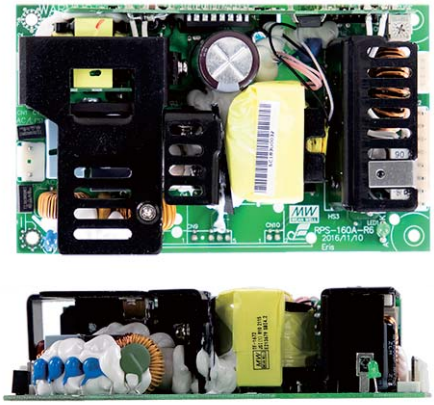
160W Reliable Green Medical Power Supply RPS-160 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1

Features

- 5"× 3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- 110W convention, 160W force air
- EMI class B for class Ⅰ configuration
- No load power consumption under 0.5W by PS-ON control (G model)
- 5Vdc standby output, Power Good, Power Fail ; Remote sense for 5~15V
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 3000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical monitors
- Sleep apnea devices
- Pumps machine

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-160 is a 160W highly reliable green PCB type medical power supply with a high power density on a 5" by 3" footprint. It accepts 90~264VAC input and offers various models with the output voltages between 5V and 48V. The working efficiency is up to 88% and the extremely low no load power consumption is down below 0.5W. RPS-160 is able to be used for Class Ⅰ (with FG) system design. The extremely low leakage current is less than 160μA. In addition, it conforms to the international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS G - 160 - 5

- 5 — Output voltage
- 160 — Rated wattage
- G — Type
- RPS — Series name

Type	Description	Note
Blank	Without 5Vsb	In stock
G	With 5Vsb & No load power consumption <0.5W	In stock

160W Reliable Green Medical Power Supply RPS-160 series

SPECIFICATION

MODEL			RPS□-160-5	RPS□-160-12	RPS□-160-15	RPS□-160-24	RPS□-160-48
OUTPUT	DC VOLTAGE		5V	12V	15V	24V	48V
	RATED CURRENT (20.5CFM)		30A	12.9A	10.3A	6.5A	3.25A
	CURRENT	Convection	0 ~ 20A	0 ~ 9.1A	0 ~ 7.3A	0 ~ 4.6A	0 ~ 2.3A
		20.5CFM	0 ~ 30A	0 ~ 12.9A	0 ~ 10.3A	0 ~ 6.5A	0 ~ 3.25A
	RATED POWER	Convection Note.2	103W	112.2W	112.5W	113.4W	113.4W
		20.5CFM Note.3	155W	159.8W	159.5W	161W	161W
	RIPPLE & NOISE (max.) Note.4		80mVp-p	80mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE(main output)		4.5 ~ 5.5V	10.8 ~ 13.2V	13.5 ~ 16.5V	22 ~ 27V	43.2 ~ 52.8V
	VOLTAGE TOLERANCE Note.5		±4.0%	±3.0%	±3.0%	±2.0%	±2.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		1800ms, 30ms/230VAC 3500ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)		20ms/115VAC 25ms/230VAC at full load				
INPUT	VOLTAGE RANGE Note.6		90 ~ 264VAC 127 ~ 370VDC				
	FREQUENCY RANGE		47 ~ 63Hz				
	POWER FACTOR (Typ.)		PF>0.93/230VAC PF>0.98/115VAC at full load				
	EFFICIENCY (Typ.)		86%	87%	87%	87%	88%
	AC CURRENT (Typ.)		2A/115VAC 1.1A/230VAC				
	INRUSH CURRENT (Typ.)		COLD START 35A/115VAC 70A/230VAC				
	LEAKAGE CURRENT Note.7		Earth leakage current < 160μA/264VAC , Touch current < 100μA/264VAC				
PROTECTION	OVERLOAD		105 ~ 135% rated output power				
			Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE		5.7 ~ 6.8V	13.8 ~ 16.2V	17.2 ~ 20.3V	27.6 ~ 32.4V	55.2 ~ 64.8V
			Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE		TSW1: Shut down o/p voltage, recovers automatically after temperature goes down				
			TSW2: Shut down o/p voltage, re-power on to recover				
FUNCTION	5V STANDBY (G model)		5Vsb : 5V@0.6A without fan, 0.8A with fan 20.5CFM ; Tolerance ± 2%, ripple : 50mVp-p(max.)				
	PS-ON INPUT SIGNAL (G model)		Power on: PS-ON = "Hi" or " > 2 ~ 5V" ; Power off: PS-ON = "Low" or " < 0 ~ 0.5V"				
	POWER GOOD / POWER FAIL		500ms>PG>10ms PF>1ms				
	REMOTE SENSE		5 ~ 15V				
ENVIRONMENT	WORKING TEMP.		-20 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)				
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.8		3000 meters				
SAFETY & EMC (Note 10)	SAFETY STANDARDS		IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	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, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION		**Parameter**	**Standard**	**Test Level / Note**		
			Conducted emission	BS EN/EN55011 (CISPR11)	Class B		
			Radiated emission	BS EN/EN55011 (CISPR11)	Class B		
			Harmonic current	BS EN/EN61000-3-2	Class A		
			Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY		BS EN/EN55035, BS EN/EN60601-1-2				
			Parameter	**Standard**	**Test Level / Note**		
			ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
			RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
			EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
			Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line		
			Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
			Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
			Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF		2082.3K hrs min. Telcordia SR-332 (Bellcore) ; 234.5K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION (L*W*H)		127*76.2*34.6mm or 5" * 3" *1.36" inch				
	PACKING		0.33Kg; 36pcs/12.9Kg/0.96CUFT				

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. The rated power includes 5Vsb @ 0.6A.
3. The rated power includes 5Vsb @ 0.8A.
4. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
5. Tolerance : includes set up tolerance, line regulation and load regulation.
6. Derating may be needed under low input voltages. Please check the derating curve for more details.
7. Touch current was measured from primary input to DC output.
8. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
9. HS1,HS2 & HS3 can not be shorted.
10. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

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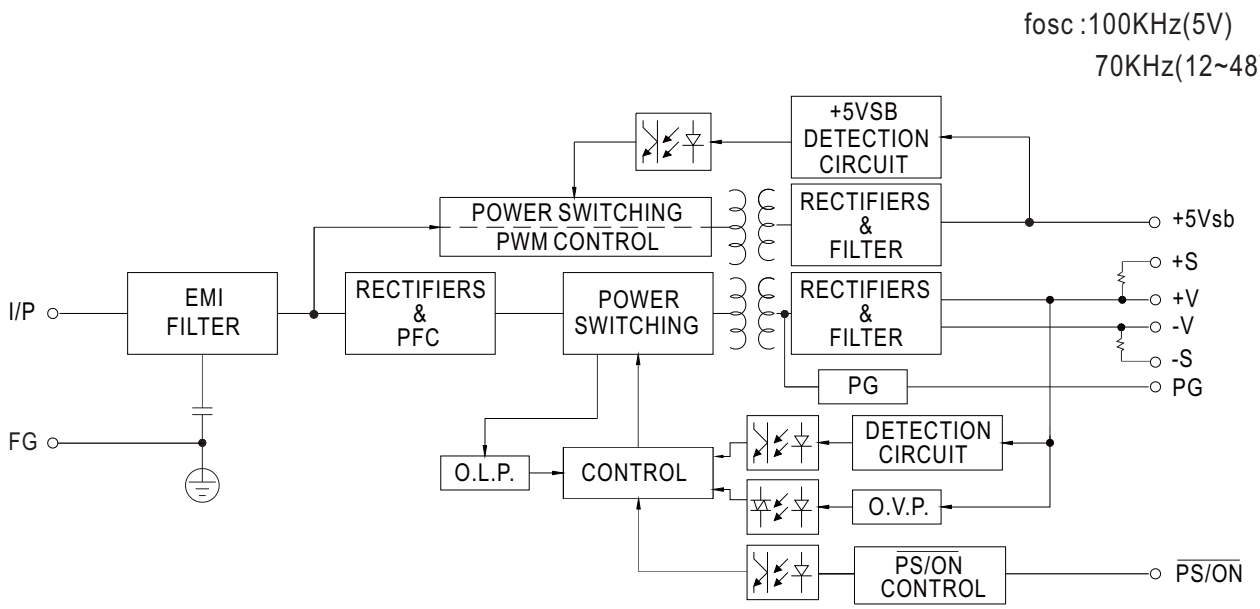
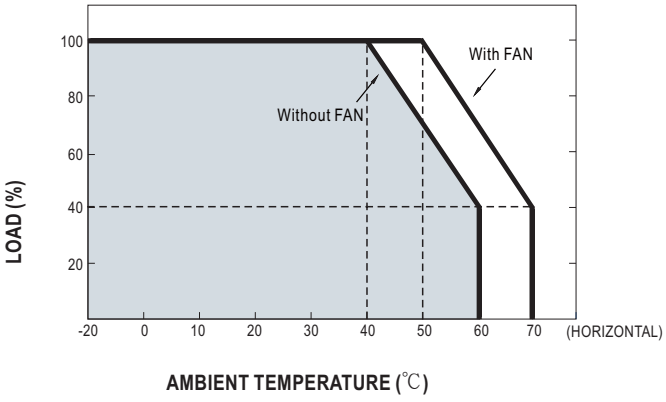
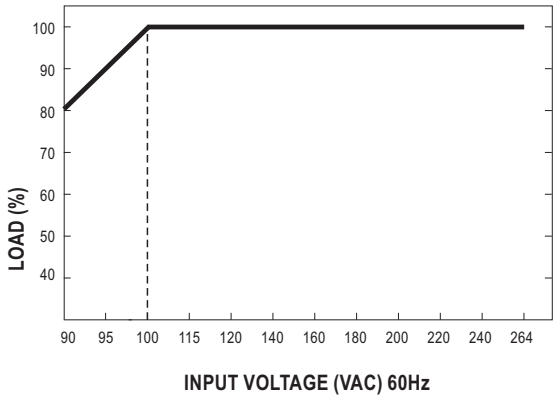
■ Block Diagram



■ Derating Curve

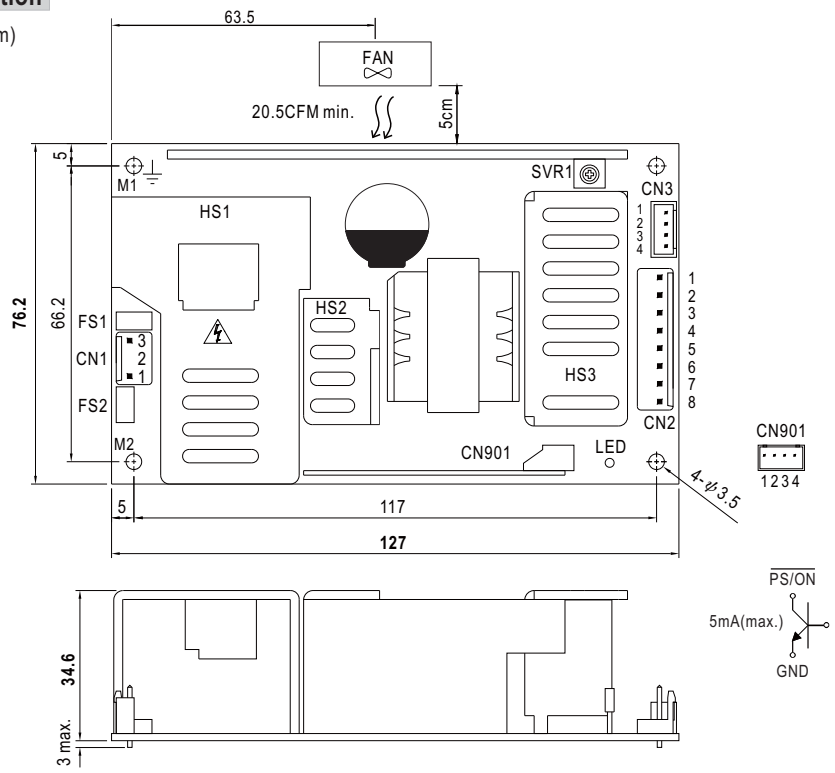


■ Output Derating VS Input Voltage



■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)



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		

Power Good Connector(CN3):JST B4B-XH or equivalent

Pin No.	Status	Mating Housing	Terminal
1	PG	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	GND		
3	-S		
4	+S		

DC Output Connector (CN2) : JST B8P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3,4	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
5,6,7,8	-V		

5VSB Connector(CN901) : JST B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	$\overline{\text{PS/ON}}$	JST XHP or equivalent	JST SXH-001T or equivalent
2,4	GND		
3	5VSB		

⏚ : Grounding Required

⚠ 1.HS1,HS2,HS3 cannot be shorted.
2.M1 is safety ground. For better EMC performance,Please secure an electrical connection between M1,M2, and chassis grounding.

