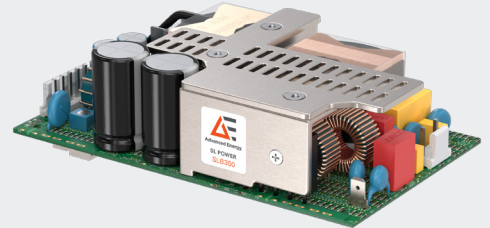


# SL POWER SLB350 SERIES

350 Watts Single Output  
Industrial Grade



Data Center



Telecom



Industrial

Advanced Energy's SL Power SLB350 AC-DC power supplies are available with a nominal main output of 12 V, 24 V, 48 V or 56 V. SLB350 power supplies provide up to 350 Watts with air flow. All models have output overvoltage, short circuit and overload protection and a 3 x 5 x 1.5 inch form factor.

## SPECIAL FEATURES

- 200 Watts Convection up to 60°C
- 350 Watts with 200 LFM Airflow up to 60°C
- 3" x 5" x 1.5" Form Factor
- Universal Input 85 to 264 VAC
- For 1U Applications
- Class B Conducted and Radiated EMI
- 3 Years Warranty
- RoHS Compliant

## SAFETY

- EN/CSA/IEC/UL62368-1

## AT A GLANCE

### Total Power

350 Watts

### Input Voltage

85 to 264 VAC

### # of Outputs

Single



## ELECTRICAL SPECIFICATIONS

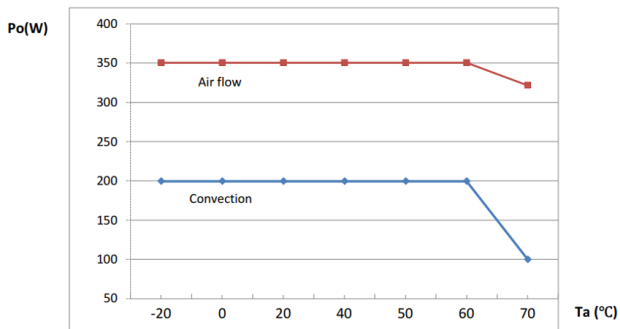
Input	
Input range	85 to 264 VAC, 47 to 63 Hz, 1Ø
Input current	4.0 A max at 115 Vac, 2.0 A at 230 Vac.
Earth leakage current	<300 µA @ 264 VAC, 60 Hz, NC; <600 µA SFC
Inrush Current	40 A peak maximum @ 264 VAC, cold start
Efficiency	90% typical
Isolation voltage	Input/Output: 4000 VAC Input/Ground: 1800 VAC Output/Ground: 500 VAC
Output	
Maximum power	Max of 200 Watts for convection cooled, 350 Watts with 200 LFM air flow. See "Ordering Information" section for specific voltage model ratings
Output voltage	See "Ordering Information" section
Voltage adjustability	Fixed output
Ripple and noise	1% pk-pk for all models. See "Ordering Information" section for details. (20 MHz bandwidth, differential mode. Measured with noise probe directly across output terminals, and load terminated with 0.1µF ceramic and 10µF low ESR capacitors)
Total regulation	±2% (combined line, load and initial setting)
Minimum load	Not required
Switching frequency	PFC: 50 kHz to 200 kHz. Main Converter: variable 70 kHz to 100 kHz
Transient response	500 µs response time for return to within 0.5% of final value for a 50% load step change, $\Delta i/\Delta t < 0.2$ A/µs. Max. voltage deviation is ±3%
Hold-up time	> 24 ms at full load 350 W, 100 VAC, 60Hz
Turn on time	<3 s @ 115 VAC, full load
Reliability	
MTBF	250K hours, 50°C, 115 VAC
Protection	
Overvoltage protection	115% to 140% of nominal output voltage. Recycle AC input to reset.
Short circuit protection	Short across the output terminals will not cause damage to the unit. Hiccup mode. Auto recovery.
Thermal protection	Will shutdown upon an over temperature condition. Auto recovery.
Overload protection	130% to 180% of rated output current value. Hiccup mode.

## ENVIRONMENTAL SPECIFICATIONS

Vibration	Per IEC 60068-2-6
Shock	Per IEC 60068-2-27
Operating temperature	-10°C to +70°C. (Derating above 60°C see derating curves)
Temperature derating	See derating curves
Storage temperature	-40°C to +85°C
Altitude	Operating: -500 to 15,000 ft (5000 m). Non-operating: -500 to 40,000 ft
Relative humidity	5% to 95%, non-condensing

