature required by UL508 and EN60950 standards to operate at an output current of 100%.

NOTE! Insure convection. Do not block the opening of the switching power supply. Keep at least 20 mm clearance around the switching power supply.
## Technical Specifications

### Part Numbers

<table>
<thead>
<tr>
<th>Output Voltage</th>
<th>PS5R-SB05</th>
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</thead>
<tbody>
<tr>
<td>5VDC output</td>
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<tr>
<td>12VDC output</td>
<td>-</td>
<td>PS5R-SB12</td>
<td>-</td>
<td>PS5R-SC12</td>
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<td>24VDC output</td>
<td>PS5R-SC24</td>
<td>PS5R-SC24</td>
<td>PS5R-SD24</td>
<td>PS5R-SE24</td>
<td>PS5R-SF24</td>
<td>PS5R-SC24</td>
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</tr>
<tr>
<td>Output Capacity</td>
<td>10W</td>
<td>15W</td>
<td>30W</td>
<td>60W</td>
<td>90W</td>
<td>120W</td>
<td>240W</td>
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### Input

- **Input Voltage (single phase, 2-wire):**
  - 100 to 240V AC (Voltage range: 85 to 264V AC/100 to 370V DC compatible) (Duty ratio ≤ 80 % at 100-105V DC)
  - 85 to 264V AC, 100 to 370V DC
- **Input Current (typical):**
  - 100VAC: 0.44A maximum
  - 200VAC: 0.3A maximum
- **Internal Fuse Rating:** 3.15A, 3.15A, 4A, 4A
- **Inrush Current (cold start):** 50A maximum (Ta = 25°C, 200V AC cold start)
- **Leakage Current (at no load):** 0.75mA maximum
- **Typical Efficiency:**
  - 5 VDC: 69 %
  - 12VDC: 75 %
  - 24VDC: 79 %
- **Ripple Voltage:**
  - ±10 % (Voltage adjustment on front)

### Output

- **Output Current Ratings:**
  - 5 VDC: 2.0A
  - 12VDC: 1.2A
  - 24VDC: 0.65A
  - 2.5A
  - 2.5A
- **Voltage Adjustment:** ±10 % (Voltage adjustment on front)
- **Output Holding Time:** 20ms minimum (at rated input and output)
- **Starting Time:** 200 ms maximum (at the rated I/O)
- **Rise Time:** 100ms maximum (at rated input and output)
- **Line Regulation:** 0.4 % maximum
- **Load Regulation:** 1.5 % maximum
- **Temperature Regulation:**
  - 0.05 %/°C maximum (0 to +65°C)
- **Ripple Voltage:**
  - ±2 % peak to peak maximum (including noise)
- **Overcurrent Protection:**
  - Output of 150 % (No overload)
  - Output of 200 % (Overload)
- **Overvoltage Protection:**
  - Output of 125 % (Overvoltage)

### Parallel Operation

- No

### Dielectric Strength

- Input / output terminals: 3.000V AC, 1 minute
- Input / ground terminals: 2.000V AC, 1 minute
- Output / ground terminals: 500V AC, 1 minute

### Insulation Resistance

- Input / output terminals or input / ground terminals: 100MΩ minimum (500V DC megger)
- Input & Output Terminals: 100 MΩ Min

### Operating Temperature

- -10 to +65°C (no freezing)
- (See the Output Derating Curve)

### Storage Temperature

- -25 to +75°C (no freezing)

### Operating Humidity

- 20 to 90 % relative humidity (no condensation, no freezing)

### Vibration Resistance

- Frequency 10 to 55 Hz, amplitude 0.375 mm, 2 hours each in 3 axes

### Shock Resistance

- 300 m/s² (30G), 3 shocks each in 6 axes

### Approvals

- LVD: EN60950-1, EN50178:1997, UL 1604, UL 508, UL1310 (PS5R-SB,SC,-SD), c-UL (CSA 22.2 No. 14)
- **Weight (approx.)**
  - M3.5 slotted-Phillips head screw (screw terminal type)
  - IP20 fingersafe
  - Dimensions H x W x D (mm): 90 x 22.5 x 95 mm (excluding projections)

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**Beijer Electronics Automation - a Beijer Electronics Group company**

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