

# 35 WATTS







## SRP-30/35A SERIES AC-DC

### FEATURES:

- RoHS Compliant
- Universal 85-264 VAC Input
- Advanced SMT Design
- Compact 3.0" x 6.0" x 2.0" Size
- 2 Year Warranty
- UL listed
- One to Four Outputs
- EN 60950-1 ITE Certification
- Class B Emissions per EN 55011/22
- EN 60601-1 Medical Certification
- EMC to EN 61000-6-2 & EN 60601-1-2



### SAFETY SPECIFICATIONS

General	Protection Class: I Overvoltage Category: II Pollution Degree: 2
 Underwriters Laboratories File E140259	UL 60601-1 1 <sup>st</sup> Edition, 2006 AAMI/ANSI ES 60601-1, 2005
	CB Reports/Certificates (including all National and Group Deviations) IEC 60950-1/A1:2009, Second Edition IEC 60601-1:1988 +A1:1991 +A2:1995 IEC 60601-1:2005 Third Edition
 File E137708	UL 60950-1 2 <sup>nd</sup> Edition, 2007 CAN/CSA-C22.2 No. 60950-1-07, 2 <sup>nd</sup> Edition
 UL Recognition Mark for Canada File E140259	CAN/CSA-C22.2 No. 601-1-M90, 2005 CAN/CSA-C22.2 No. 60601-1:2008
	EN 60950-1/A12:2011 EN 60601-1/A2:1995 EN 60601-1:2006
	Low Voltage Directive (2006/95/EC of December 2006) EMC Directive (204/108/EC of 31 December 2004) RoHS Directive (Recast) (2011/65/EU of June 2011)

### MODEL LISTING

MODEL NO.	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4	P MAX
SRP-30A-4001	+3.3V/3A	+5V/2A	+12V/.35A	-12V/.35A	28W
SRP-30A-4002	+5V/3A	+3.3V/2A	+12V/.35A	-12V/.35A	30W
SRP-30A-4003	+5V/3A	-5V/2A	+12V/.35A	-12V/.35A	30W
SRP-30A-4004	+5V/3A	-5V/2A	+15V/.35A	-15V/.35A	30W
SRP-30A-4005	+5V/3A	+24V/.75A	+12V/.35A	-12V/.35A	30W
SRP-30A-4006	+5V/3A	+24V/.75A	+15V/.35A	-15V/.35A	30W
SRP-30A-3001	+5V/3A	+12V/1.5A	-12V/.50A		30W
SRP-30A-3002	+5V/3A	+15V/1.5A	-15V/.50A		30W
SRP-30A-2001	+5V/3A	+24V/.75A			30W
SRP-30A-2002	+5V/3A	+12V/1.5A			30W
SRP-30A-2003	+5V/3A	-5V/3A			30W
SRP-30A-2004	+12V/1.5A	-12V/1.5A			30W
SRP-30A-2005	+15V/1.5A	-15V/1.5A			30W
SRP-30A-1001	3.3V/9A				30W
SRP-35A-1002	5V/7A				35W
SRP-35A-1003	12V/2.9A				35W
SRP-35A-1004	15V/2.3A				35W
SRP-35A-1005	24V/1.45A				35W
SRP-35A-1006	48V/0.73A				35W

### ORDERING INFORMATION

Please specify the following optional features when ordering:

I/O - Isolated outputs

### OUTPUT SPECIFICATIONS

Total Output Power	28-35W	Model Dependent
Output Voltage Centering	Output 1: ± 0.25% Output 2: ± 5.0% Output 3: ± 3.0% Output 4: ± 3.0%	(All outputs at 50% load)
Load Regulation	Output 1: 7.0% (1001) Output 1: 10.0% (4001) (Remote Sense) Output 2: 5.0% (4001,3 & 4) Output 2: 12.0% (2003,4002) Output 3: 1.0% Output 4: 1.0%	0-100% load change) 0-100% load change) 0-100% load change) (0-100% load change) (30-100% load change) (30-100% load change) (0-100% load change) (0-100% load change)
Cross Regulation	Output 2: 5.0% Output 3: 0.5% Output 4: 0.5%	(Output 1 load varied 50-100%)
Source Regulation	Outputs 1 – 4: 0.5%	
Output Noise	Outputs 1-4: 1.0%	
Turn on Overshoot	None	
Transient Response	Outputs 1 – 4	
Voltage Deviation	5.0%	
Recovery Time	2 mS	
Load Change	50% to 100%	
Output Overvoltage Protection	Output 1: 110% to 150%	
Output Overcurrent Protection	Outputs 3 & 4: 110% Min.	
Output Overpower Protection	Outputs 1 & 2 110% Min. Outputs cycle on/off, auto recovery	
Hold Up Time	12 mS min., 28-35W Output, 120V Input	
Start Up Time	1 Second	