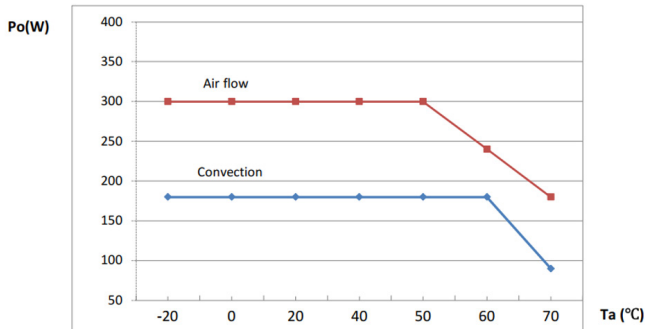
## DERATING CURVE

Output Power Vs Ambient



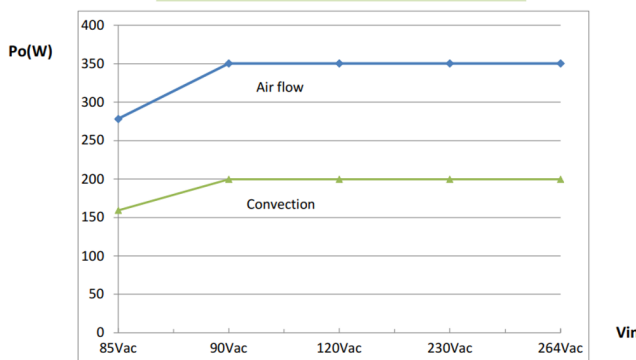
SLB350S24K/SLB350S48K/SLB350S56K

Output Power Vs Ambient



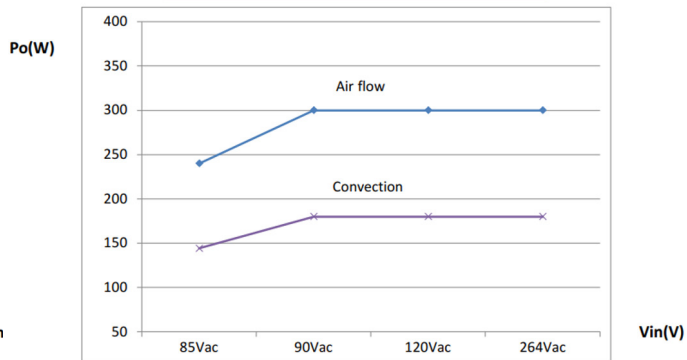
SLB350S12K

Output Power Vs Input Voltage



SLB350S24K/SLB350S48K/SLB350S56K

Output Power Vs Input Voltage



SLB350S12K

## ORDERING INFORMATION

Model Number	Output Voltage	With Air Flow		Convection	
		Output Current	Output Power	Output Current	Output Power
SLB350S12K	12 V	25.0 A	300 W	12.0 A	180 W
SLB350S24K	24 V	14.6 A	350 W	8.3 A	200 W
SLB350S48K	48 V	7.30 A	350 W	4.1 A	200 W
SLB350S56K	56 V	6.25 A	350 W	3.6 A	200 W

## EMI/EMC COMPLIANCE

Conducted emissions	EN55015/CISPR15:2013, EB55032:2015 CISPR22 2006 Class B, FCC Part 15.107, Class B, 115 and 230Vac
Radiated emissions	CISPR15, EN55032: 2015/CISPR22 Class B, CISPR32 Class B, FCC Part 15.109, Class B at 115 and 230Vac
Harmonic current emissions	EN61000-3-2, Class A, and C (230Vac, 100% load)
Voltage fluctuations & flicker	IEC61000-3-3
Electro static discharge immunity	EN55035:2017, EN55024/IEC61000-4-2, Level 4: +/-8kV contact, +/-15kV air, Criteria A
Radiated RF immunity	EN55022/EN61000-4-3, 10V/m, 80MHz-2.7GHz, 80% AM at 1kHz
Electrical fast transients / bursts	EN55035:2017EN55024/IEC61000-4-4, Level 4, +/- 4kV, 100Khz rep rate, 40A, Criteria A
Surge susceptibility	EN55035:2017EN55024/IEC61000-4-5, Level 3, +/-1kV DM, +/-2kV CM, Criteria A
Conducted RF susceptibility	EN55022/IEC61000-4-6, 3V/m – Level 4, 0.15 to 80Mhz; and 12V/m) in ISM and amateur radio bands between 0.15Mhz and 80Mhz, 80% AM at 1KHz
Power frequency magnetic fields test	EN55035:2017EN55024/IEC1000-4-8, Level 4: 30A/m, 50/60 Hz
Voltage dip immunity	EN55035:2017EN55024/IEC/EN61000-4-11: --100% dip for 10 mS, at 0, 45, 90, 135, 180, 225, 270 and 315 degrees. Criteria A @ full load. --100% dip for 20mS, 0 deg., Criteria A @ full load --100% dip for 5000mS, Criteria B

## Notes:

Performance criteria are based on EN55024. According to the standards, performance criteria are decoded as following:

- A. Normal performance during and after the test
- B. Temporary degradation, self-recoverable
- C. Temporary degradation, operator intervention required to recover the operation
- D. Permanent damage

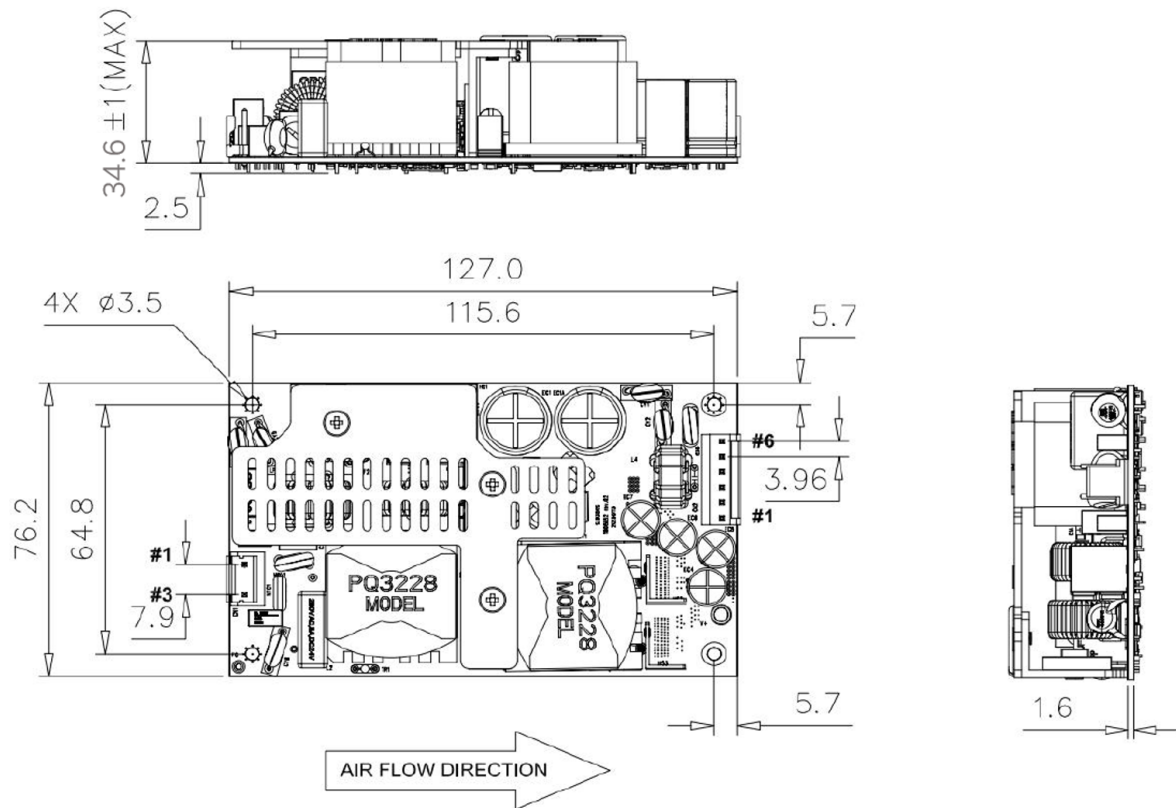
## PIN ASSIGNMENTS

Type	Connector	Pin Assignments		Mating Connector
CN1 Input connector	TE# 640445-3 (1 pin removed)	PIN 1	AC Neutral	TE/AMP# 640250-3 Pins: 640252-1
		PIN 3	AC Line	
Ground <sup>2</sup>		-	Functional Ground (FG)	Mounting Hole Location
CN2 Output connector	TE# 640445-6	PIN 1	+Vo	TE/AMP# 640250-6 Pins: 640252-1
		PIN 2	+Vo	
		PIN 3	+Vo	
		PIN 4	RTN	
		PIN 5	RTN	
		PIN 6	RTN	

## Notes:

1. Contact AE for other compatible connector options.
2. This power supply requires mounting on standoffs 0.20" (5mm) minimum in height.

## MECHANICAL DRAWING



## Notes:

1. Recommended assembly screws - It is recommended to use M3 SEMS screws with heads that do not exceed 5.5 pie.
2. Assemble on a metal plate with metal standoffs getting better EMI performance. When installing the power supply into the end-product, a non-conductive insulator should be placed between the unit and any conductive metal chassis or mounting platform.
3. All dimensions in mm.
4. This power supply requires mounting on metal standoffs 0.20" (5 mm) min. in height.
5. Weight: 370 g.



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## ABOUT ADVANCED ENERGY

Advanced Energy (AE) has devoted more than three decades to perfecting power for its global customers. AE designs and manufactures highly engineered, precision power conversion, measurement and control solutions for mission-critical applications and processes.

Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

**PRECISION | POWER | PERFORMANCE | TRUST**

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