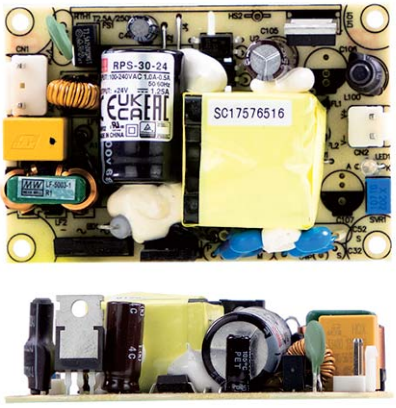
■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

30W Reliable Green Medical Power Supply

RPS-30 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 3"×2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- Cooling by free air convection
- EMI class B for class Ⅱ configuration
- No load power consumption<0.1W
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage
- Lifetime > 105K hours
- Operating altitude up to 4000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-30 is a 30W highly reliable green PCB type medical power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 92% and the extremely low no load power consumption is down below 0.1W. RPS-30 is able to be used for Class Ⅱ (no FG) system design. The extremely low leakage current is less than 80μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS- 30 - 3.3

- 3.3 — Output voltage
- 30 — Rated wattage
- RPS- — Series name

30W Reliable Green Medical Power Supply — RPS-30 series

SPECIFICATION

ORDER NO.		RPS-30-3.3	RPS-30-5	RPS-30-7.5	RPS-30-12	RPS-30-15	RPS-30-24	RPS-30-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V
	RATED CURRENT	6A	6A	4A	2.5A	2A	1.25A	0.625A
	CURRENT RANGE	0 ~ 6.6A	0 ~ 6.6A	0 ~ 4.4A	0 ~ 2.75A	0 ~ 2.2A	0 ~ 1.375A	0 ~ 0.687A
	RATED POWER	19.8W	30W	30W	30W	30W	30W	30W
	PEAK LOAD(10sec.) Note.2	21.8W	33W	33W	33W	33W	33W	33W
	RIPPLE & NOISE (max.) Note.3	80mVp-p	80mVp-p	80mVp-p	100mVp-p	100mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ.RANGE	3.1~3.6V	4.7~5.5V	7.12~8.3V	11.4~13.2V	13.5~16.5V	22.8~27.6V	45.6~52.8V
	VOLTAGE TOLERANCE	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%	±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	200ms, 30ms / 230VAC 200ms, 30ms / 115VAC at full load						
	HOLD UP TIME (Typ.)	30ms / 230VAC 16ms / 115VAC at full load						
INPUT	VOLTAGE RANGE Note.5	80 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	80%	82%	84%	88%	89%	89.5%	92%
	AC CURRENT (Typ.)	1A / 115VAC 0.5A / 230VAC						
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC 60A/230VAC						
	LEAKAGE CURRENT(max.) Note.6	Touch current< 80 μA/264VAC						
PROTECTION	OVERLOAD	115 ~ 150% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	3.8~5V	5.7~6.8V	8.6~11.3V	13.8~16.2V	17.2~20.3V	28.4~32.4V	55.2~64.8V
		Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03% / ℃ (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.7	4000 meters						
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)						
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP						
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH						

EMC EMISSION

Parameter	Standard	Test Level / Note
Conducted emission	BS EN/EN55011 (CISPR11)	Class B
Radiated emission	BS EN/EN55011 (CISPR11)	Class B
Harmonic current	BS EN/EN61000-3-2	Class A
Voltage flicker	BS EN/EN61000-3-3	-----

EMC IMMUNITY

BS EN/EN55035, BS EN/EN60601-1-2

Parameter	Standard	Test Level / Note
ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact
RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)
EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV
Surge susceptibility	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line
Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V
Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m
Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods

OTHERS	MTBF	3550.0K hrs min. Telcordia SR-332 (Bellcore) ; 628.7K hrs min. MIL-HDBK-217F (25℃)
	DIMENSION (L*W*H)	76.2*50.8*24mm or 3" * 2" *0.945" inch
	PACKING	0.09Kg; 120pcs/11.8Kg/0.94CUFT

NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
4. Tolerance : includes set up tolerance, line regulation and load regulation.
5. Derating may be needed under low input voltages. Please check the derating curve for more details.
6. Touch current was measured from primary input to DC output.
7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
8. The power supply is considered a component which will be installed into a final equipment. 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.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

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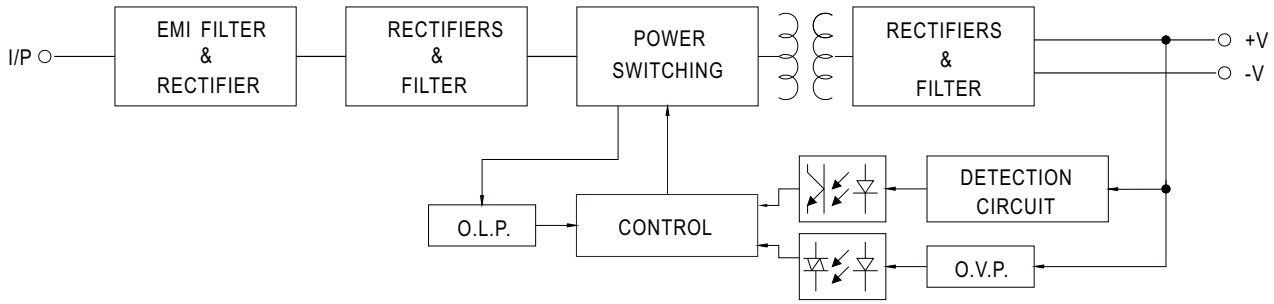
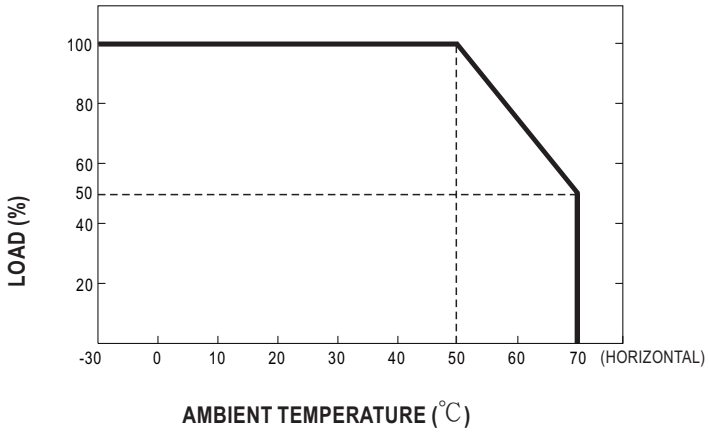
■ Block Diagram

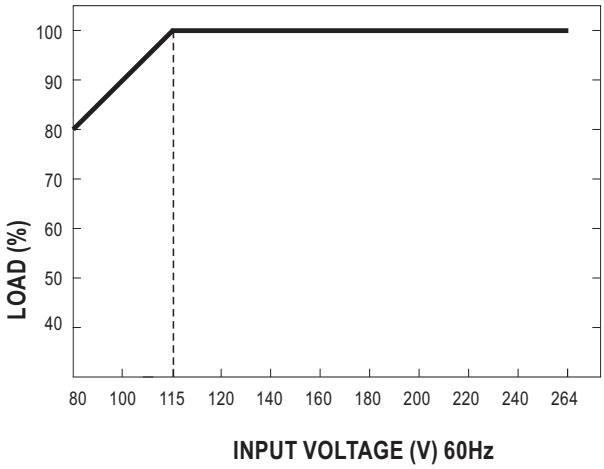
fosc : 65KHz



■ Derating Curve



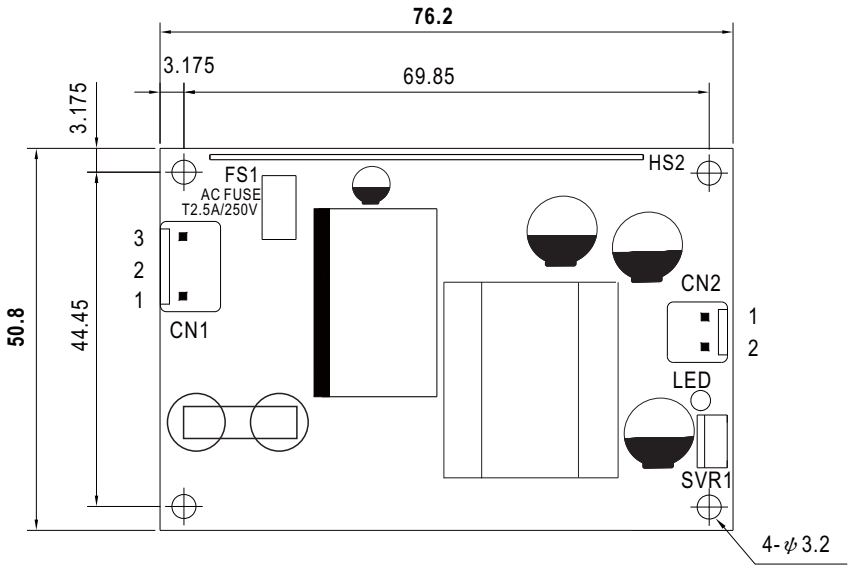
■ Static Characteristics

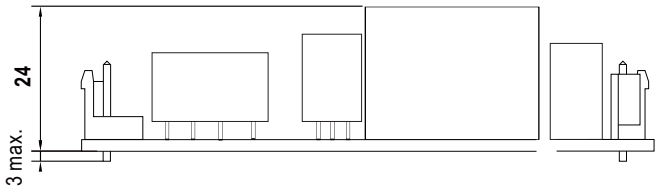


■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Top View





Side View

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		

DC Output Connector (CN2) : JST B2P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	-V		

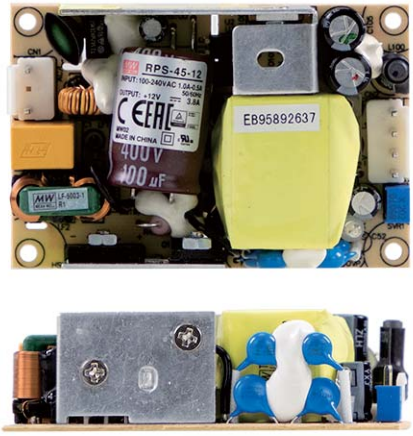
■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

45W Reliable Green Medical Power Supply

RPS-45 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 3"×2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- Cooling by free air convection
- EMI class B for class Ⅱ configuration
- No load power consumption<0.1W
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage
- Lifetime > 50K hours
- Operating altitude up to 4000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-45 is a 45W highly reliable green PCB type medical power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 91% and the extremely low no load power consumption is down below 0.1W. RPS-45 is able to be used for Class Ⅱ (no FG) system design. The extremely low leakage current is less than 100μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS- 45 - 3.3