### INPUT SPECIFICATIONS

Source Voltage	85 – 264 Volts AC
Frequency Range	47 – 63 Hz
Source Current	
True RMS	1A at 85V Input
Peak Inrush	30 A
Efficiency	.66 - .80(Varies by model)

### ENVIRONMENTAL SPECIFICATIONS

Ambient Operating	0° C to + 70° C
Temperature Range	Derating: See Power Rating Chart
Ambient Storage Temp. Range	- 40° C to + 85° C
Temperature Coefficient	Outputs 1 – 34 0.02%/°C
Vibration	MIL-STD-810E, Method 514.4, Category 1.
Shock	Transit Dropper MIL-STD-810E, Method 516.4, Procedure IV

### GENERAL SPECIFICATIONS

Means of Protection	
Primary to Secondary	2MOPP (Means of Patient Protection)
Primary to Ground	1MOPP (Means of Patient Protection)
Secondary to Ground	Operational Insulation(Consult factory for 1MOOP or 1MOPP)
Dielectric Strength <sub>(6)</sub>	
Reinforced Insulation	5656 VDC, Primary to Secondary, 1 Sec.
Basic Insulation	2545 VDC, Primary to Ground, 1 Sec.
Operational Insulation	707 VDC, Secondary to Ground, 1 Sec.
Leakage Current	
Earth Leakage	<300uA NC, <1000uA SFC
Touch Current	<100uA NC, <500uA SFC
Mean-Time Between Failures	100,000 Hours min., MIL-HDBK-217F, 25° C, GB
Weight	1.60 Lbs.

### ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

Electrostatic Discharge	EN 61000-4-2	±8kV Contact/ ±8kV Air Discharge
Radiated Electromagnetic Field	EN 61000-4-3	80MHz-2.5GHz, 10V/m, 80% AM
EFT/Bursts	EN 61000-4-4	±2 kV
Surges	EN 61000-4-5	±1kV Differential Mode ±2 kV Common Mode
Conducted Immunity	EN 61000-4-6	.15 to 80MHz, 3V, 80% AM
Voltage Dips and Interruptions	EN 61000-4-11	30% Reduction, 500ms 95% Reduction, 10ms 60% Reduction, 1s (Criteria B) 95% Reduction, 500ms
Radiated Emissions	EN 55011/22	Class B
Conducted Emissions	EN 55011/22	Class B

**SRP-30/35A SERIES MECHANICAL SPECIFICATIONS**

**DETAIL A**  
SINGLE OUTPUT  
8 PIN DIN



- 8 (+) SENSE
- 7 (+) OUTPUT 1
- 6 (+) OUTPUT 1
- 5 (+) OUTPUT 1
- 4 (-) OUTPUT 1
- 3 (-) OUTPUT 1
- 2 (-) OUTPUT 1
- 1 (-) SENSE

**DETAIL B**  
MULTIPLE OUTPUT  
8 PIN DIN

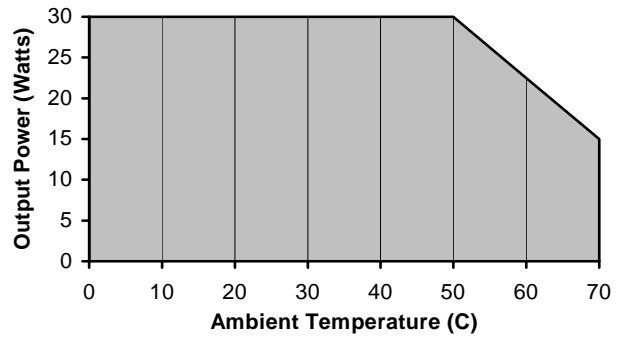


- 8 (-) OUTPUT 1
- 7 (+) OUTPUT 1
- 6 (-) OUTPUT 2
- 5 (+) OUTPUT 2
- 4 (-) OUTPUT 3
- 3 (+) OUTPUT 3
- 2 (-) OUTPUT 4
- 1 (+) OUTPUT 4

