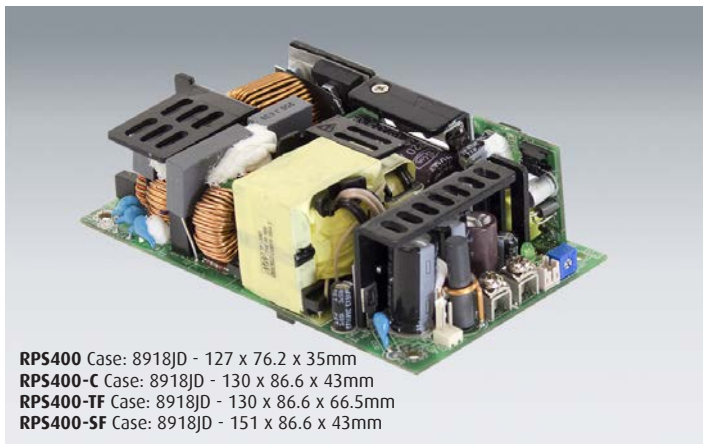


RPS-400 Series

400W Single Output Green Medical Power Supply



RPS400 Case: 8918JD - 127 x 76.2 x 35mm
RPS400-C Case: 8918JD - 130 x 86.6 x 43mm
RPS400-TF Case: 8918JD - 130 x 86.6 x 66.5mm
RPS400-SF Case: 8918JD - 151 x 86.6 x 43mm

Features

- 5" x 3" compact size
- Medical safety approved (2 x MOPP) according to AAMI/ANSI ES60601-1 and IEC/EN60601-1
- Suitable for BF application with appropriate system configuration
- 250W convection, 400W force air
- EMI Class B for Class I and Class A for Class II configuration
- No load power consumption <0.5W by PS-ON control
- Protections: Short circuit / Overload / Over voltage/ Over Temperature
- 5Vdc standby output, 12Vdc fan supply, power good, power fail and remote sense
- Typical Lifetime:
RPS-400 71K hours, RPS-400-C 28K hours (without fan)
RPS-400 98K hours, RPS-400-C 37K hours (with fan)
RPS-400-TF 69K hours, RPS-400SF 57K hours (with fan)
- Operating Altitude up to 4000 metres
- 3 years warranty



