

## PS5R Slim Line Series — Switching Power Supplies



### Designed with Accessibility and Convenience in Mind

#### DC Low Indicator

(120W & 240W Slim Line Only)

The indicator turns on when the output voltage drops below 20V DC. This assists 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.

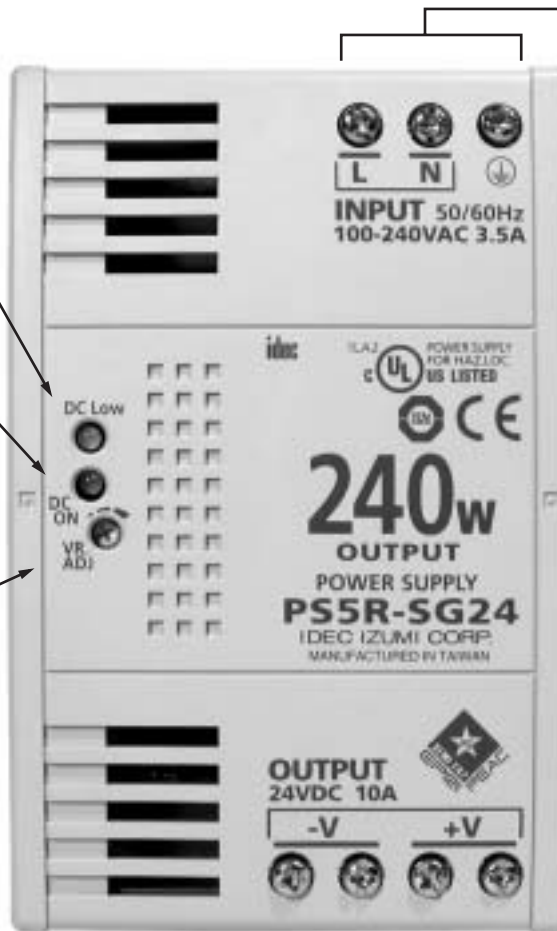
#### Output Voltage Adjustment

The output voltage can be easily adjusted within +10% of the rated voltage.



#### Fingersafe, Spring-up Screw Terminals

Never 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 which means when tightened, they are recessed to keep finger and objects from touching the input contacts.



#### Universal Inputs

The power inputs have a range of 85-264V AC to 100-370V 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.

#### Long Life Expectancy

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

#### Output Channel

With very low output ripples of less than 1% peak to peak, the 120W and 240W power supplies are some of the best in the industry. The output comes with overload protection that avoids damaging the power supply. The 240W power supply also has the convenience of two output sets of output screws for wiring.



#### Ventilation Grill

Provides cooling for the power supply and prevents small objects from falling into the power supply circuitry.

**L** Power Supplies

Features & Part Numbers



**Key features of the PS5R Slim Line series include:**

- Lightweight and Compact in size
- Wide Power Range: 30W – 240W
- Universal Input:  
30W to 90W:85-264V AC/100-370V DC  
120W and 240W:85-264V AC/100-350V DC
- Power Factor Correction (EN61000-3-2) for 60W to 240W
- Meets SEMI F47 Sag Immunity (120W & 240W)
- NEC Class 2 rated (30W & 60W)
- Approved for Class 1, Div. 2 Hazardous Locations
- Fused input
- Overcurrent protection, auto-reset
- Overvoltage protection, shut down
- Spring-up Screw Terminal type, IP20
- DIN rail or Panel Surface Mount
- Approvals:  
CE Marked  
TÜV  
c-UL, UL 508  
UL 1310 (PS5R-SC, -SD)  
UL 1604  
EN 50178:1997  
LVD: EN60950:2000  
EMC: Directive EN61204-3:2000  
(EMI: Class B, EMS: Industrial)



File # E234997



(SEMI F47 120W & 240W only)

Part Numbers

Part Number	Item	Watts	Rated Voltage	Rated Current
PS5R-SC12		30	12V DC	2.5A
PS5R-SC24			24V DC	1.3A
PS5R-SD24		60	24V DC	2.5A
PS5R-SE24		90	24V DC	3.75A
PS5R-SF24		120	24V DC	5A
PS5R-SG24		240	24V DC	10A