- 3.3: Output voltage
- 45: Rated wattage
- RPS: Series name

45W Reliable Green Medical Power Supply — RPS-45 series

SPECIFICATION

ORDER NO.		RPS-45-3.3	RPS-45-5	RPS-45-7.5	RPS-45-12	RPS-45-15	RPS-45-24	RPS-45-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V
	RATED CURRENT	8A	8A	5.4A	3.8A	3A	1.9A	0.94A
	CURRENT RANGE	0 ~ 8.8A	0 ~ 8.8A	0 ~ 5.95A	0 ~ 4.18A	0 ~ 3.3A	0 ~ 2.1A	0 ~ 1.03A
	RATED POWER	26.4W	40W	40.5W	45.6W	45W	45.6W	45.1W
	PEAK LOAD(10sec.) Note.2	29W	44W	44.6W	50.2W	49.5W	50.2W	49.4W
	RIPPLE & NOISE (max.) Note.3	60mVp-p	60mVp-p	80mVp-p	100mVp-p	100mVp-p	120mVp-p	120mVp-p
	VOLTAGE ADJ.RANGE	3.1~3.6V	4.7~5.5V	7.12~8.3V	11.4~13.2V	13.5~16.5V	22.8~27.6V	45.6~52.8V
	VOLTAGE TOLERANCE Note.4	±2.0%	±2.0%	±2.0%	±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	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 30ms / 230VAC 500ms, 30ms / 115VAC at full load						
	HOLD UP TIME (Typ.)	30ms / 230VAC 16ms / 115VAC at full load						
INPUT	VOLTAGE RANGE Note.5	80 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	80.5%	83%	85%	88%	89%	90%	91%
	AC CURRENT (Typ.)	1.2A / 115VAC 1A / 230VAC						
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC 60A/230VAC						
	LEAKAGE CURRENT(max.) Note.6	Touch current< 100μA/264VAC						
PROTECTION	OVERLOAD	115 ~ 150% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	3.8~5V	5.7~6.8V	8.6~11.3V	13.8~16.2V	17.2~20.3V	28.4~32.4V	55.2~64.8V
		Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03% / ℃ (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.7	4000 meters						
SAFETY & EMC (Note. 8)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)						
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP						
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH						
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**				
		Conducted emission	BS EN/EN55011 (CISPR11)	Class B				
		Radiated emission	BS EN/EN55011 (CISPR11)	Class B				
		Harmonic current	BS EN/EN61000-3-2	Class A				
		Voltage flicker	BS EN/EN61000-3-3	-----				
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN60601-1-2						
		Parameter	**Standard**	**Test Level / Note**				
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact				
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)				
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV				
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line				
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V				
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m				
		Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods				
OTHERS	MTBF	3334.3K hrs min. Telcordia SR-332 (Bellcore) ; 726.2K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION (L*W*H)	76.2*50.8*24mm or 3" * 2" *0.945" inch						
	PACKING	0.11Kg; 120pcs/14.2Kg/0.94CUFT						

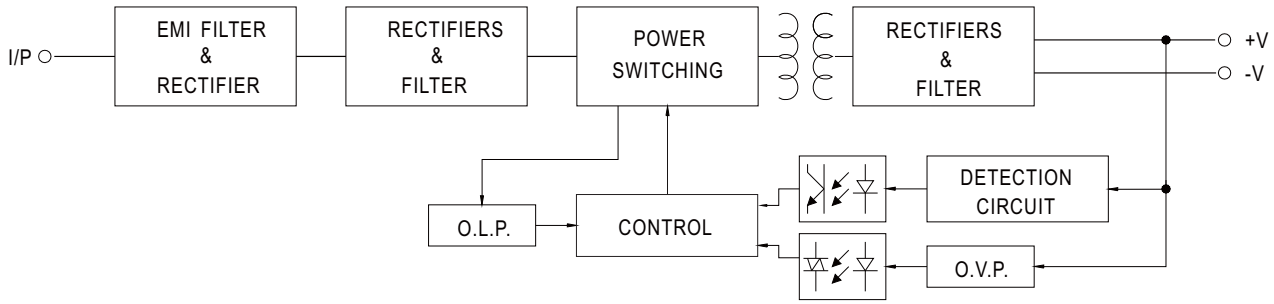
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power.
3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
4. Tolerance : includes set up tolerance, line regulation and load regulation.
5. Derating may be needed under low input voltages. Please check the derating curve for more details.
6. Touch current was measured from primary input to DC output.
7. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
8. The power supply is considered a component which will be installed into a final equipment. "All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

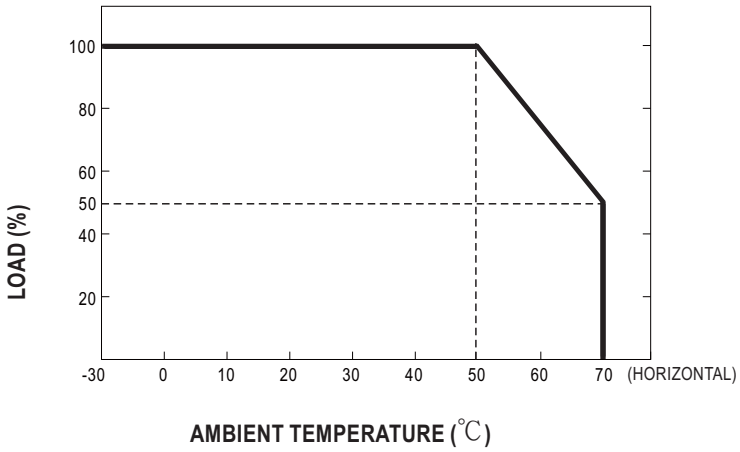
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

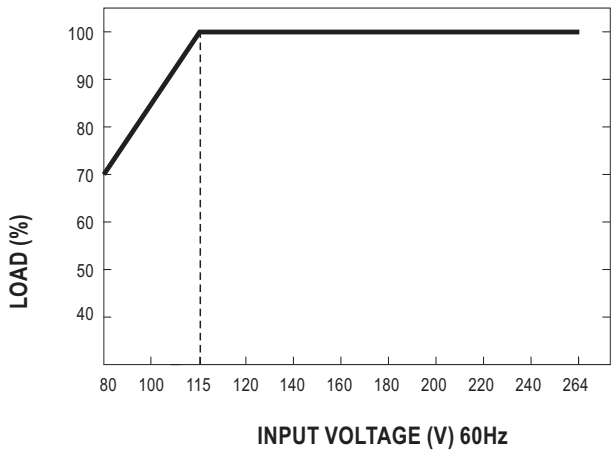
fosc : 65KHz



■ Derating Curve



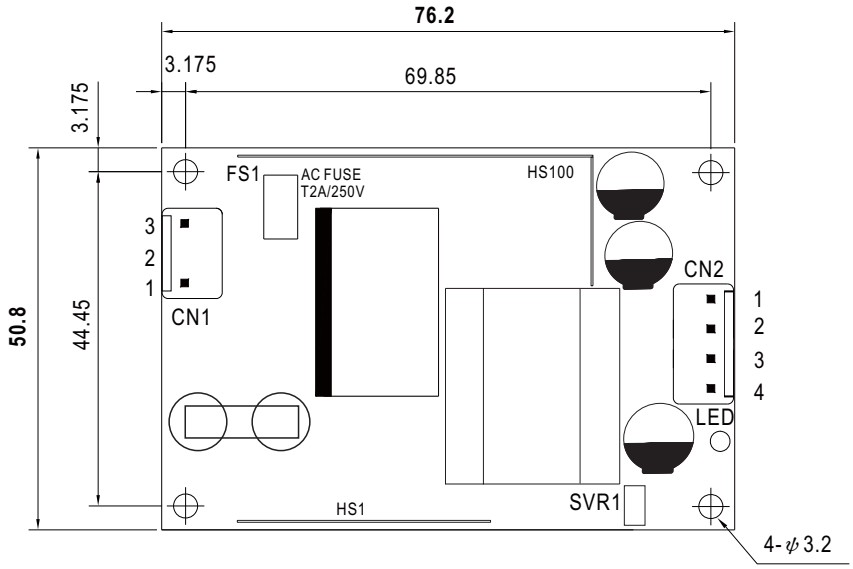
■ Static Characteristics

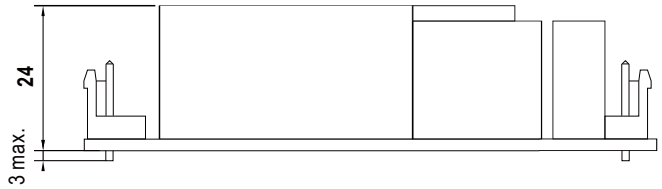


■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Top View





Side View

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		

DC Output Connector (CN2) : JST B4P-VH or equivalent

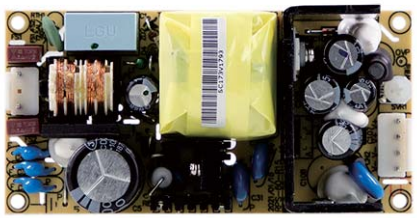
Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	+V		
3	-V		
4	-V		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

60W Reliable Green Medical Power Supply RPS-60 series

User's Manual



ANSI/AAMI ES60601-1
UL62368-1

BS EN/EN60601-1
BS EN/EN62368-1

IEC60601-1
IEC62368-1

TPTC004

Features

- 4"×2" compact size
- IT & Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 , IEC/BS EN/EN60601-1 and IEC/BS EN/EN/UL 62368-1
- Suitable for BF application with appropriate system consideration
- Cooling by free air convection
- EMI class B for class Ⅰ configuration
- No load power consumption<0.75W
- Protections: Short circuit / Overload / Over voltage
- Operating altitude up to 3000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-60 is a 60W highly reliable green PCB type medical power supply with a high power density on the 4" by 2" footprint. It accepts 90~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 86% and the extremely low no load power consumption is down below 0.75W. RPS-60 is able to be used for Class Ⅰ (with FG) system design. The extremely low leakage current is less than 130μA. In addition, it conforms to international IT and medical regulations (2*MOPP) and EMC BS EN/EN55022/BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS- 60 - 3.3

- 3.3 — Output voltage
- 60 — Rated wattage
- RPS — Series name

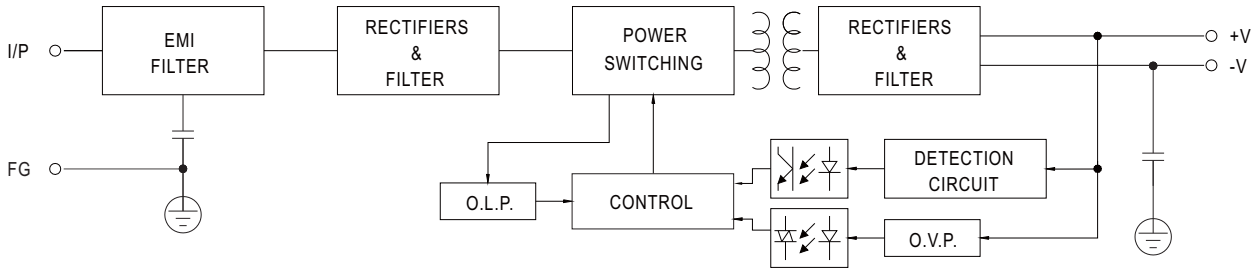
60W Reliable Green Medical Power Supply RPS-60 series