Specification

INPUT	Voltage	80 ~ 264VAC 113 ~ 370VDC							
	Frequency	47 ~ 63 Hz							
	Power Factor	PF >0.94/230VAC PF>0.98/115 VAC at full load							
	Efficiency	91.5%	92%	93%	93%	93.5%	93%	94%	
	AC Current (Typ.)	4.2A/115VAC		2.1A/230VAC					
	Inrush Current (Typ.)	Cold start 40A/115VAC		80A/230VAC					
	Leakage Current (max)	Earth leakage current <250µA/264VAC, Touch current <100µA/264VAC							
OUTPUT	Model Number	RPS-400-12 <input type="checkbox"/>	RPS-400-15 <input type="checkbox"/>	RPS-400-18 <input type="checkbox"/>	RPS-400-24 <input type="checkbox"/>	RPS-400-27 <input type="checkbox"/>	RPS-400-36 <input type="checkbox"/>	RPS-400-48 <input type="checkbox"/>	
	DC Voltage	12V	15V	18V	24V	27V	36V	48V	
	Current	Convection	20.8A	16.7A	13.9A	10.4A	9.3A	7A	5.3A
		25CFM	33.3A	26.7A	22.3A	16.7A	14.9A	11.2A	8.4A
	Rated Power	Convection	249.6W	250.5W	250.2W	252W	251.1W	252W	254.4W
		25CFM	399.6W	400.5W	401.4W	400.8W	402.3W	403.2W	403.2W
	R&N	120mVp-p	150mVp-p	180mVp-p	200mVp-p	200mVp-p	250mVp-p	250mVp-p	
	Voltage Adj. Range	11.4 ~ 12.6V	14.3 ~ 15.8V	17.1 ~ 18.9V	22.8 ~ 25.2	25.6 ~ 28.4V	34.2 ~ 37.8V	45.6 ~ 50.4V	
	Voltage Tolerance	±3.0%	±3.0%	±3.0%	±2.0%	±1.0%	±1.0%	±1.0%	
	Line Regulation	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	
	Load Regulation	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%	
	Setup, Rise Time	1000ms, 30ms/230VAC 1500ms, 30ms/115VAC at full load							
Hold Up Time	16ms/230VAC 12ms/115VAC at full load								
PROTECTION	Overload	105 ~ 135% rated output power Protection type: hiccup mode, recovers automatically after fault condition is removed							
	Over Voltage	13.2 ~ 15.6V	16.5 ~ 19.5V	19.8 ~ 23.4V	26.4 ~ 31.2V	29.7 ~ 35.1V	39.6 ~ 46.8V	52.8 ~ 62.4V	
	Over Temperature	Protection type: (TSWT) Shut down o/p voltage, recovers automatically after temperature goes down							
FUNCTION	5V Standby	5VSB: 5V/0.6A without fan, 1A with fan 25CFM; tolerance ±2% ripple: 120mVp-p (max)							
	Fan Supply	12V@0.5A for driving a fan; tolerance ±10%							
	PS-ON Input Signal	Power on: PS-ON = 'Hi' or '>2 ~ 5V'; Power off: PS-ON= 'Low' or '0 ~ 0.5V'							
ENVIRONMENT	Power good / Power Fail	500ms >PG>10ms; The TTL signal goes high with 10ms to 500ms delay after power setup; The TTL signal goes low at least 1ms before Vo below 90% of rated value							
	Working Temperature	-30 ~ +70°C (Refer to Derating Curve)							
	Working Humidity	20 ~ 90% RH non-condensing							
	Storage Temperature	-40 ~ +85°C, 10 ~ 95% RH non-condensing							
	Temp. Coefficient	±0.03%/°C (0-50°C)							
	Vibration	10 ~ 500Hz, 2G 10 min./1cycle, period for 60min. each along X, Y, Z axes							
	Operating Latitude	4000 meters							
SAFETY & EMC	Safety Standards	IEC60601-1, TUV EN60601-1, UL AAMI/ANSI ES60601-1, (3.1 version), CAN/CSA-C22 ^{3rd} edition approved							
	Isolation Level	Primary-Secondary: 2xMOPP, Primary-Earth: 1xMOPP, Secondary-Earth: 1xMOPP							
	Withstand Voltage	I/P-O/P:4KVAC I/P-FG:2KVAC O/P-FG:1.5KVAC							
	Isolation Resistance	I/P-O/P I/P-FG:100M Ohms / 500VDC / 25°C / 70% RH							
	EMC Emission	Compliance to EN55011, Class B, (CISPR11), EN61000-3-2,-3 Class A							
OTHERS	EMC Immunity	Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN60601-1-2, EN61204-3, criteria A							
	MTBF	194.1Khrs min. MIL-HDBK-217F (25°C)							
	Packing	RPS400: 0.39kg; 36pcs/15kg/1.03CUFT / RPS400-C: 0.51kg; 24pcs/13.2kg/0.77CUFT RPS400-TF: 0.58kg; 24pcs/14.9kg/0.86CUFT / RPS400-SF: 0.64kg; 24pcs/16.4kg/0.91CUFT							

