

# 40 WATTS

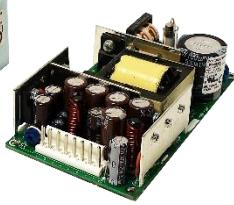
## SINGLE/MULTI OUTPUT AC-DC

### FEATURES:

- Compact 2.5" x 4.25" x 1.2" Size
- 2 Year Warranty
- Universal 85-264V Input
- One to Four Outputs
- 0-70°C Operating Temperature
- IEC 60601-1 3<sup>rd</sup> ed. Medical Cert.
- IEC 62368-1 2<sup>nd</sup> ed. Certification
- IEC 60601-1-2 4<sup>th</sup> ed. EMC
- Class B Emissions per EN55011/32
- RoHS Compliant
- Optional Chassis/Cover



CHASSIS/COVER



OPEN FRAME

### SAFETY SPECIFICATIONS

 **UL** Underwriters Laboratories  
File E137708/E140259

UL 62368-1:2014, 2<sup>nd</sup> Edition  
CAN/CSA-C22.2 No. 62368-1-14, 2<sup>nd</sup> Edition  
AAMI/ANSI ES60601-1:2005(R) 2012(R)2021  
CAN/CSA-C22.2 No. 60601-1:2014:2022

 **IEC68** CB Reports/Certificates (including all National and Group Deviations)

IEC 62368-1:2014, 2<sup>nd</sup> Edition  
IEC 60601-1:2005/A1:2012

 **TUV SUD** America

EN 62368-1:2014, 2<sup>nd</sup> Edition  
EN 60601-1:2006/A1:2013



Low Voltage Directive (2014/35/EU of February 2014)  
RoHS Directive (Recast) (2015/863/EU of March 2015)



Electrical Equipment (Safety) Regulations 2016 SI No. 1101  
Restriction of the Use of Certain Hazardous Substances in EEE Regulations 2012 SI No. 3032 + 2019 SI No.492

### 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/0.27A	-51.6V/0.25A
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-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-2009	+30V/0.5A	-30V/0.5A		
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			
SRP-40A-1008	12V/3.33A			

### ORDERING INFORMATION

Consult factory for alternate output configurations.

Consult factory for positive, negative or floating Output 2.

Specify DC Input when ordering SRP-40A-3003 only.

Please specify the following optional features when ordering:

CH - Chassis

I/O - Isolated Outputs

CO - Cover

TS - Terminal Strip

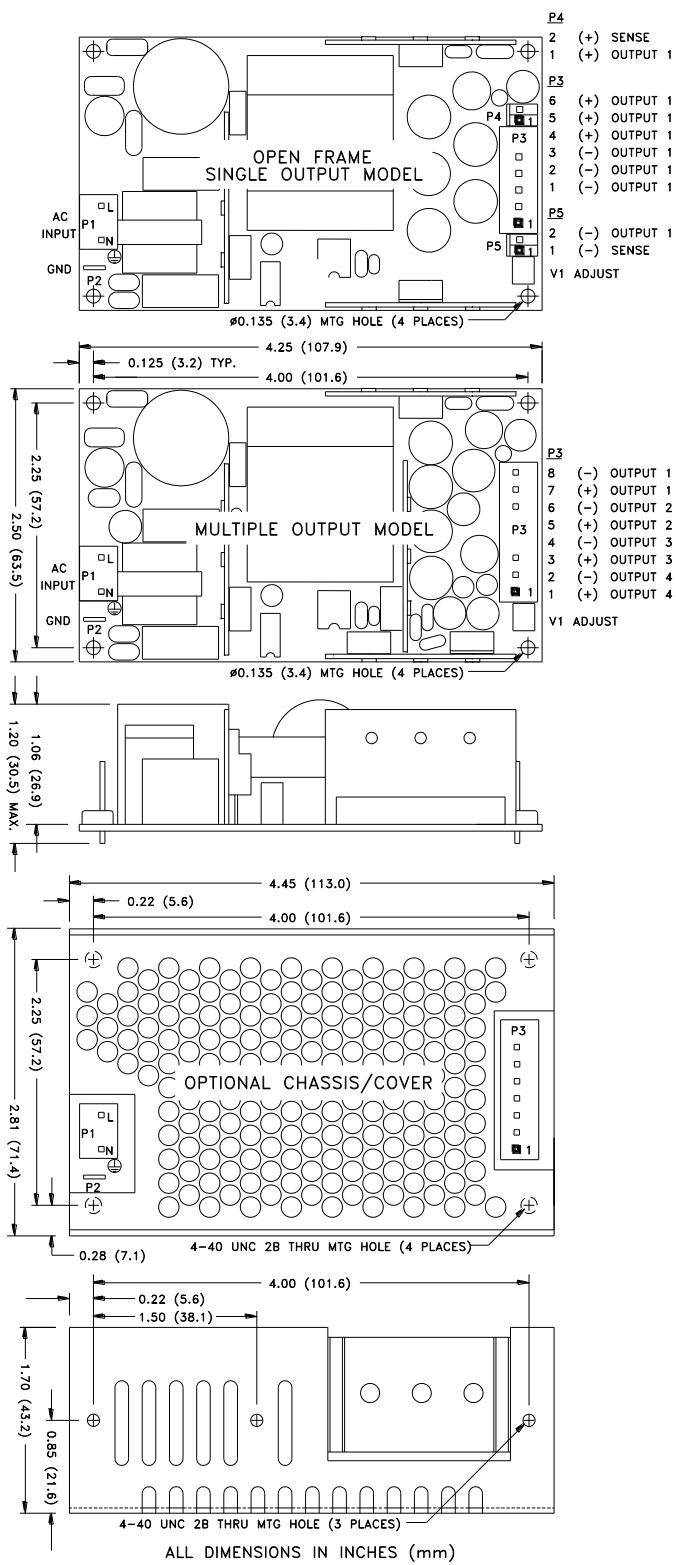
# SRP-40A

### OUTPUT SPECIFICATIONS

Total Output Power at 50°C <sub>(1)</sub> (See Derating Chart)	40W (33W, 1001)
Output Voltage Centering	Output 1: ± 0.25% (All outputs) Output 2: ± 5.0% at 50% load Output 3: ± 3.0% Output 4: ± 3.0%
Output Voltage Adjust Range	Output 1: 95 - 105%
Load Regulation	Output 1: 0.5% (10-100% load change) Output 2: 5.0% (30-100% load change) (2003,4002) 7.0% (30-100% load change) Output 3: 0.5% (10-100% load change) Output 4: 0.5% (10-100% load change)
Source Regulation	Outputs 1 - 4: 0.5%
Cross Regulation	Output 2: 5.0% (Output 1 varied 50-100%) Output 3: 0.5% Output 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	10 ms min., 40 W Output, 120V Input
Start Up Time	1 Second
<b>INPUT SPECIFICATIONS</b>	
Protection Class	I
Source Voltage	85 - 264 Volts AC
Frequency Range	47 - 63 Hz
Source Current	True RMS 1A at 85V Input Peak Inrush 30 A
Efficiency	0.66 - 0.80 (Varies by model)
<b>ENVIRONMENTAL SPECIFICATIONS</b>	
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 - 4: 0.02%/ <sup>o</sup> C
Altitude	3,000m ASL - Operating - Medical 60601-1 5,000m ASL - Operating - ITE/AV - 62368-1 12,192m ASL - Non-Operating
<b>GENERAL SPECIFICATIONS</b>	
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 1MOPP)
Dielectric Strength <sup>(8, 9)</sup>	Reinforced Insulation 5656 VDC, Primary to Secondary Basic Insulation 2121 VDC, Primary to Ground Operational Insulation 707 VDC, Secondary to Ground
Leakage Current	Earth Leakage <300 $\mu$ A NC, <1000 $\mu$ A SFC Touch Current <100 $\mu$ A NC, <500 $\mu$ A 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
<b>EMC SPECIFICATIONS (IEC 60601-1-2:2014, 4<sup>TH</sup> ED./IEC 61000-6-2:2005)</b>	
Electrostatic Discharge	EN 61000-4-2 ±8KV contact / ±15KV air discharge A
Radiated Electromagnetic Field	EN 61000-4-3 80MHz-2.7GHz, 10V/m, 80% AM A
Electrical Fast Transients/Bursts	EN 61000-4-4 ±2 KV, 5KHz/100KHz A
Surge Immunity	EN 61000-4-5 ±2 KV line to earth / ±1 KV line to line A
Conducted Immunity	EN 61000-4-6 0.15 to 80MHz, 10V, 80% AM A
Magnetic Field Immunity	EN 61000-4-8 30A/m, 60 Hz. A
Voltage Dips	EN 61000-4-11 0% Ut, 0.5 cycles, 0-315° 100/240V A/A 0% Ut, 1 cycles, 0° 100/240V A/A 40% Ut, 10/12 cycles, 0° 100/240V B/A 70% Ut, 25/30 cycles, 0° 100/240V B/A
Voltage Interruptions	EN 61000-4-11 0% Ut, 300 cycles, 0° 100/240V B/B
Radiated Emissions	EN 55011/32 Class B
Conducted Emissions	EN 55011/32 Class B
Harmonic Current Emissions	EN 61000-3-2 Class A
Voltage Fluctuations/Flicker	EN 61000-3-3 Compliant