SPECIFICATION

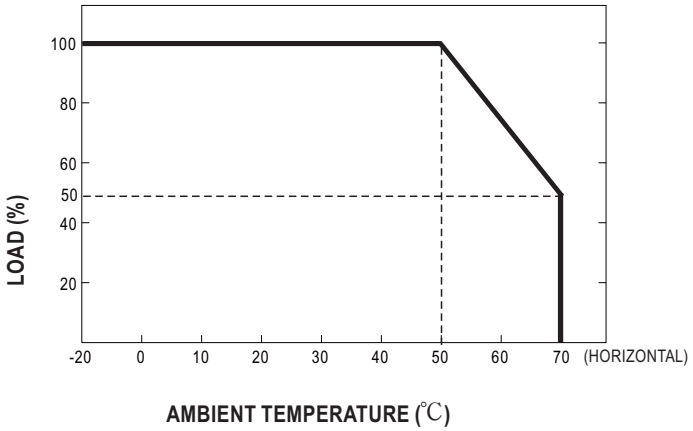
MODEL		RPS-60-3.3	RPS-60-5	RPS-60-12	RPS-60-15	RPS-60-24	RPS-60-48
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V	48V
	RATED CURRENT	10A	10A	5A	4A	2.5A	1.25A
	CURRENT RANGE	0 ~ 11A	0 ~ 11A	0 ~ 5.5A	0 ~ 4.4A	0 ~ 2.75A	0 ~ 1.375A
	RATED POWER	33W	50W	60W	60W	60W	60W
	PEAK LOAD(10sec.) Note.2	36.3W	55W	66W	66W	66W	66W
	RIPPLE & NOISE (max.) Note.3	60mVp-p	60mVp-p	60mVp-p	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	3.1 ~ 3.6V	4.75 ~ 5.5V	11.4 ~ 13.2V	13.5 ~ 16.5V	22.8 ~ 27.6V	45.6 ~ 52.8V
	VOLTAGE TOLERANCE Note.4	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%
	LINE REGULATION	±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%
	SETUP, RISE TIME	500ms, 30ms/230VAC 500ms, 30ms/115VAC at full load					
	HOLD UP TIME (Typ.)	60ms/230VAC 12ms/115VAC at full load					
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~ 370VDC					
	FREQUENCY RANGE	47 ~ 63Hz					
	EFFICIENCY (Typ.)	74%	79%	84%	85%	87%	86%
	AC CURRENT (Typ.)	1.8A/115VAC 1 A/230VAC					
	INRUSH CURRENT (Typ.)	COLD START 60A/230VAC 30A/115VAC					
	LEAKAGE CURRENT(max.) Note.5	Earth leakage current < 130μA/264VAC , Touch current < 100μA/264VAC					
PROTECTION	OVER LOAD	115 ~ 150% rated output power					
		Protection type : Hiccup mode, recovers automatically after fault condition is removed					
	OVER VOLTAGE	3.8 ~ 5V	5.7 ~ 6.8V	13.8 ~ 16.2V	17.2 ~ 20.3V	28.4 ~ 32.4V	55.2 ~ 64.8V
		Protection type : Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")					
	WORKING HUMIDITY	20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing					
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)					
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes					
	OPERATING ALTITUDE Note.6	3000 meters					
SAFETY & EMC (Note 8)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2, IEC 62368-1:2014, UL 62368-1, 2nd Ed, CSA C22.2 No. 62368-1-14, 2nd Ed, TUV BS EN/ EN 62368-1:2014+A11, EAC TP TC 004 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, O/P-FG:100M Ohms / 500VDC/ 25℃/ 70% RH					
	EMC EMISSION	**Parameter**		**Standard**		**Test Level / Note**	
		Conducted emission		BS EN/EN55011 (CISPR11)		Class B	
		Radiated emission		BS EN/EN55011 (CISPR11)		Class B	
		Harmonic current		BS EN/EN61000-3-2		Class A	
		Voltage flicker		BS EN/EN61000-3-3		-----	
	EMC IMMUNITY	BS EN/EN55035 , BS EN/EN60601-1-2					
		Parameter		**Standard**		**Test Level / Note**	
		ESD		BS EN/EN61000-4-2		Level 4, 15KV air ; Level 4, 8KV contact	
		RF field susceptibility		BS EN/EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)	
		EFT bursts		BS EN/EN61000-4-4		Level 3, 2KV	
		Surge susceptibility		BS EN/EN61000-4-5		Level 4, 4KV/Line-FG; 2KV/Line-Line	
		Conducted susceptibility		BS EN/EN61000-4-6		Level 3, 10V	
		Magnetic field immunity		BS EN/EN61000-4-8		Level 4, 30A/m	
		Voltage dip, interruption		BS EN/EN61000-4-11		100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	
OTHERS	MTBF	5153.0K hrs min. Telcordia SR-332 (Bellcore) ; 353.6K hrs min. MIL-HDBK-217F (25℃)					
	DIMENSION (L*W*H)	101.6*50.8*29mm or 4" * 2" *1.141" inch					
	PACKING	0.15Kg; 96pcs/15.4Kg/0.89CUFT					
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. 33% Duty cycle maximum within every 30 seconds. Average output power should not exceed the rated power. 3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor. 4. Tolerance : includes set up tolerance, line regulation and load regulation. 5. Touch current was measured from primary input to DC output. 6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 7. Heat Sink HS1,HS2 can not be shorted. 8. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf) ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx						

■ Block Diagram

fosc : 100KHz

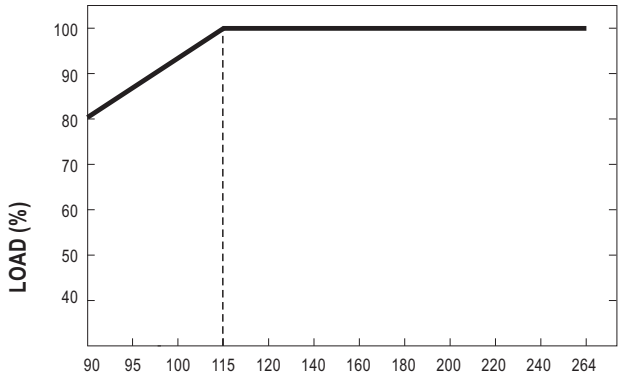


■ Output Derating



AMBIENT TEMPERATURE (℃)

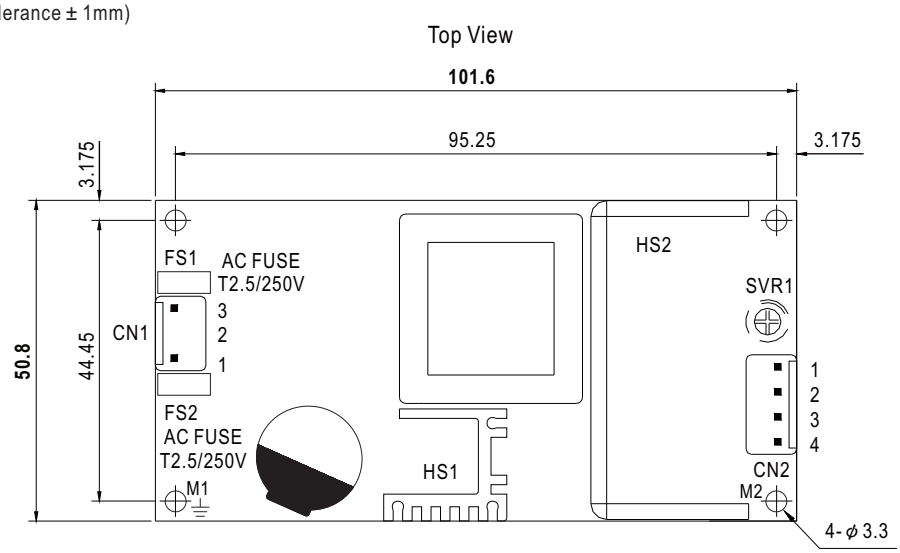
■ Output Derating VS Input Voltage

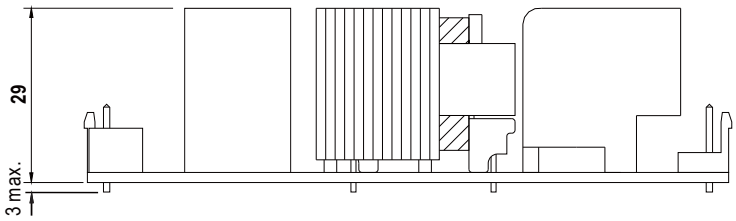


INPUT VOLTAGE (VAC) 60Hz

■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)





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		

DC Output Connector (CN2) : JST B4P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	-V		

⏚ : Grounding Required

⚠ 1.HS1,HS2 cannot be shorted.
2.M1 is safety ground. For better EMC performance, Please secure an electrical connection between M1,M2 and chassis grounding.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

65W Reliable Green Medical Power Supply — RPS-65 series

User's Manual

ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

ECO Medical 2xMOPP BF rated

Features

- 3"×2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- Cooling by free air convection
- EMI class B for class Ⅱ configuration
- No load power consumption<0.1W
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage
- Operating altitude up to 4000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-65 is a 65W highly reliable green PCB type medical power supply with a high power density on the 3" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 91% and the extremely low no load power consumption is down below 0.1W. RPS-65 is able to be used for Class Ⅱ (no FG) system design. The extremely low leakage current is less than 100μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS- 65 - 3.3

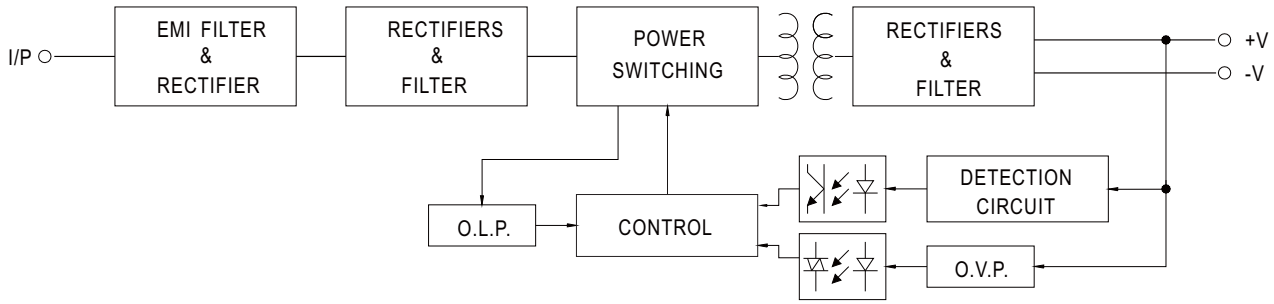
- 3.3 — Output voltage
- 65 — Rated wattage
- RPS — Series name

SPECIFICATION

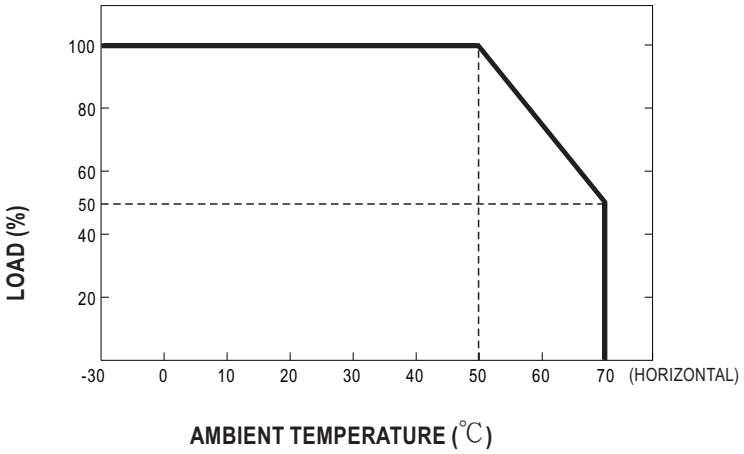
ORDER NO.		RPS-65-3.3	RPS-65-5	RPS-65-7.5	RPS-65-12	RPS-65-15	RPS-65-24	RPS-65-48
OUTPUT	DC VOLTAGE	3.3V	5V	7.5V	12V	15V	24V	48V
	RATED CURRENT	10A	10A	8A	5.42A	4.34A	2.71A	1.36A
	CURRENT RANGE	0 ~ 11A	0 ~ 11A	0 ~ 8.8A	0 ~ 5.96A	0 ~ 4.77A	0 ~ 2.98A	0 ~ 1.49A
	RATED POWER	33W	50W	60W	65W	65.1W	65W	65.3W
	PEAK LOAD(10sec.)	36.3W	55W	66W	71.5W	71.6W	71.5W	71.5W
	RIPPLE & NOISE (max.) Note.2	80mVp-p	80mVp-p	80mVp-p	120mVp-p	120mVp-p	120mVp-p	150mVp-p
	VOLTAGE ADJ.RANGE	2.9~3.6V	4.7~5.5V	7.12~8.3V	11.4~13.2V	13.5~16.5V	22.8~27.6V	45.6~52.8V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±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	±2.0%	±2.0%	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 30ms / 230VAC 500ms, 30ms / 115VAC at full load						
	HOLD UP TIME (Typ.)	30ms / 230VAC 12ms / 115VAC at full load						
INPUT	VOLTAGE RANGE Note.4	80 ~ 264VAC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY (Typ.)	80%	84%	85%	88%	89%	90%	91%
	AC CURRENT (Typ.)	1.5A / 115VAC 1A / 230VAC						
	INRUSH CURRENT (Typ.)	COLD STAR 30A/115VAC 50A/230VAC						
	LEAKAGE CURRENT(max.) Note.5	Touch current< 100μA/264VAC						
PROTECTION	OVERLOAD	115 ~ 150% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER VOLTAGE	3.8~4.5V	5.7~6.8V	8.6~11.3V	13.8~16.2V	17.2~20.3V	27.6~32.4V	55.2~64.8V
		Protection type : Shut down o/p voltage, re-power on to recover						
ENVIRONMENT	WORKING TEMP.	-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20% ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03% / ℃ (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.6	4000 meters						
SAFETY & EMC (Note. 7)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)						
	ISOLATION LEVEL	Primary-Secondary: 2xMOPP						
	WITHSTAND VOLTAGE	I/P-O/P: 4KVAC						
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃/ 70% RH						
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**				
		Conducted emission	BS EN/EN55011 (CISPR11)	Class B				
		Radiated emission	BS EN/EN55011 (CISPR11)	Class B				
		Harmonic current	BS EN/EN61000-3-2	Class A				
		Voltage flicker	BS EN/EN61000-3-3	-----				
	EMC IMMUNITY	BS EN/EN55035,BS EN/EN60601-1-2						
		Parameter	**Standard**	**Test Level / Note**				
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact				
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)				
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV				
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line				
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V				
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m				
		Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods				
OTHERS	MTBF	3334.3K hrs min. Telcordia SR-332 (Bellcore) ; 959.1K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION (L*W*H)	76.2*50.8*24mm or 3" * 2" *0.945" inch						
	PACKING	0.11Kg; 120pcs/14.2Kg/0.94CUFT						
NOTE	1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor. 3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft). 7. The power supply is considered a component which will be installed into a final equipment. 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf) ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx							