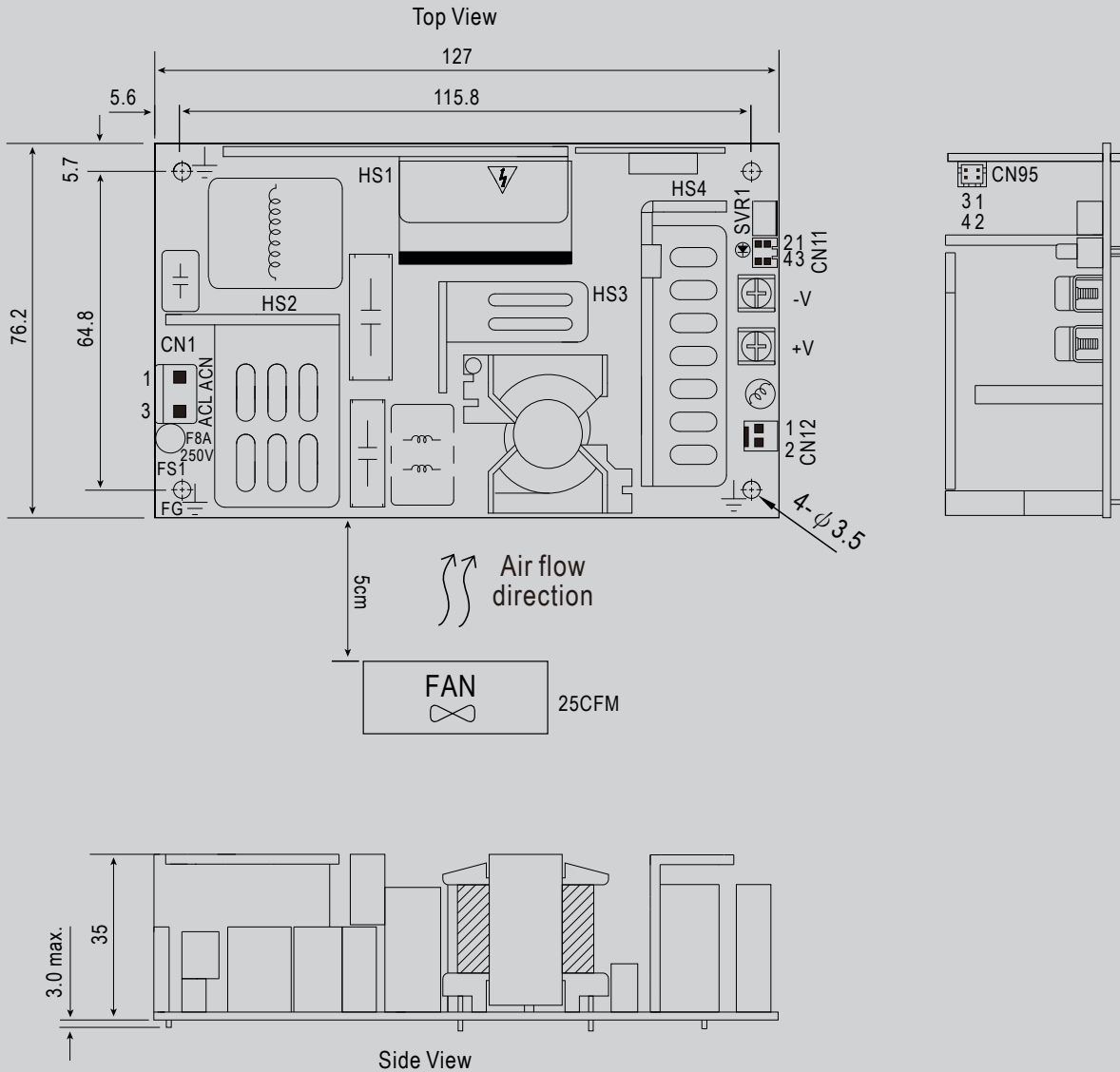
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz by using a 12" twisted pair-wire terminated with a 0.1µf & 47µf parallel capacitor.
3. Tolerance: includes set up tolerance, line regulation, load regulation.
4. Derating may be needed under low input voltages. Please check the derating curve for more details.
5. Touch current was measured from primary input to DC output.
6. The power supply is considered as a component which will be installed into final equipment. All the EMC tests are being executed by mounting the unit on a 360mm" 360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to 'EMI testing of component power supplies'.

RPS-400 Series

400W Single Output Green Medical Power Supply



RPS 400 (PCB) Mechanical Specification



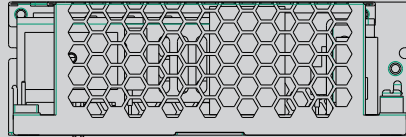
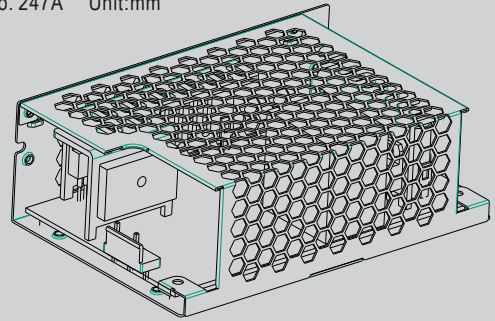
RPS-400 Series