All specifications are maximum at 25°C/40W unless otherwise stated, may vary by model and are subject to change without notice.

## SRP-40A SERIES MECHANICAL SPECIFICATIONS

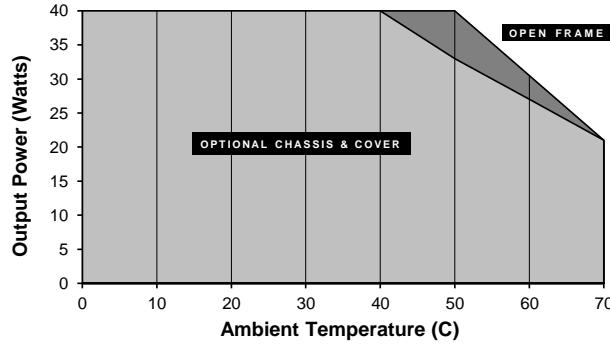


ALL DIMENSIONS IN INCHES (mm)

## APPLICATIONS INFORMATION

- Each output can deliver its rated current but Total Output Power must not exceed 40W (33W, 1001).
- Generally, adequate cooling is provided when semiconductor case temperatures do not exceed 70°C rise and transformer temperature does not exceed 60°C rise at any specified ambient temperature.
- Sufficient area must be provided around power supply to allow natural movement of air to develop in convection-cooled applications.
- This product is intended for use as a professionally-installed component within information technology, industrial, and medical equipment and is not intended for stand-alone operation.
- A minimum load of 10% is required on Output 1 to ensure proper regulation of remaining outputs.
- 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 neutral conductor of the end product.
- 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 (tip-and-barrel method, 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.
- Remote-Sense terminals may be used to compensate for cable losses up to 250mV, depending on model. The use of a twisted pair, decoupling capacitors, and an appropriately-rated low-impedance capacitor connected across the load will increase noise immunity.
- Maximum screw penetration into bottom chassis mounting holes is 0.100 inches. Maximum screw penetration into side chassis mounting holes is 0.250 inches.
- To comply with emissions specifications, all four mounting hole pads must be electrically connected to a common metal chassis. Chassis/Cover option is recommended. Refer to Operating Instructions for additional information.
- Common RF shielding precautions may need to be taken to assure emissions compliance. Refer to Operating Instructions for additional information.
- Maximum Ambient Temperature is reduced to 40°C with optional Chassis and Cover. See chart below.

## MAXIMUM OUTPUT POWER vs. AMBIENT TEMPERATURE



## CONNECTOR SPECIFICATIONS

P1	AC Input	0.156 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)	0.156 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)	0.156 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	0.100 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	0.187 quick disconnect terminal.