■ Block Diagram

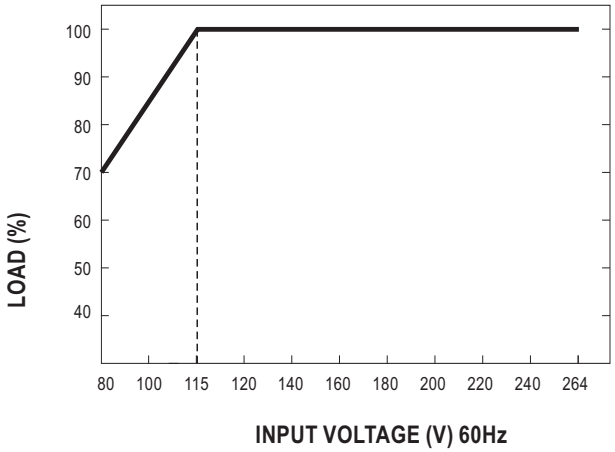
fosc : 65KHz



■ Derating Curve



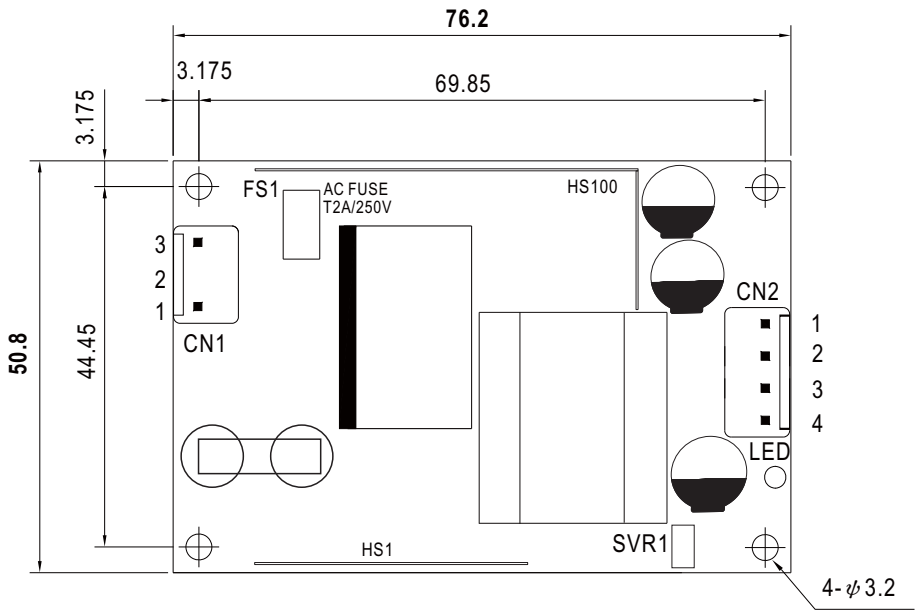
■ Static Characteristics

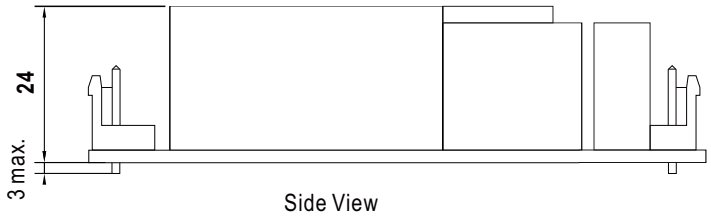


■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Top View





Side View

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		

DC Output Connector (CN2) : JST B4P-VH or equivalent

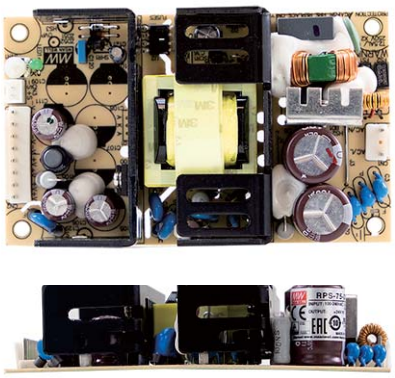
Pin No.	Assignment	Mating Housing	Terminal
1	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	+V		
3	-V		
4	-V		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

75W Reliable Green Medical Power Supply RPS-75 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 5"×3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- 75W convection,100W force air
- EMI Class B for Class I configuration
- No load power consumption<0.75W
- Remote sense functiom
- Protections: Short circuit / Overload / Over voltage
- Lifetime > 80K hours
- Operating altitude up to 3000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-75 is a 75W highly reliable green PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 90~264VAC input and offers various output voltages between 3.3V and 48V. The working efficiency is up to 86% and the extremely low no load power consumption is down below 0.75W. RPS-75 is able to be used for Class I (with FG) system design. The extremely low leakage current is less than 150 μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS - 75 - 3.3

- 3.3: Output voltage
- 75: Rated wattage
- RPS: Series name

SPECIFICATION

MODEL		RPS-75-3.3	RPS-75-5	RPS-75-12	RPS-75-15	RPS-75-24	RPS-75-36	RPS-75-48
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V	24V	36V	48V
	RATED CURRENT	15A	14A	6.3A	5A	3.2A	2.1A	1.6A
	CURRENT RANGE	0 ~ 20A	0 ~ 18.7A	0 ~ 8.3A	0 ~ 6.7A	0 ~ 4.2A	0 ~ 2.8A	0 ~ 2.1A
	RATED POWER	49.5W	70W	75.6W	75W	76.8W	75.6W	76.8W
	PEAK LOAD (23.5CFM)	66W	93.5W	99.6W	100.5W	100.8W	100.8W	100.8W
	RIPPLE & NOISE (max.) Note.2	60mVp-p	60mVp-p	60mVp-p	60mVp-p	100mVp-p	100mVp-p	100mVp-p
	VOLTAGE ADJ. RANGE	2.9 ~ 3.6V	4.75 ~ 5.5V	11.4 ~ 13.2V	13.5 ~ 16.5V	22.8 ~ 27.6V	34.2 ~ 39.6V	45.6 ~ 52.8V
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%	±1.5%	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME	500ms, 30ms/230VAC 500ms, 30ms/115VAC at full load						
	HOLD UP TIME (Typ.)	90ms/230VAC 20ms/115VAC at full load						
INPUT	VOLTAGE RANGE	90 ~ 264VAC 127 ~370VDC						
	FREQUENCY RANGE	47 ~ 63Hz						
	EFFICIENCY(Typ.)	73%	78%	82%	83%	85%	86%	86%
	AC CURRENT (Typ.)	1.5A/115VAC 1A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC 50A/230VAC						
	LEAKAGE CURRENT(max.) Note.4	Earth leakage current < 150μA/264VAC , Touch current < 100μA/264VAC						
PROTECTION	OVERLOAD	140 ~ 180% rated output power						
		Protection type : Hiccup mode, recovers automatically after fault condition is removed.						
	OVER VOLTAGE	3.8 ~ 4.5V	5.7 ~ 6.8V	13.8 ~ 16.2V	17.2 ~ 20.3V	27.6 ~ 32.4V	41.4 ~ 48.6V	55.2 ~ 64.8V
		Protection type : Shut down o/p voltage, re-power to recover						
ENVIRONMENT	WORKING TEMP.	-20 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY	20 ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 50℃)						
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.5	3000 meters						
SAFETY & EMC (Note 7)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)						
	ISOLATION LEVEL	Primary-Secondary:2xMOPP, Primary-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, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH						
	EMC EMISSION	**Parameter**		**Standard**		**Test Level / Note**		
		Conducted emission		BS EN/EN55011 (CISPR11)		Class B		
		Radiated emission		BS EN/EN55011 (CISPR11)		Class B		
		Harmonic current		BS EN/EN61000-3-2		Class A		
		Voltage flicker		BS EN/EN61000-3-3		-----		
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN60601-1-2						
		Parameter		**Standard**		**Test Level / Note**		
		ESD		BS EN/EN61000-4-2		Level 4, 15KV air ; Level 4, 8KV contact		
		RF field susceptibility		BS EN/EN61000-4-3		Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
		EFT bursts		BS EN/EN61000-4-4		Level 3, 2KV		
		Surge susceptibility		BS EN/EN61000-4-5		Level 4, 4KV/Line-FG; 2KV/Line-Line		
		Conducted susceptibility		BS EN/EN61000-4-6		Level 3, 10V		
		Magnetic field immunity		BS EN/EN61000-4-8		Level 4, 30A/m		
		Voltage dip, interruption		BS EN/EN61000-4-11		100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF	2837.6K hrs min. Telcordia SR-332 (Bellcore) ; 446.8K hrs min. MIL-HDBK-217F (25℃)						
	DIMENSION (L*W*H)	127*76.2*31mm or 5" * 3" *1.22" inch						
	PACKING	0.26Kg; 63pcs/16.3Kg/1.28CUFT						

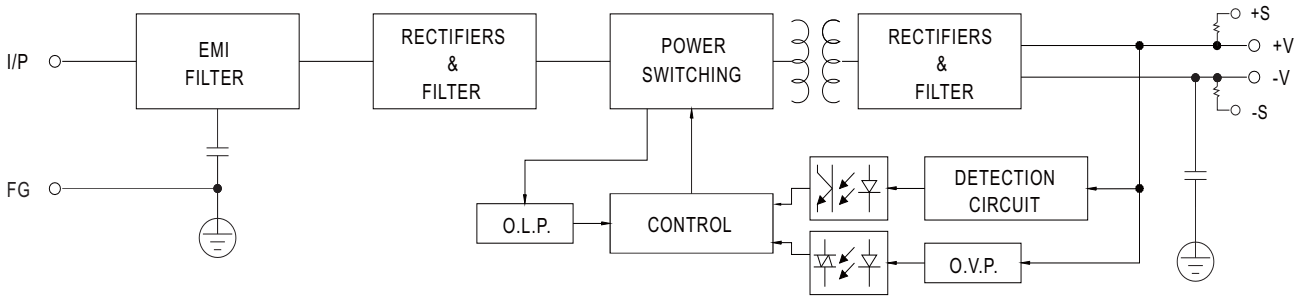
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. Touch current was measured from primary input to DC output.
5. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
6. Heat Sink HS1,HS2,HS3 can not be shorted.
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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.” (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

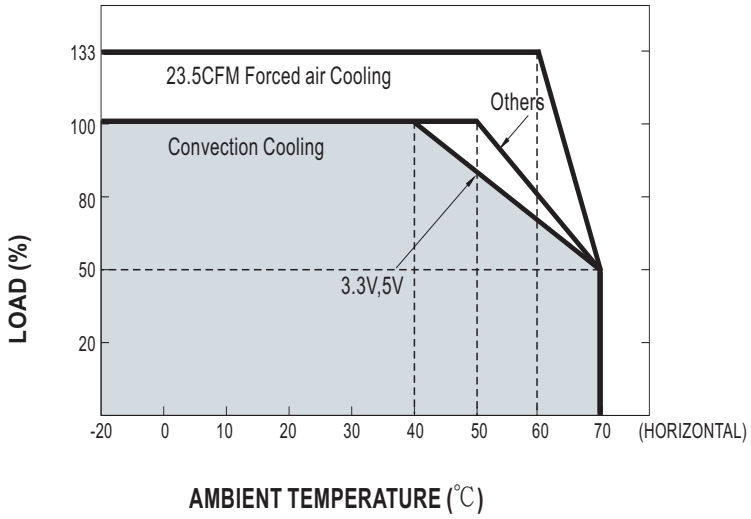
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