400W Single Output Green Medical Power Supply

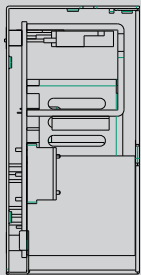


RPS-400-C (Enclosed) Mechanical Diagram

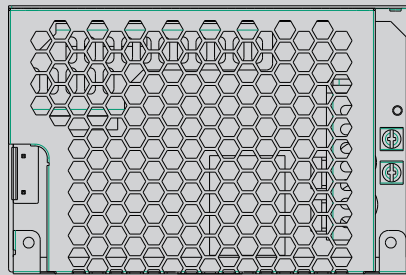
Case No. 247A Unit:mm



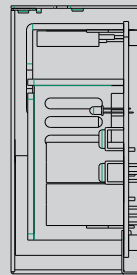
Side View



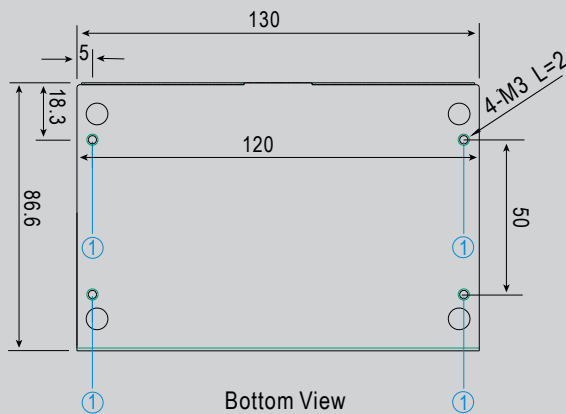
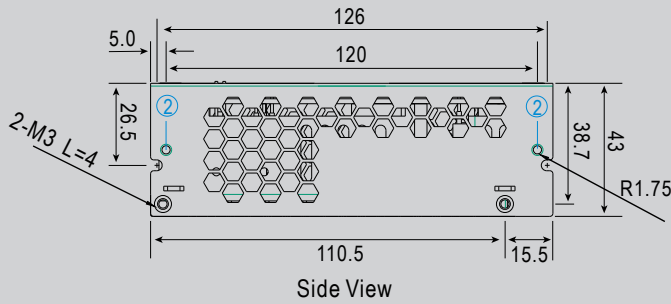
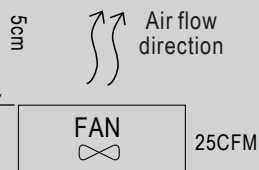
Side View



Top View



Side View



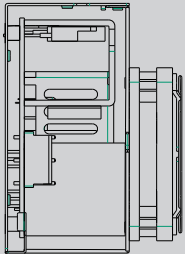
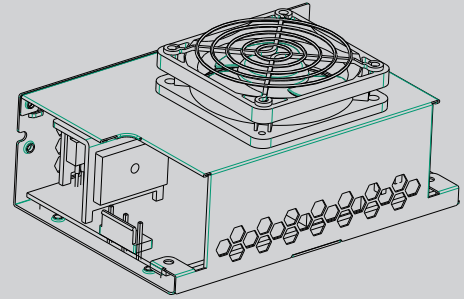
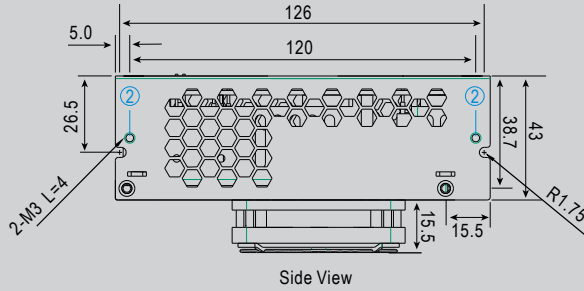
RPS-400 Series

