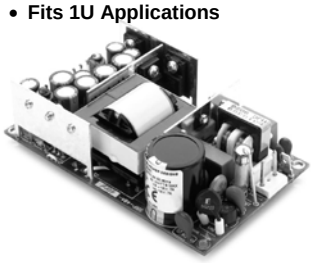
40 WATTS

SRP-40A SERIES AC-DC

FEATURES:

- **RoHS Compliant**
- **Universal 85-264 VAC Input**
- **Advanced SMT Design**
- **Compact 2.50" x 4.25" x 1.2" Size**
- **2 Year Warranty**
- **Fits 1U Applications**
- **One to Four Outputs**
- **EN 60950-1 ITE Certification**
- **EN 60601-1 Medical Certification**
- **Class B Emissions per EN 55011/22**
- **EMC to EN 610000-6-2 & EN 60601-1-2**
- **Optional Chassis and Cover**



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CHASSIS/COVER

SAFETY SPECIFICATIONS

General		Protection Class: I Overvoltage Category: II Pollution Degree: 2
c UL us	Underwriters Laboratories File E137708/E140259	UL 60950-1 2nd Edition, 2007 UL 60601-1 1st Edition, 2006 AAMI/ANSI ES 60601-1, 2005
IECEE CB SCHEME		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
c UL us	UL Recognition Mark for Canada File E137708/E140259	CAN/CSA-C22.2 No. 60950-1-07, 2nd Edition CAN/CSA-C22.2 No. 601-1-M9, 2005 CAN/CSA-C22.2 No. 60601-1:2008
TÜV SÜD	TUV	EN 60950-1/A12:2011 EN 60601-1/A2:1995 EN 60601-1:2006
CE	Low Voltage Directive RoHS Directive (Recast)	(2006/95/EC of December 2006) (2011/65/EU of June 2011)

MODEL LISTING

MODEL NO.	OUTPUT 1	OUTPUT 2	OUTPUT 3	OUTPUT 4
SRP-40A-4001	+3.3V/5A	+5V/3A	+12V/0.7A	-12V/0.7A
SRP-40A-4002	+5V/5A	+3.3V/3A	+12V/0.7A	-12V/0.7A
SRP-40A-4003	+5V/5A	-5V/3A	+12V/0.7A	-12V/0.7A
SRP-40A-4004	+5V/5A	-5V/3A	+15V/0.7A	-15V/0.7A
SRP-40A-4005	+5V/5A	+24V/1.5A	+12V/0.7A	-12V/0.7A
SRP-40A-4006	+5V/5A	+24V/1.5A	+15V/0.7A	-15V/0.7A
SRP-40A-4007	+3.3V/3.1A	+5V/1.25A	-24V/.27A	-51.6V/.25A
SRP-40A-3001	+5V/5A	+12V/2A	-12V/0.7A	
SRP-40A-3002	+5V/5A	+15V/2A	-15V/0.7A	
SRP-40A-3003	+24V/1.5A		+15V/0.7A	-15V/0.7A
SRP-40A-3004	+14.5V/1.5A	-14.5V/1.5A	+5V/1A	
SRP-40A-3005	+5.1V/5A	+15V/2A	+9V/0.7A	
SRP-40A-2001	+5V/5A	+24V/1.5A		
SRP-40A-2002	+5V/5A	+12V/3A		
SRP-40A-2003	+5V/5A	-5V/4A		
SRP-40A-2004	+12V/3A	-12V/3A		
SRP-40A-2005	+15V/2.5A	-15V/2A		
SRP-40A-2006	+30V/1.2A		-15V/0.7A	
SRP-40A-2007	+3.3V/5A		+5V/0.7A	
SRP-40A-2008	+6V/5A	+9V/1A		
SRP-40A-1001	3.3V/10A			
SRP-40A-1002	5V/8A			
SRP-40A-1003	12V/3.33A			
SRP-40A-1004	15V/2.67A			
SRP-40A-1005	24V/1.67A			
SRP-40A-1006	48V/0.83A			
SRP-40A-1007	9V/4.45A			