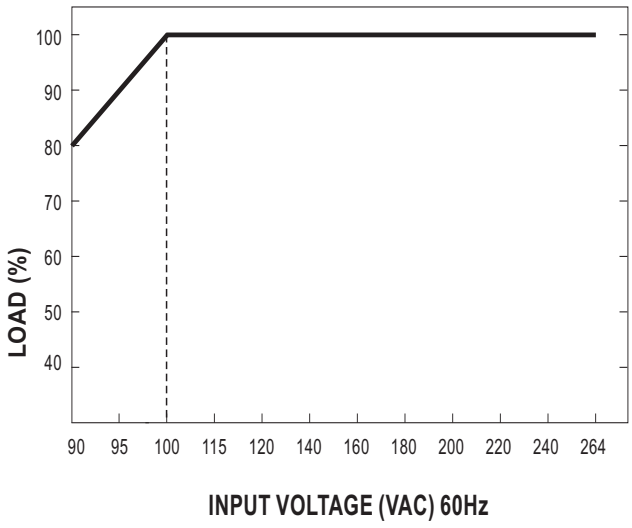
fosc : 65KHz



■ Derating Curve

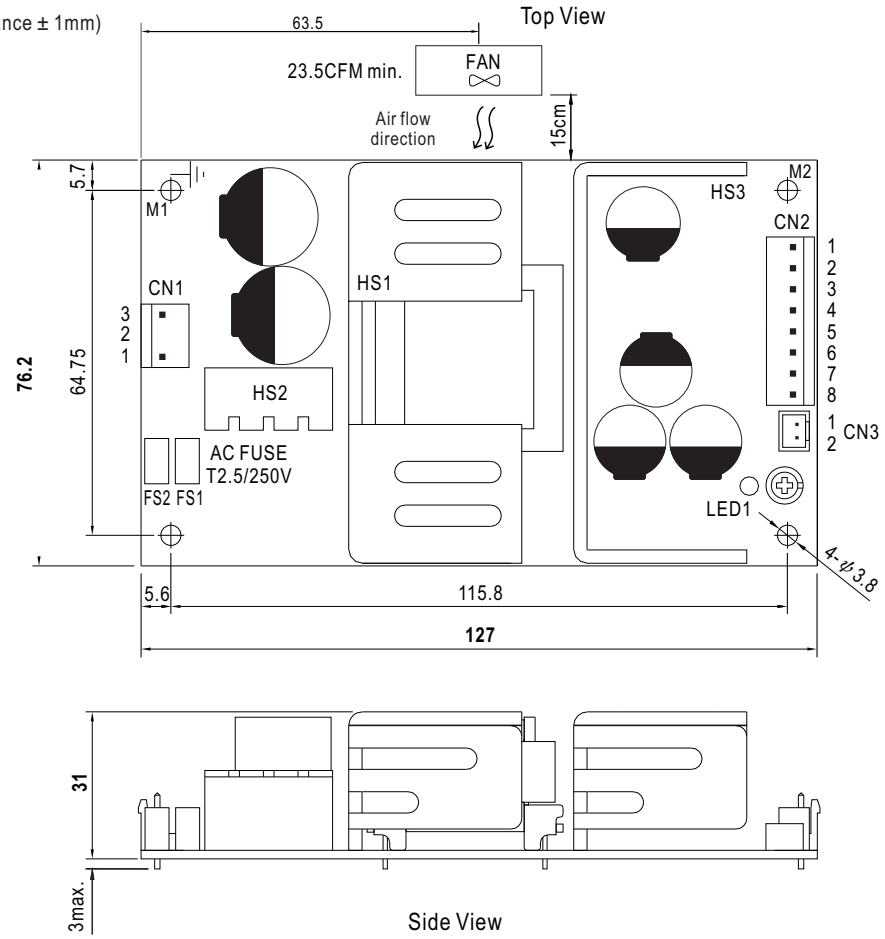


■ Output Derating VS Input Voltage



■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)



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		

DC Output Connector (CN2) : JST B8P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3,4	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
5,6,7,8	-V		

⏚ : Grounding Required

⚠ 1.HS1,HS2,HS3 cannot be shorted.
2.M1 is safety ground. For better EMC performance,Please secure an electrical connection between M1,M2 and chassis grounding.

Remote Sense(CN3) : JST B2B-XH or equivalent

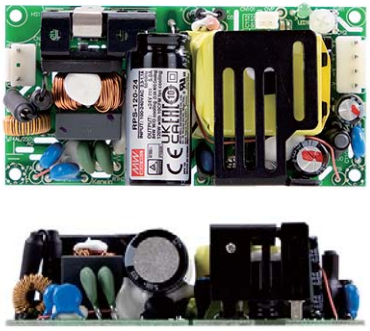
Pin No.	Assignment	Mating Housing	Terminal
1	RS+	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	RS-		

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

120W Reliable Green Medical Power Supply — RPS-120 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 4"×2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- 84W convention, 120W force air
- EMI Class B for both Class I (with FG) & Class II (no FG) configuration
- No load power consumption<0.3W
- Extremely low leakage current
- 12V/0.5A fan supply
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 4000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical monitors
- Sleep apnea devices
- Pumps machine

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-120 is a 120W highly reliable green PCB type medical power supply with a high power density on a 4" by 2" footprint. It accepts 80~264VAC input and offers various models with the output voltages between 12V and 48V. The working efficiency is up to 91% and the extremely low no load power consumption is down below 0.3W. RPS-120 is able to be used for both Class I (with FG) or Class II (no FG) system design. The extremely low leakage current is less than 150μA. In addition, it conforms to the international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS - 120 - 12 -C

- -C : Enclosed type (Blank : PCB type)
- Output voltage
- Rated wattage
- Series name

SPECIFICATION

MODEL			RPS-120-12□	RPS-120-15□	RPS-120-24□	RPS-120-27□	RPS-120-48□
OUTPUT	DC VOLTAGE		12V	15V	24V	27V	48V
	CURRENT	10CFM	10A	8A	5A	4.5A	2.5A
		Convection	7.0A	5.6A	3.5A	3.15A	1.75A
	RATED POWER	10CFM	120W	120W	120W	121.5W	120W
		Convection	84W	84W	84W	85W	84W
	RIPPLE & NOISE (max.) Note.2		100mVp-p	120mVp-p	150mVp-p	150mVp-p	150mVp-p
	VOLTAGE ADJ. RANGE		11.4~12.6V	14.3~15.8V	22.8~25.2V	25.6 ~ 28.4V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3		±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		500ms, 30ms/230VAC 500ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)		50ms/230VAC 10ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4		80 ~ 264VAC 113 ~ 370VDC				
	FREQUENCY RANGE		47 ~ 63Hz				
	EFFICIENCY (Typ.)		89%	89%	90%	90%	91%
	AC CURRENT (Typ.)		2.1A/115VAC 1.2A/230VAC				
	INRUSH CURRENT (Typ.)		COLD START 30A/115VAC 60A/230VAC				
	LEAKAGE CURRENT(max.) Note.5		Earth leakage current < 150μA/264VAC , Touch current < 80μA/264VAC				
PROTECTION	OVERLOAD		115~150% rated output power				
			Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE		13.2 ~ 15.6V	16.5 ~ 19.5V	26.4 ~ 31.2V	29.7 ~ 35V	52.8 ~ 62.4V
			Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE		Protection type : Shut down o/p voltage, re-power on to recover				
FUNCTION	FAN SUPPLY		12V@0.5A for driving a fan ; tolerance -15% ~ +10% at main output 40% rated current (10CFM)				
ENVIRONMENT	WORKING TEMP.		-30 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)				
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.6		4000 meters				
SAFETY & EMC (Note 7)	SAFETY STANDARDS		IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	ISOLATION RESISTANCE		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℃/ 70% RH				
	EMC EMISSION		**Parameter**	**Standard**	**Test Level / Note**		
			Conducted emission	BS EN/EN55011 (CISPR11)	Class B		
			Radiated emission	BS EN/EN55011 (CISPR11)	Class B		
			Harmonic current	BS EN/EN61000-3-2	Class A		
			Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY		BS EN/EN55035,BS EN/EN60601-1-2				
			Parameter	**Standard**	**Test Level / Note**		
			ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
			RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
			EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
			Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG; 2KV/Line-Line		
			Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
			Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
			Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF		3732.9K hrs min. Telcordia SR-332 (Bellcore) ; 653.6K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION (L*W*H)		PCB:101.6*50.8*29mm or 4" * 2" *1.141" inch ; Enclosed type:103.4*62*40mm or 4.07" * 2.44" *1.57" inch				
	PACKING		PCB:0.15Kg; 72pcs/11.8Kg/0.84CUFT ; Enclosed type:0.24Kg; 60pcs/15.4Kg/1.06CUFT				

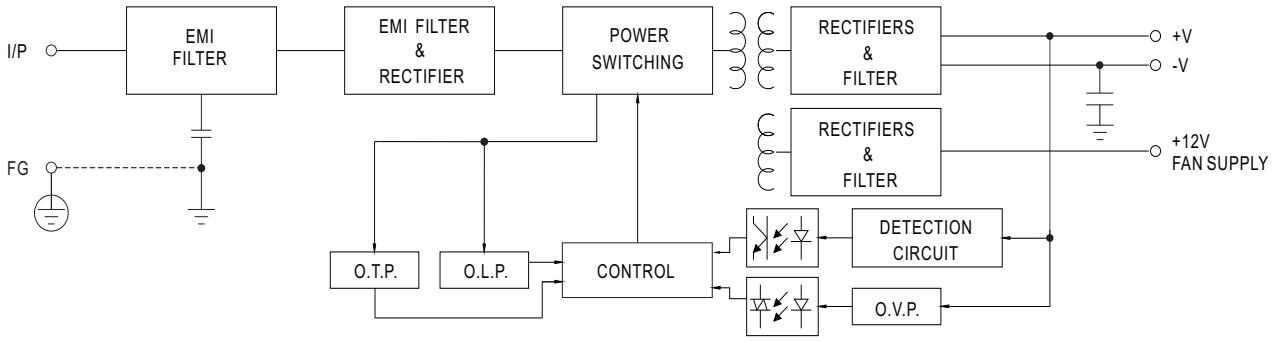
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

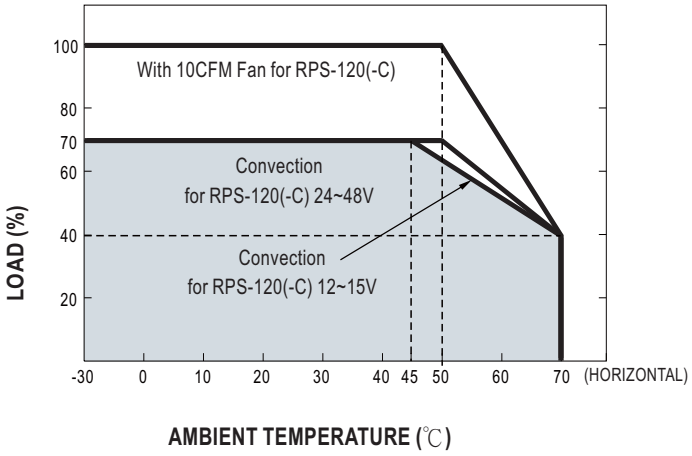
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