400W Single Output Green Medical Power Supply

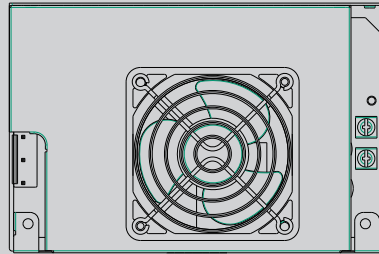


RPS-400-TF (Enclosed type with fan on the top)

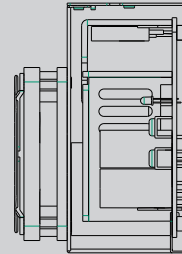
Case No. 247A-D 247B-T Unit:mm



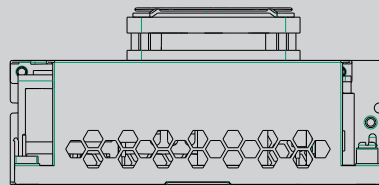
Side View



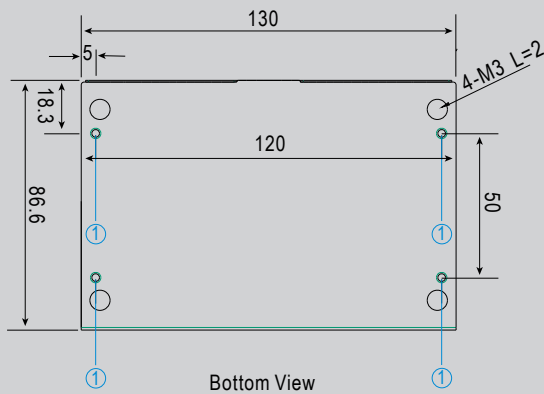
Top View



Side View



Side View



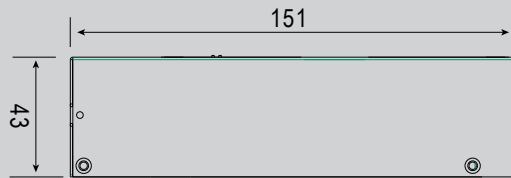
RPS-400 Series

400W Single Output Green Medical Power Supply

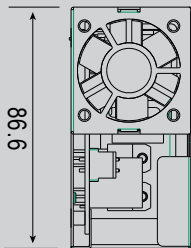
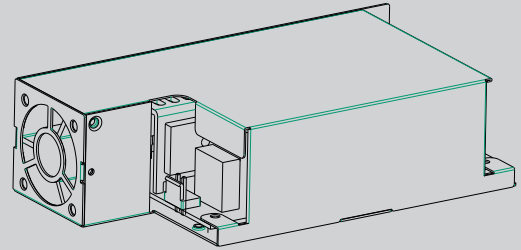


RPS-400-SF (Enclosed type with fan on the side)