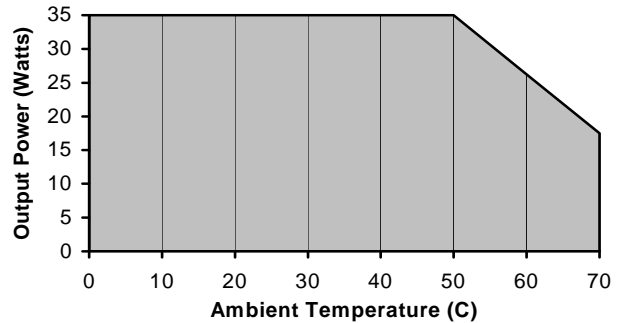
**APPLICATIONS INFORMATION**

- Each output can deliver its rated current but total power must not exceed 28-35 watts depending on model.
- Sufficient area must be provided around convection cooled power supplies to allow natural movement of air to develop.
- A minimum load of 10% is required on output one to ensure proper regulation of remaining outputs.
- Remote sense terminals may be used to compensate for cable losses up to 250mV. The use of a twisted pair is recommended as well as a decoupling capacitor (0.1 - 10µF) and a capacitor of 100µF/amp connected across the load side.
- Peak to peak output ripple and noise is measured directly across a 1µF ceramic capacitor at the output terminals of the power supply cord, without the use of the probe ground lead or retractable tip, 20 MHz bandwidth.
- This product was type tested and safety certified using the dielectric strength test voltages listed in Table 6 of IEC 60601-1:2005. In consideration of Clause 8.8.3, care must be taken to insure that the voltage applied to a reinforced insulation does not overstress different types and levels of insulation. Primary and secondary to ground capacitors may need to be disconnected prior to performing a dielectric strength test on the power supply or the end product. It is highly recommended that the DC test voltages listed in DVB.1, Annex DVB of UL 60601-1 1<sup>st</sup> Edition are not exceeded during a production-line dielectric strength test of the assembled end product. Please consult factory for further information.
- This power supply has been safety approved and final tested using a DC dielectric strength test. Please consult factory before performing an AC dielectric strength test.

**MAXIMUM OUTPUT POWER VS. AMBIENT TEMPERATURE (30W)**



**MAXIMUM OUTPUT POWER VS. AMBIENT TEMPERATURE (35W)**

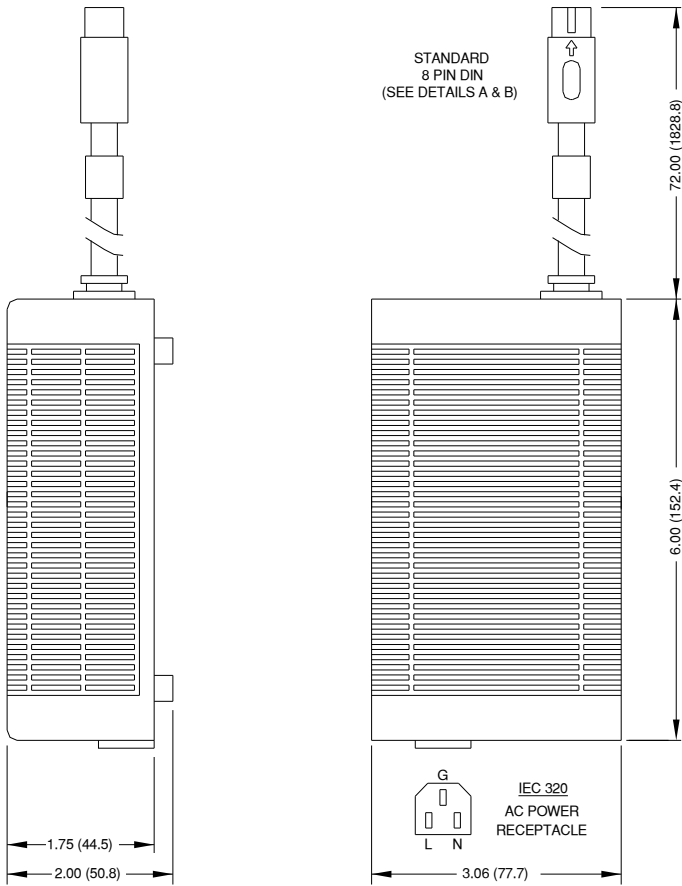


**CONNECTOR SPECIFICATIONS**

- AC Input IEC 320 AC Power Receptacle
- DC Output 8 pin connector mates with Power Dynamics 8 pin din socket #DS-048

**NOTES**

Consult factory for alternate output configurations.  
 Consult factory for positive, negative or floating output 2.  
 Refer to Applications Information for complete output power ratings.  
 All specifications are maximum at 25° C, 35W unless otherwise stated, may vary by model and are subject to change without notice.



ALL DIMENSIONS: INCHES (MM)