OUTPUT SPECIFICATIONS

Total Output Power at 50°C	40W (33W, 1001)		
Output Voltage Centering	Output 1: Output 2: Output 3: Output 4:	± 0.25% ± 5.0% ± 3.0% ± 3.0%	(All outputs at 50% load)
Output Voltage Adjust Range	Output 1:	95 - 105%	
Load Regulation	Output 1: Output 2: (2003,4002) Output 3: Output 4:	0.5% 5.0% 7.0% 0.5% 0.5%	(10-100% load change) (30-100% load change) (30-100% load change) (10-100% load change) (10-100% load change)
Source Regulation	Outputs 1 – 4:	0.5%	
Cross Regulation	Output 2: Output 3: Output 4:	5.0% 0.5% 0.5%	(Output 1 varied 50-100%)
Output Noise	Outputs 1 - 4:	1.0%	
Turn on Overshoot	None		
Transient Response Voltage Deviation Recovery Time Load Change	Outputs 1 – 4 5.0% 2 mS 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: Outputs cycle on/off, auto recovery	110% Min.	
Hold Up Time	10 mS min., 40 W 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 Peak Inrush	 1A at 85V Input 30 A
Efficiency	.66 - .80 (Varies by model)

ENVIRONMENTAL SPECIFICATIONS

Ambient Operating Temperature Range	0° C to + 70° C Derating: See Power Rating Chart
Ambient Storage Temp. Range	- 40° C to + 85° C
Temperature Coefficient	Outputs 1 – 4: 0.02%/°C

GENERAL SPECIFICATIONS

Means of Protection Primary to Secondary Primary to Ground Secondary to Ground	 2MOPP (Means of Patient Protection) 1MOPP (Means of Patient Protection) Operational Insulation(Consult factory for 1MOOP or 1MOPP)
Dielectric Strength(10) Reinforced Insulation Basic Insulation Operational Insulation	 5656 VDC, Primary to Secondary, 1 Sec. 2545 VDC, Primary to Ground, 1 Sec. 707 VDC, Secondary to Ground, 1 Sec.
Leakage Current Earth Leakage Touch Current	 <300uA NC, <1000uA SFC <100uA NC, <500uA SFC
Mean-Time Between Failures	100,000 Hours min., MIL-HDBK-217F, 25° C, GB
Weight	0.49 Lbs. Open Frame 0.85 Lbs. Chassis and Cover

ELECTROMAGNETIC COMPATIBILITY SPECIFICATIONS

Electrostatic Discharge	EN 61000-4-2	±8kV Contact Discharge ±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	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

ORDERING INFORMATION

Please specify the following optional features when ordering:

CH - Chassis
CO - Cover
I/O - Isolated outputs
TS - Terminal Strip

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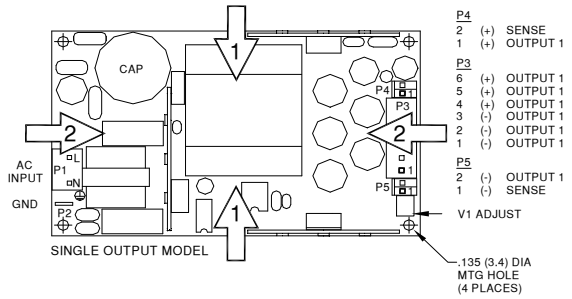
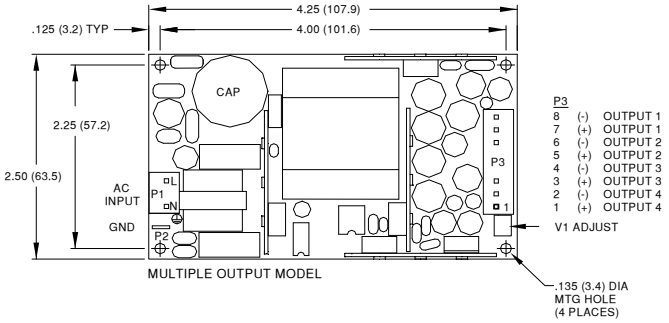
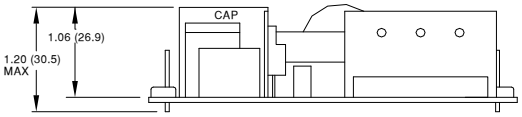
SRP-40A Series Mechanical Specifications