## Specifications

Part Numbers	12VDC output	PS5R-SC12	-	-	-	-	
	24VDC output	PS5R-SC24	PS5R-SD24	PS5R-SE24	PS5R-SF24	PS5R-SG24	
<b>Output Capacity</b>		30W	60W	90W	120W	240W	
<b>Input</b>	<b>Input Voltage</b> (single-phase, 2-wire)	85 to 264 VAC, 100 to 370 VDC			85 to 264V AC, 100 to 350V DC		
	<b>Input Current (typical)</b>	100VAC	0.9A	1.7A	2.3A	1.8A	3.5A
		200VAC	0.6A	1.0A	1.4A	1.0A	1.7A
	<b>Internal Fuse Rating</b>		3.15A	3.15A	4A	4A	6.3A
	<b>Inrush Current (cold start)</b>	50A maximum (at 200V AC)					
	<b>Leakage Current (at no load)</b>	0.75mA maximum			1mA maximum		
	<b>Typical Efficiency</b>	12VDC	78%	-	-	-	-
24VDC		80%	83%	82%	84%		
<b>Output Current Ratings</b>	12VDC	2.5A	-	-	-	-	
	24VDC	1.3A	2.5A	3.75A	5A	10A	
<b>Voltage Adjustment</b>	±10% (V. ADJ control on front)						
<b>Output Holding Time</b>	20ms minimum (at rated input and output)						
<b>Starting Time</b>	-	-	-	-	650ms maximum	500ms maximum	
<b>Rise Time</b>	100ms maximum (at rated input and output)			200ms maximum			
<b>Line Regulation</b>	0.4% maximum						
<b>Load Regulation</b>	1.5% maximum					0.8% max	
<b>Temperature Regulation</b>	0.05% degree C maximum						
<b>Ripple Voltage</b>	2% peak to peak maximum (including noise)				1% peak to peak maximum (including noise)		
<b>Overcurrent Protection</b>	105% or more, auto reset			103 to 110%, auto reset	105 to 130%, auto reset		
<b>Overvoltage Protection</b>	120% min. SHUTDOWN						
<b>Parallel Operation</b>	No	No	No	No	No	No	
<b>Dielectric Strength</b>	Between Input and Ground: 2000 VAC, 1 minute*						
<b>Insulation Resistance</b>	Between Input & Output Terminals: 100 MΩ Min						
<b>Operating Temperature</b>	-10 to 60°C (14 to 140°F)						
<b>Storage Temperature</b>	-25 to 75°C (-13 to +167°F)						
<b>Operating Humidity</b>	20 to 90% relative humidity (no condensation, no freezing)						
<b>Vibration Resistance</b>	Frequency 10 to 55Hz, Amplitude 0.375mm						
<b>Shock Resistance</b>	300m/s <sup>2</sup> 3 times each in 6 axes						
<b>Approvals</b>	EMC: EN61204-3 (EMI: Class B, EMS: Industrial), LVD: EN60950, EN50178:1997, UL 1604, UL 508, UL1310 (PS5R-SC, -SD), c-UL (CSA 22.2 No. 14)						
	-				SEMI F47		
<b>Harmonic Directive (EN61000-3-2)</b>	N/A			EN61000-3-2 A14 class A			
<b>Weight (approx.)</b>	250g	285g	440g	630g	1000g		
<b>Terminal Screw</b>	M3.5 slotted-Phillips head screw (screw terminal type)						
<b>IP protection</b>	IP20 fingersafe						
<b>Dimensions H x W x D (mm)</b>	95 x 36 x 108			115 x 46 x 121	115 x 50 x 129	125 x 80 x 149.5	
<b>Dimensions H x W x D (inches)</b>	3.74 x 1.42 x 4.25			4.53 x 1.81 x 4.76	4.53 x 1.97 x 5.08	4.92 x 3.15 x 5.89	

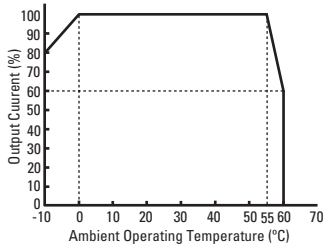
**L**  
Power Supplies



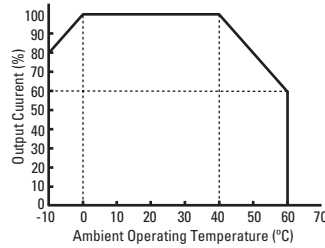
1. For dimensional drawings, see page L-7.
2. \*Between input and output: 3000VAC, 1 minute; Between output and ground: 500VAC, 1 minute

**Temperature Derating Curves**

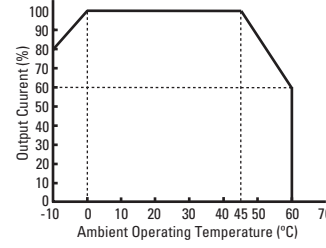
**PS5R-SC**



**PS5R-SD, -SE, -SF**



**PS5R-SG**



Condition Natural Air Cooling (Operating Temperature means temperature in surrounded PS5R.)

Make sure of convection in consideration of sufficient heat radiation. Do not block the opening of the switching power supply.

