

UNIVERSAL 10W POWER SUPPLY RUGGIDIZED MILITARY DESIGN	RTPS10-XX-02 Series 10/13/2021
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- * AC to DC USB power supply
- * MIL-STD-810G and MIL-STD-461F compliant
- * Universal input 100~240V +/- 10%
- * USB Type-C screw locking output connector
- * Compact size
- * UL Listed 60950-1

Ritronics, Inc.

AC TO DC POWER SUPPLY
 MODEL: RTPS10-05-02A
 INPUT: 100-240~, 47-63HZ, 0.5A
 OUTPUT: +5VDC, 2A

CONNECTOR PINOUT



SPECIFICATIONS

MODEL		RTPS 10 series	
INPUT	Voltage and Frequency	90~264Vac, 47 ~ 63Hz	
	AC Current	0.5 A maximum at any input voltage range at maximum load condition	
	Maximum AC Inrush	30A peak with a duration not to exceed 100msAC	
	Transient Protection	Meets ANSI C62.41-1991 Category A1, 2.5KV Ringwave and/or EN61000-4-5, with 1KV line to line and 2KV line to earth.	
OUTPUT	Part Number	RTPS10-05-02	RTPS10-12-02
	Output Voltage (Set Point)	5V	12V
	Current (A) Minimum	0A	0A
	Current (A) Maximum	2A	0.83A
	Max Rated Power(over full temp range)	10W	10W
	Combined Load/Line Regulation	+/-5% including set point, line and load regulation over the full operating temperature range when measured at the output connector	
	Turn on time	Following thermal soaking over operating temperature range power supply shall meet the requirements of AC Input and DC Output within 1-2 seconds of AC power being applied.	
	Ripple and Noise	150mV p-p maximum as measured over full operating range(temperature and load) within the bandwidth of 10Hz to 20MHz.	
	Efficiency	74% or better at 75% maximum DC load measured at the DC cable output with respect to the AC cable input	
	Hold up time	10 milliseconds minimum at 75% full load, at 120 V input, @ 25°C.	
PROTECTION	Output Over Current Protection	Short circuit and over current protection with autoresetting	
	Output Over Voltage Protection	At 110% of nominal minimum.	
	ESD Susceptibility	± 4KV minimum for contact and ± 8KV minimum for air discharge per EN 61000-4-2.	
ENVIRONMENT	Operating Temperature	-40°C to +60°C.	
	Surface Temperature	Max of +49°C at +25°C ambient with rated output DC power per MIL-STD-147G section 5.7.6.9.1, Thermal Contact Hazards	
	Operating Humidity	10% to 95% relative humidity without condensation	
	Storage Temp., Storage Humidity	-40°C to +85°C, Up to 95% relative humidity without condensation	
	Altitude	-1500 to 50,000ft operating at 25°C, -1500 to 15,000ft operating and -1500 to 70,000ft storage over full temperature range	
	Shock and Vibration	Vibration per IAW MIL-STD-810G, Method 514.6, Procedure 1, Category 4, 120 minutes per axis. Shock per IAW MIL-STD-810G, Method 516.6, Procedure 1, 20g peak, 11ms duration.	
	Drop Damage	No damage or malfunction after exposure to drop test IAW MIL-STD-810G Method 516.6 Procedure-IV Transit Drop.	
SAFETY & EMC	Safety Standards	Complies with the applicable UL, CSA, RCM, CE and IEC safety requirements, including GS differences. Official qualification for each, including CB scheme and listed for UL 60950-1. Note: RCM is only available for the Australian Power Supplies with AS/ NZS3112 AC Input Plugs. Maximum allowable leakage current is 3.5mA for 3 prong AC power plug (Class 1 Equipment)	
	EMI Conduction & Radiation	Meets FCC Part 15 Subpart A and B Class B, ICES-003, CISPR32, CISPR-24, EN 55032, EN 61000-3-2, EN 61000-3-3 Meets MIL-STD-461F, 102,RE102,CS101,CS114,CS115,CS116,RS103. The limits for Army Ground shall apply except where Fixed Wing External/Helicopter limit is specified per figure RE102-3 per page 104 of MIL-STD-461F shall apply.	
	Isolation	* 1500VAC minimum from AC input to DC output * 1500VAC minimum from AC input to Chassis Ground * 141VDC from DC output pins to USB connector shell draws no more than 141V/1MegOhm=141 uA	
	Burn-In	48 hours at 100% rated load prior to final testing	
	MTBF	500K hrs minimum at 25°C, convection cooled, per part calculation method	
	Warranty	3 years	

UNIVERSIAL 10W POWER SUPPLY

RTPS10-XX-02 Series

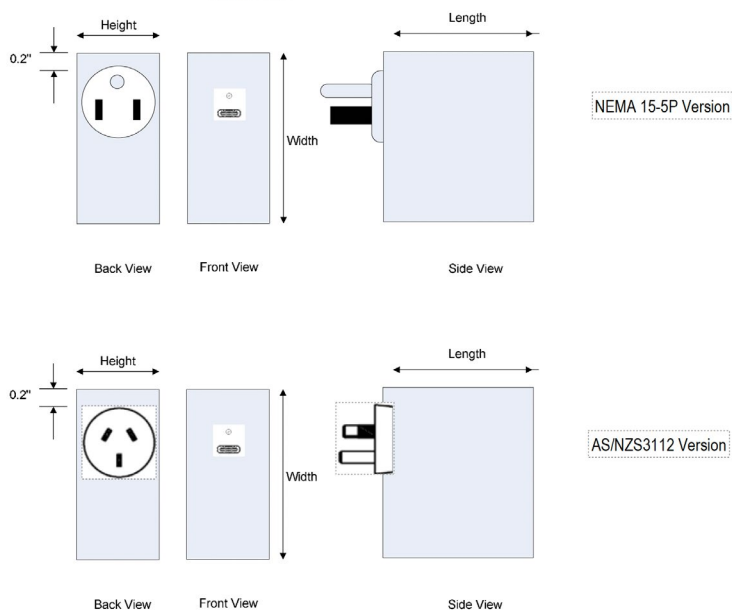
RUGGIDIZED MILITARY DESIGN

13/10/2021

MECHANICAL

Physical Construction Rugged enclosure with potting offers improved shock and vibration performance and resistance to environmental factors
 Dimensions ~2.0 (L) X 3.0(W) X 1.2(H) INCH
 AC Input Plug NEMA 15-5P for North America or AS/NZS 3112 for Australia
 DC Output Cable USB Type-C single screw locking connector - meets IP55 minimum

Figure 1



Part Number	Input Plug
RTPS10-05-02A	NEMA 15-5P
RTPS10-05-02B	AS/NZS 3112
RTPS10-12-02A	NEMA 15-5P
RTPS10-12-02B	AS/NZS 3112

USB Output Pin Connections	
A4, B4, A9, B9	+VDC
A1, B1, A12, B12	+VDC Return
A5	Vcom
B5	CC
Shell	+VDC Return, chassis ground