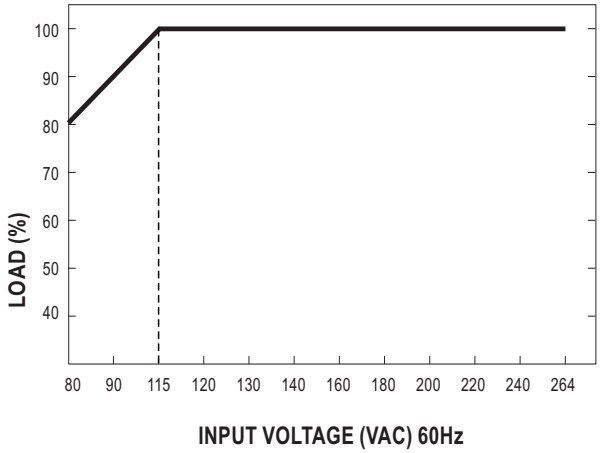
fosc : 65KHz



■ Derating Curve



■ Output Derating VS Input Voltage

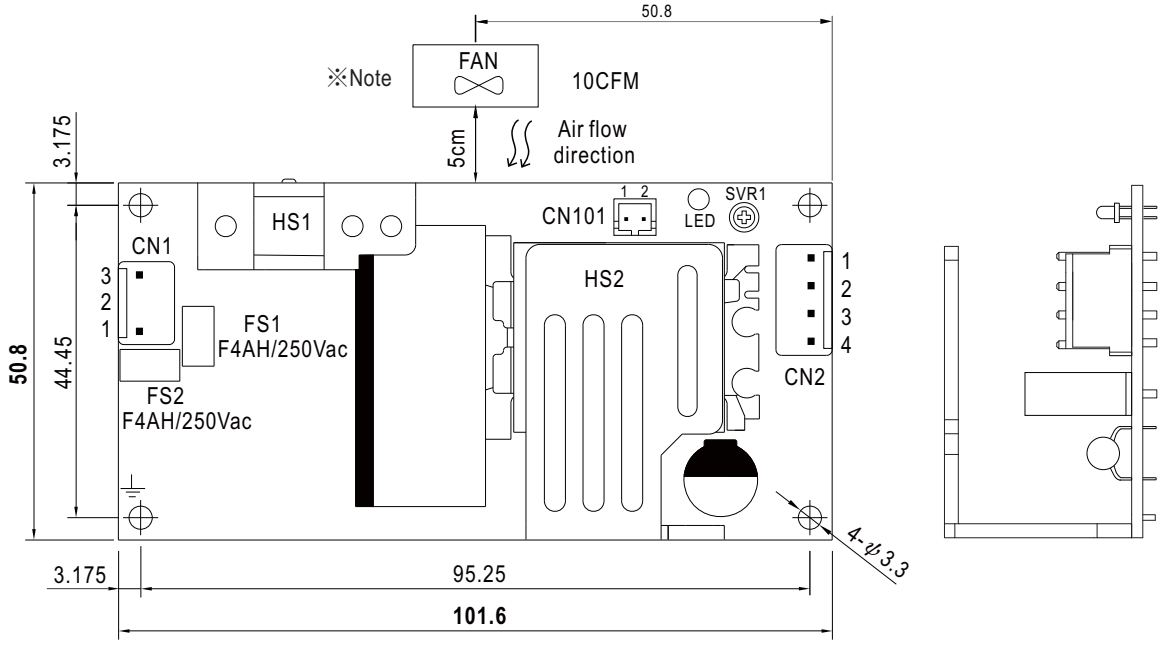


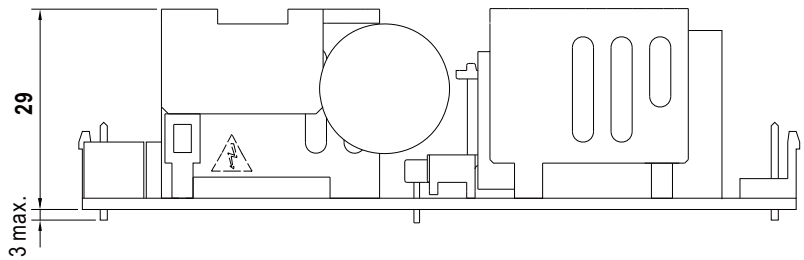
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

● RPS-120 (PCB Type)

Top View





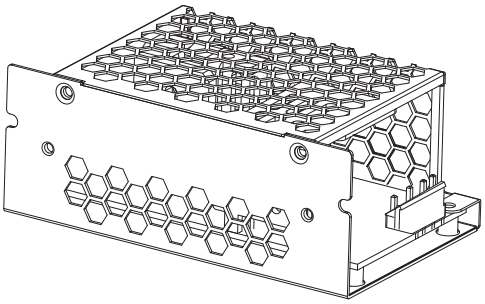
Side View

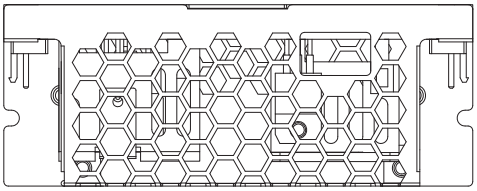
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

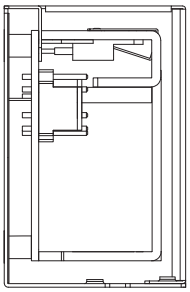
Case No.245A

● RPS-120-C (Enclosed Type)

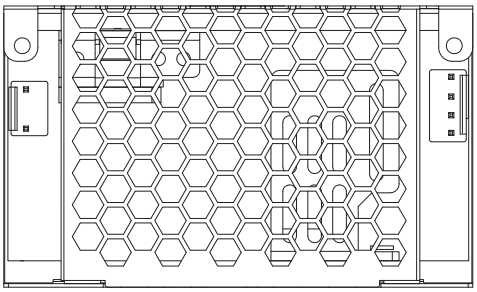




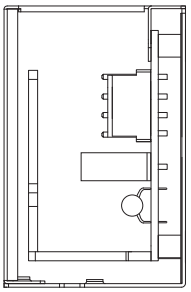
Side View



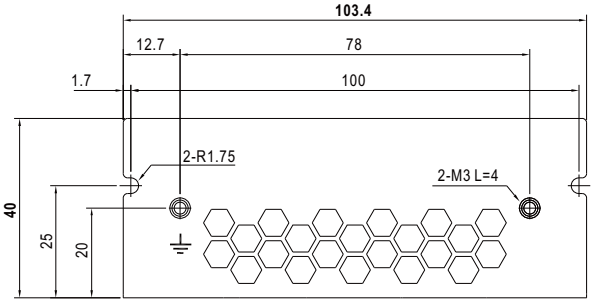
Side View



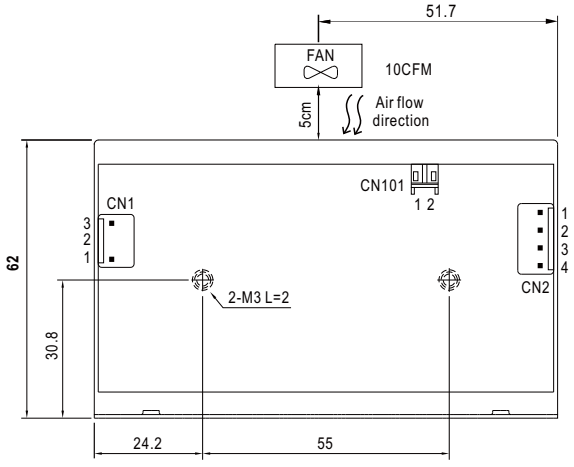
Top View



Side View



Side View



Bottom View

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		

DC Output Connector (CN2) : JST B4P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	-V		

FAN Connector(CN101) : JST S2B-PH-K-S or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	DC COM(FAN-)	JST PHR-2 or equivalent	JST SPH-002T-P0.5S or equivalent
2	+12V(FAN+)		

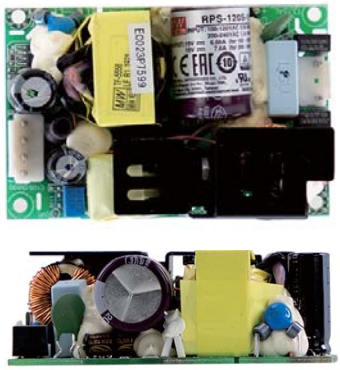
⚠ 1.HS1,HS2 cannot be shorted.
2.HS1 must have safety isolation distance with system case.

※Note : 1. The FAN supply is designed to serve as the source of the additive external fan for the cooling of the power supply, enabling the full load delivery and assuring the best life span of the product. Please do not use this FAN supply to drive other devices.
2.The PCB type(Blank type)model delivers EMI Class B for both conducted emission and radiated emission for the power supply, when configured into either Class Ⅰ (with FG) or Class Ⅱ (no FG) system.
3.The Enclosed type(-C type) model is not suitable for the configuration within a Class Ⅱ (no FG) system but is suggested to used within a Class Ⅰ (with FG) system.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

120W 3"×2" Reliable Green Medical Power Supply RPS-120S series



User's Manual

ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 3"×2" compact size
- 120W convention, 150W peak (10sec.)
- Medical safety approved (2 x MOPP) accroding to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- EMI for both Class Ⅰ & Class Ⅱ configuration
- -30~+85℃ wide range operating temperature
- No load power consumption<0.3W
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 4000 meters (Note.6)
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical monitors
- Sleep apnea devices
- Pumps machine

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-120S is a 120W highly reliable green PCB type medical power supply with a high power density on a 3" by 2" footprint. It accepts 80~264VAC input and offers various models with the output voltages between 12V and 48V. The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.3W. RPS-120S is able to be used for both Class Ⅰ (with FG) & Class Ⅱ (no FG) system design. The extremely low leakage current is less than 150μA. In addition, it conforms to the international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS -120S - 12

- 12 — Output voltage
- 120S — Rated wattage
- RPS — Series name

120W 3"×2" Reliable Green Medical Power Supply RPS-120S series

SPECIFICATION

MODEL			RPS-120S-12	RPS-120S-15	RPS-120S-24	RPS-120S-27	RPS-120S-48
OUTPUT	DC VOLTAGE		12V	15V	24V	27V	48V
	CURRENT	Peak(10 sec.)	11.8A	9.5A	6.25A	5.55A	3.125A
		Convection	9.5A	7.6A	5A	4.44A	2.5A
	RATED POWER	Peak(10 sec.)	141.6W	142.5W	150W	149.8W	150W
		Convection	114W	114W	120W	119.9W	120W
	RIPPLE & NOISE (max.) Note.2		100mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE		11.4~12.6V	14.3~15.8V	22.8~25.2V	25.6 ~ 28.4V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3		±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		600ms, 30ms/230VAC 600ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)		15ms/230VAC 15ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4		80 ~ 264VAC 113 ~ 370VDC				
	FREQUENCY RANGE		47 ~ 63Hz				
	POWER FACTOR		PF>0.94/230VAC PF>0.98/115VAC at full load				
	EFFICIENCY (Typ.)		91%	92%	93%	94%	93.5%
	AC CURRENT (Typ.)		2.3A/115VAC 1.1A/230VAC				
	INRUSH CURRENT (Typ.)		COLD START 30A/115VAC 60A/230VAC				
	LEAKAGE CURRENT(max.) Note.5		Earth leakage current < 150μA/264VAC , touch current < 80μA/264VAC				
PROTECTION	OVERLOAD		130~160% rated output power				
			Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE		13.2 ~ 15.6V	16.5 ~ 19.5V	26.4 ~ 31.2V	29.7 ~ 35V	52.8 ~ 62.4V
			Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE		Protection type : Shut down o/p voltage, recovers automatically after temperature goes down				
ENVIRONMENT	WORKING TEMP.		-30 ~ +85℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP.		-40 ~ +85℃				
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)				
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.6		4000 meters				
SAFETY & EMC (Note 7)	SAFETY STANDARDS		IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	ISOLATION RESISTANCE		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, O/P-FG: 100M Ohms / 500VDC / 25℃/ 70% RH				
	EMC EMISSION		**Parameter**	**Standard**	**Test Level / Note**		
			Conducted emission	BS EN/EN55011 (CISPR11)	Class B		
			Radiated emission	BS EN/EN55011 (CISPR11)	Class Ⅰ: Class B , Class Ⅱ: Class A		
			Harmonic current	BS EN/EN61000-3-2	Class A		
			Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY		BS EN/EN60601-1-2				
			Parameter	**Standard**	**Test Level / Note**		
			ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
			RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
			EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
			Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG; 2KV/Line-Line		
			Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
			Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
			Voltage dip, interruption	BS EN/EN61000-4-11	95% dip 1 periods, 30% dip 25 periods, 95% interruptions 250 periods		
OTHERS	MTBF		4050.3K hrs min. Telcordia SR-332 (Bellcore) ; 468.0K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION (L*W*H)		76.2*50.8*28mm or 3" * 2" *1.1" inch				
	PACKING		0.13Kg; 100pcs/14Kg/1.13CUFT				

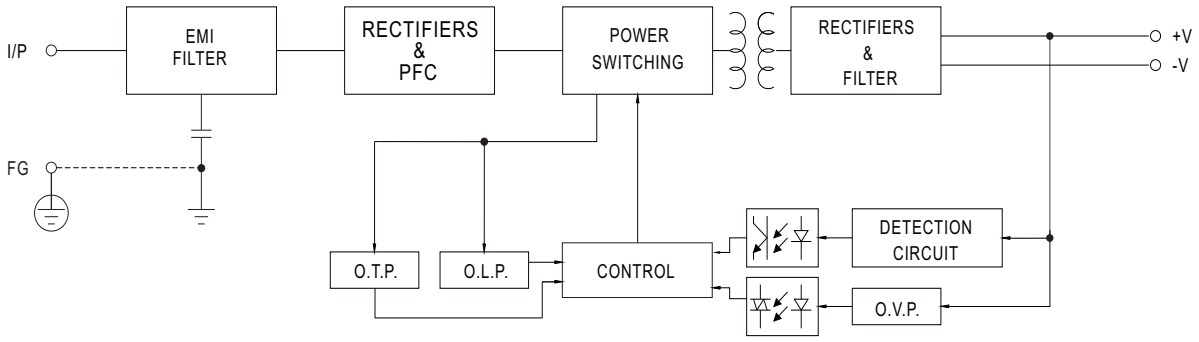
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