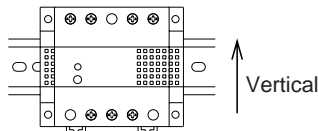
Keep at least 20mm clearance around the switching power supply, except for the opening.

All IDEC power supplies are listed to UL 508 which allows operation at 100% capacity inside a panel. This eliminates the need to use oversize power supplies or utilize two power supplies derated 50% of their rated output.

The charts above show that the PS5R Slim 30W/60W/90W (at 55°C), 120W (at 40°C), and 240W (at 45°C) meet the ambient temperature required by the UL 508 and EN60950 standards to operate at an output current of 100%. The output current starts to derate beyond the required temperature.

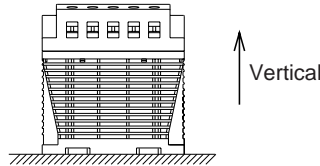
**A Mounting**

Mounting Style A (standard)



**B Mounting**

Mounting Style B (Facing upward)



**Accessories**

**PS5R-S Accessories**

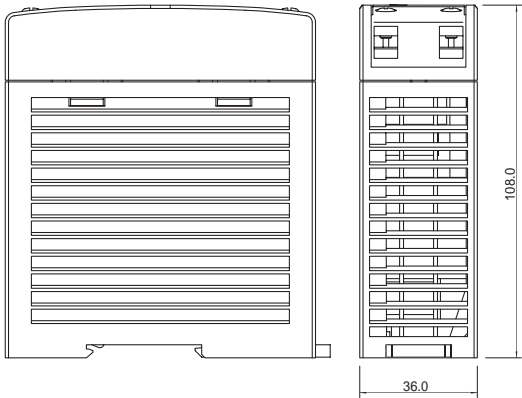
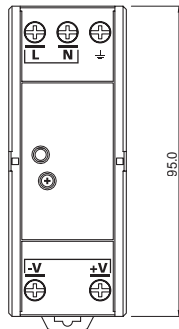
Appearance	Description	Part Number
	Panel Mounting Bracket for PS5R-SC and PS5R-SD	PS9Z-5R1C
	Panel Mounting Bracket for PS5R-SE	PS9Z-5R1E
	Panel Mounting Bracket for PS5R-SF & PS5R-SG	PS9Z-5R1G
	DIN rail (1000mm)	BNDN1000
	DIN rail end clip	BNL5

**Power Supplies**

## Dimensions

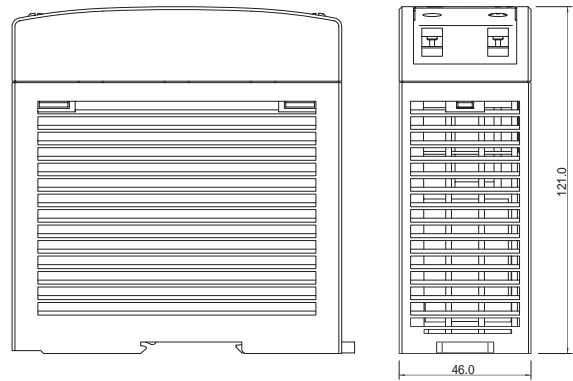
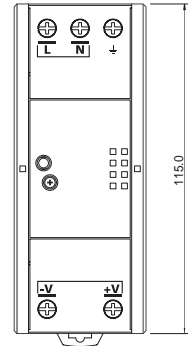
### PS5R-SC12 (30W) & PS5R-SD24 (60W)

Height 95.0 mm  
 Width 36.0 mm  
 Depth 108.0 mm



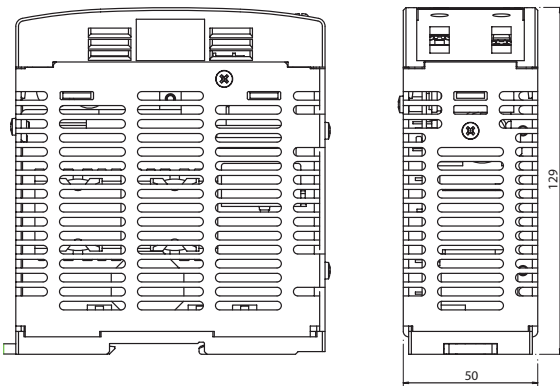
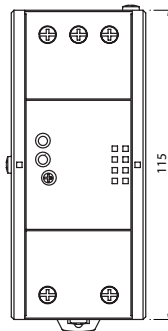
### PS5R-SE24 (90W)

Height 115.0 mm  
 Width 46.0 mm  
 Depth 121.0 mm



### PS5R-SF24 (120W)

Height 115.0 mm  
 Width 50.0 mm  
 Depth 129.0 mm



### PS5R-SG24 (240W)

Height 125.0 mm  
 Width 80.0 mm  
 Depth 149.5 mm