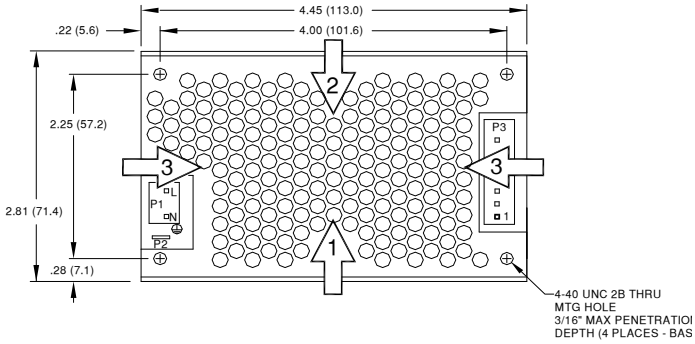
OPEN FRAME

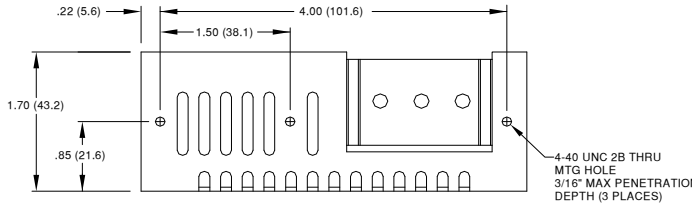






OPTIONAL CHASSIS/COVER





ALL DIMENSIONS IN INCHES (MM)

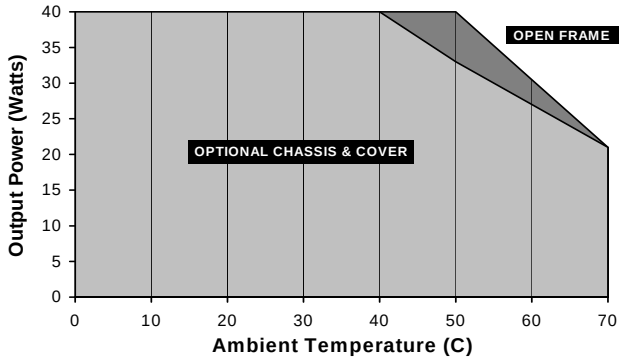
NOTES

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, 40W unless otherwise stated, may vary by model and are subject to change without notice.
Specify DC Input when ordering. only: SRP-40A-3003

Applications Information

1. Each output can deliver its rated current but total output power must exceed 40 watts (33W, 1001).
2. Maximum ambient temperature is reduced to 40° C with optional chassis and cover. See chart below.
3. Semiconductor case temperatures must not exceed 110°C.
4. Sufficient area must be provided around convection cooled power supplies to allow natural movement of air to develop.
5. This product is intended for use as a professionally installed component within information technology and medical equipment.
6. A minimum load of 10% is required on output one to ensure proper regulation of remaining outputs.
7. 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.
8. Peak to peak output ripple and noise is measured directly at the output terminals of the power supply, without the use of the probe ground lead or retractable tip, 20 MHz bandwidth.
9. This product includes only one fuse in the input circuit. In consideration of Clause 8.11.5 of IEC 60601-1:2005, a second fuse may be required in the end product.
10. 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 1st Edition are not exceeded during a production-line dielectric strength test of the assembled end product. Please consult factory for further information.
11. 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.
12. Maximum screw penetration into bottom chassis mounting holes is .100 inches.
13. Maximum screw penetration into side chassis mounting holes is .250 inches.
14. To meet emissions specifications, all four mounting hole pads must be electrically connected to a common metal chassis. Chassis/cover option recommended.

Maximum Output Power vs. Ambient Temperature



Connector Specifications

P1	AC Input	.156 friction lock header mates with Tyco 640250-3 or equivalent crimp terminal housing with Tyco 3-640706-1 or equivalent crimp terminal.
P3	DC Output (Single)	.156 friction lock header mates with Tyco 770849-6 or equivalent crimp terminal housing with Tyco 3-640707-1 or equivalent crimp terminal.
P3	DC Output (Multiple)	.156 friction lock header mates with Tyco 770849-8 or equivalent crimp terminal housing with Tyco 3-640707-1 or equivalent crimp terminal.
P4,P5	Sense	.100 friction lock header mates with Molex 22-01-2027 or equivalent crimp terminal housing with Molex 08-50-0114 or equivalent crimp terminal.
G	Ground	.187 quick disconnect terminal.

Recommended Air Flow Direction

1 – Optimum 2 – Good 3 – Fair

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