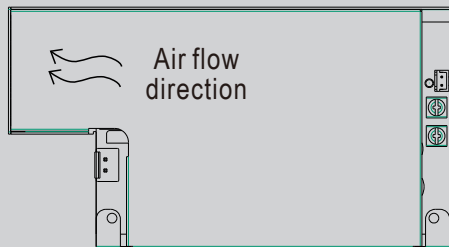
Case No. 248A Unit:mm



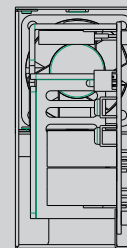
Side View



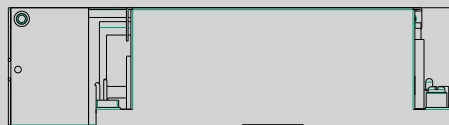
Side View



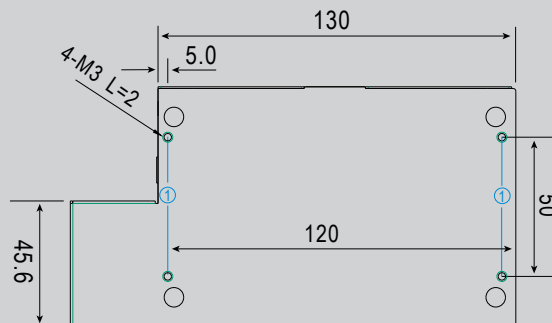
Top View



Side View



Side View



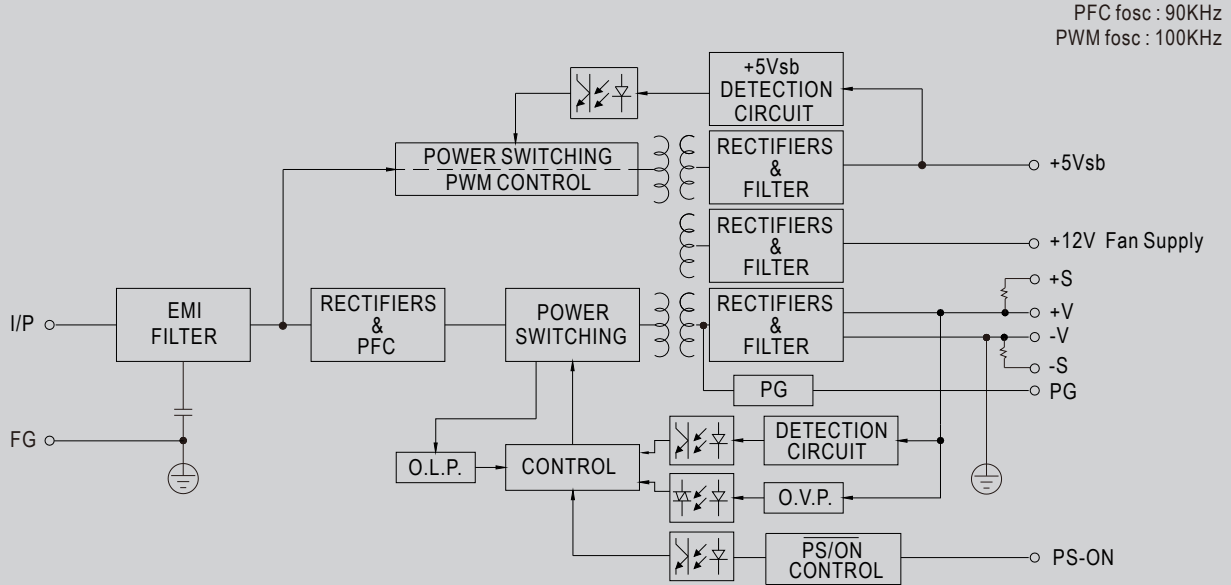
Bottom View

RPS-400 Series

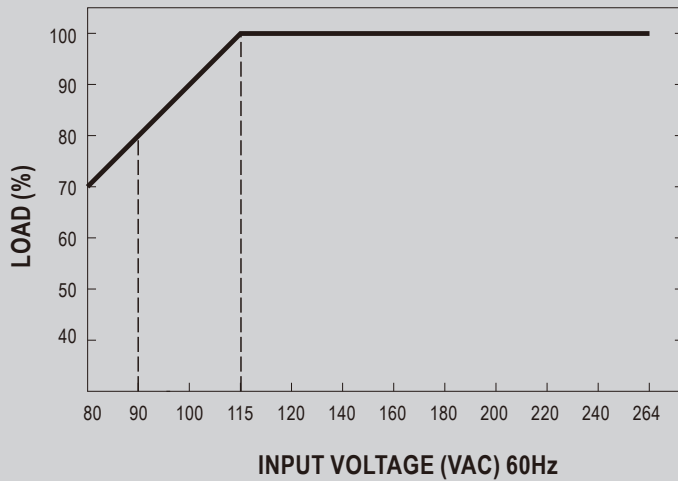
400W Single Output Green Medical Power Supply



Block Diagram



Output Derating vs Input Voltage

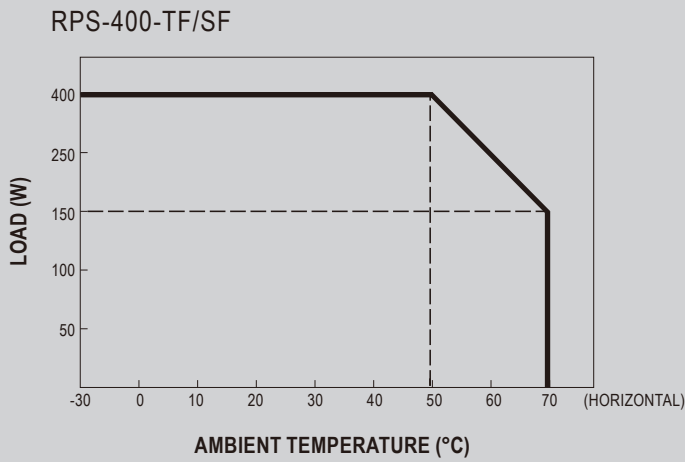
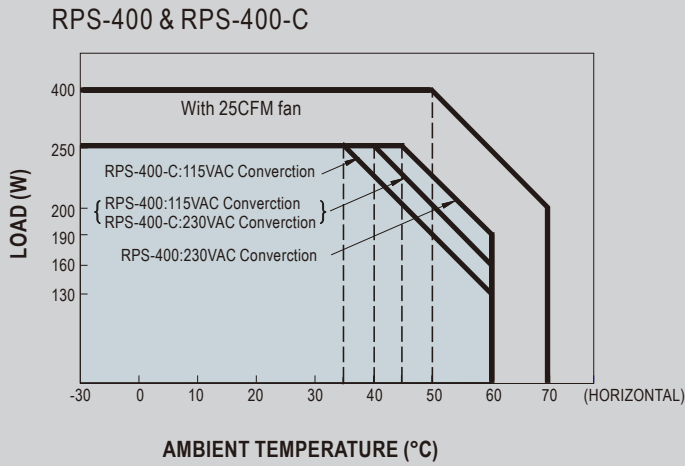






RPS-400 Series

400W Single Output Green Medical Power Supply



Derating Curve

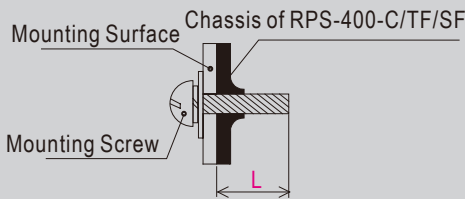


Order No.	RPS-400	RPS-400-C	RPS-400-TF	RPS-400-SF
Photo				
Without Fan Watt	250W	250W	---	---
With Fan Watt	400W	400W	400W	400W

Mounting Instructions

Mounting Instruction for -C/-TF/-SF Type

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M3	2mm	4~6Kgf-cm
②	M3	4mm	4~6Kgf-cm



CONNECTION

AC Input Connector (CN1) : JST B3P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	AC/N	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/L		

Function Connector(CN11): TKP DH2I-2X2 or equivalent


Pin No.	Assignment	Mating Housing	Terminal
1	-S	TKP DH2 or equivalent	TKP or equivalent
2	+S		
3	DC COM		
4	PG		

DC Output Connector (CN2,CN3)

Pin No.	Assignment	Output Terminals
CN2	-V	M4 Pan HD screw in 2 positions Torque to 8 lbs-in(90cNm)max.
CN3	+V	

Function Connector(CN95): TKP DH2L-2X2 or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	5Vsb	TKP DH2 or equivalent	TKP or equivalent
2,4	DC COM		
3	PS-ON		

 HS1, HS2, HS3, HS4 can not be shorted

FAN Connector(CN12) : TKP 8812-2 or equivalent
(Except for RPS-400-TF/SF)

Pin No.	Assignment	Mating Housing	Terminal
1	DC COM	TKP 2502 or equivalent	TKP 8811 or equivalent
2	+12V		

- Note: 1. When the input voltage is 230VAC, the PCB type (Blank-Type) model delivers EMI Class B for both conducted emission and radiated emission for the power supply, When the input voltage is 110VAC, the PCB type (Blank Type) model delivers EMI Class B for conducted emission and Class A for radiated emission for the power supply. It delivers Class A for conducted emission and radiated emission, when configured into Class II (without FG) system.
2. The enclosed type (-C/TF/SF type) models are not suitable for configuration within a Class II (without FG) system, but suggested within a Class I (with FG) system.
3. Mounting Instruction for enclosed type.