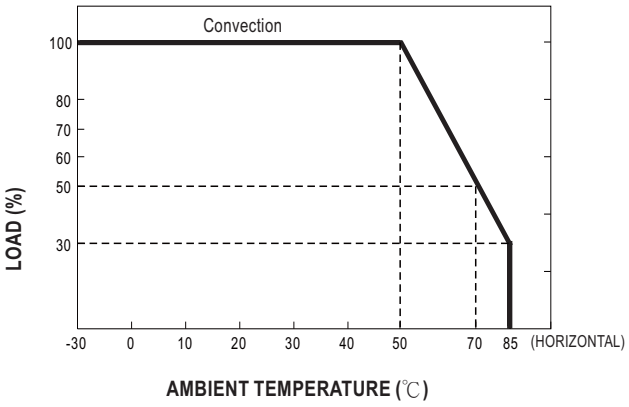
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

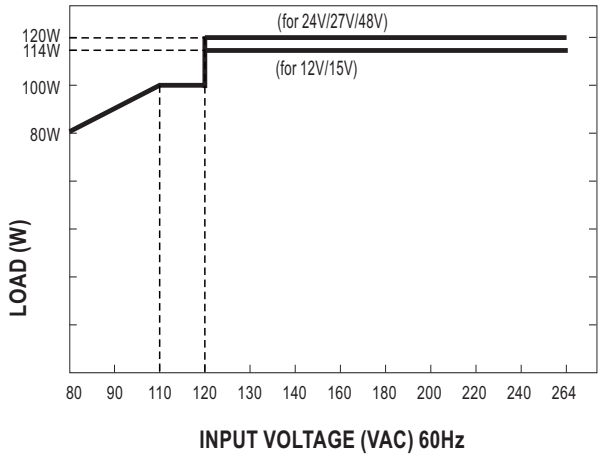
fosc : 85KHz



■ Derating Curve

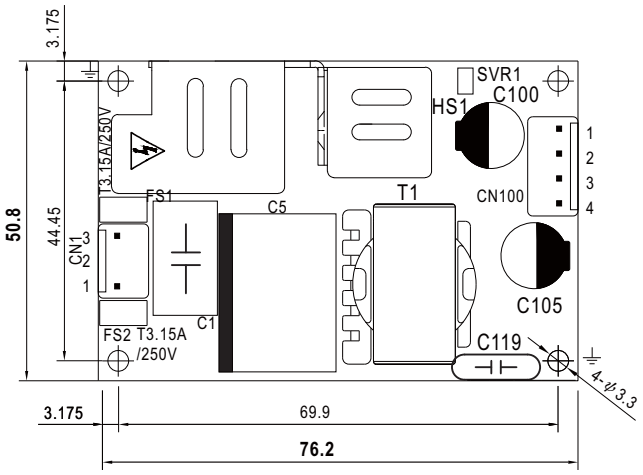


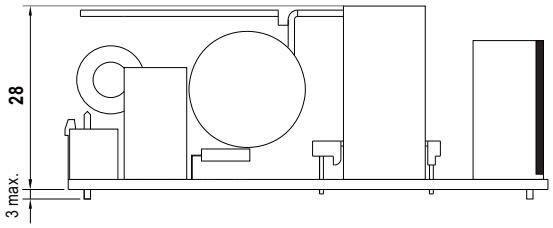
■ Output Derating VS Input Voltage



■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)





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

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

DC Output Connector (CN100) : JST B4P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4	-V		

⚠ 1.HS1 must have safety isolation distance with system case.

※Note :

1.RPS-120S model delivers EMI Class B for both conducted emission and radiated emission for the power supply, when configured into Class Ⅰ (with FG) system.

2.RPS-120S model delivers EMI Class B conducted emission and Class A radiated emission with King Core K5B RC (12*15*7) in output cable for the power supply when configured into Class Ⅱ (no FG) system.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

200W Reliable Green Medical Power Supply

RPS-200 series

User's Manual

ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 4"×2" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- 140W convention, 200W force air
- EMI Conduction for Class B Radiation for Class B with FG(Class Ⅰ) and Class A without FG(Class Ⅱ)
- No load power consumption<0.5W
- Extremely low leakage current
- 12V/0.5A fan supply
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Lifetime > 65K hours
- Operating altitude up to 5000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical monitors
- Sleep apnea devices
- Pumps machine
- Electric bed

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-200 is a 200W highly reliable green PCB type medical power supply with a high power density (21.9W/in^3) on the 4" by 2" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 95% and the extremely low no load power consumption is down below 0.5W. RPS-200 is able to be used for both Class Ⅰ (with FG) and Class Ⅱ (no FG) system design. The extremely low leakage current is less than 130 μA. In addition, it conforms to the international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment.

Model Encoding

RPS - 200 - 12 -C

- -C: Type
- 12: Output voltage
- 200: Rated wattage
- RPS: Series name

Type	Description	Note
Blank	PCB Type	In stock
C	Enclosed casing Type	In stock

SPECIFICATION

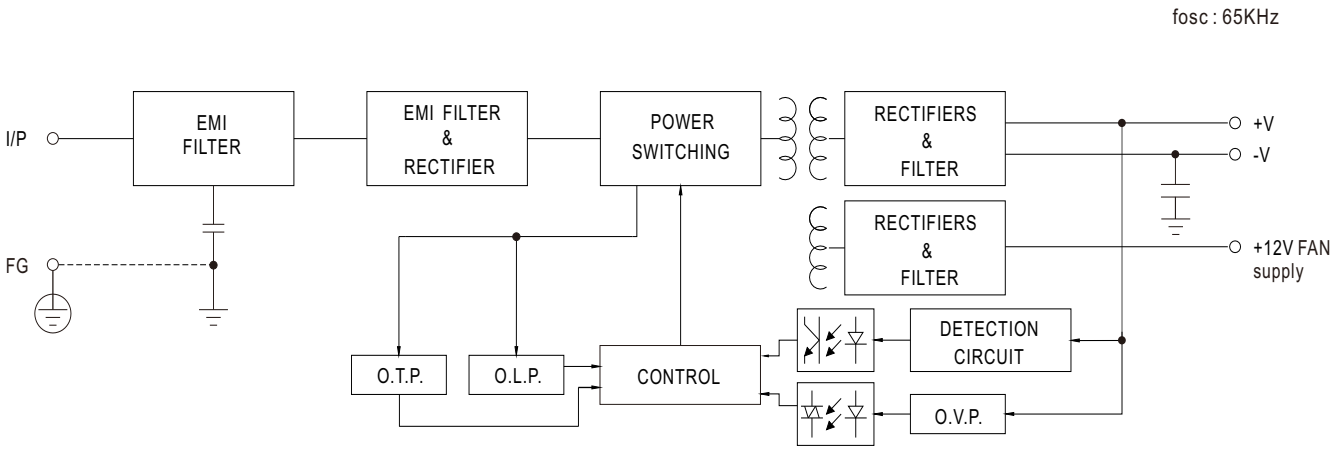
MODEL			RPS-200-12□	RPS-200-15□	RPS-200-24□	RPS-200-27□	RPS-200-48□
OUTPUT	DC VOLTAGE		12V	15V	24V	27V	48V
	CURRENT	10CFM	16.7A	13.4A	8.4A	7.5A	4.2A
		Convection	11.7A	9.4A	5.9A	5.3A	3A
	RATED POWER	10CFM	200.4W	201W	201.6W	202.5W	201.6W
		Convection	140.4W	141W	141.6W	143.1W	144W
	RIPPLE & NOISE (max.) Note.2		100mVp-p	100mVp-p	120mVp-p	120mVp-p	120mVp-p
	VOLTAGE ADJ. RANGE		11.4~12.6V	14.3~15.8V	22.8~25.2V	25.6 ~ 28.4V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3		±2.0%	±2.0%	±1.0%	±1.0%	±1.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		700ms, 30ms/230VAC 700ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)		16ms/230VAC 16ms/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4		80 ~ 264VAC 113 ~ 370VDC				
	FREQUENCY RANGE		47 ~ 63Hz				
	POWER FACTOR		PF>0.94/230VAC PF>0.98/115VAC at full load				
	EFFICIENCY (Typ.)		93%	93.5%	94%	94%	95%
	AC CURRENT (Typ.)		2A/115VAC 1A/230VAC				
	INRUSH CURRENT (Typ.)		COLD START 30A/115VAC 60A/230VAC				
	LEAKAGE CURRENT(max.)Note.5		Earth leakage current < 130μA/264VAC , Touch current < 40μA/264VAC				
PROTECTION	OVERLOAD		110 ~ 140% rated output power				
			Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE		13.2 ~ 15.6V	16.5 ~ 19.5V	26.4 ~ 31.2V	29.7 ~ 35V	52.8 ~ 62.4V
			Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE		Protection type : Shut down o/p voltage, re-power on to recover				
FUNCTION	FAN SUPPLY		12V@0.5A for driving a fan ; tolerance +15% ~ -15% at main output 20% rated current (10CFM)				
ENVIRONMENT	WORKING TEMP.		-30 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)				
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.6		5000 meters				
SAFETY & EMC (Note 7)	SAFETY STANDARDS		IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	ISOLATION RESISTANCE		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℃/ 70% RH				
	EMC EMISSION		**Parameter**	**Standard**	**Test Level / Note**		
			Conducted emission	BS EN/EN55011 (CISPR11)	Class B		
			Radiated emission	BS EN/EN55011 (CISPR11)	Class A (for Class II);Class B (for Class I)		
			Harmonic current	BS EN/EN61000-3-2	Class A		
			Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY		BS EN/EN55035, BS EN/EN60601-1-2				
			Parameter	**Standard**	**Test Level / Note**		
			ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
			RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
			EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
			Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line		
			Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
			Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
			Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF		2669.7K hrs min. Telcordia SR-332 (Bellcore) ; 500.3K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION (L*W*H)		PCB:101.6*50.8*29mm or 4″*2″*1.14″inch ; Enclosed type:103.4*62*40mm or 4.07″*2.44″*1.57″inch				
	PACKING		PCB:0.19Kg; 72pcs/14.7Kg/0.84CUFT ; Enclosed type:0.3Kg; 60pcs/19Kg/1.06CUFT				

NOTE

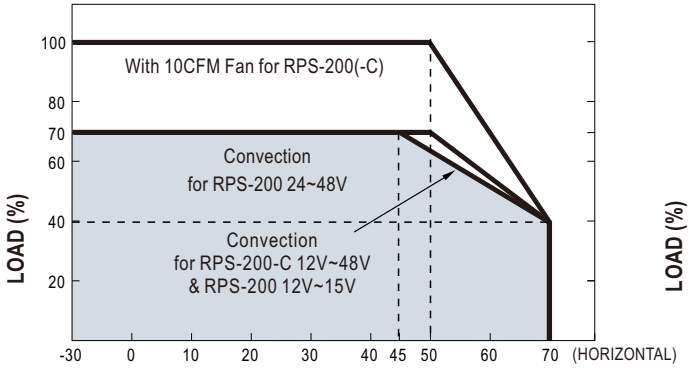
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

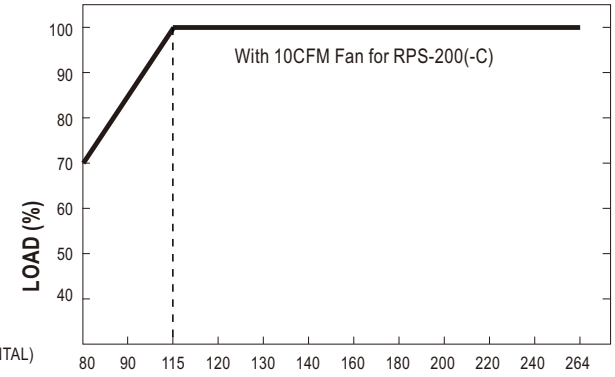


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output Derating VS Input Voltage

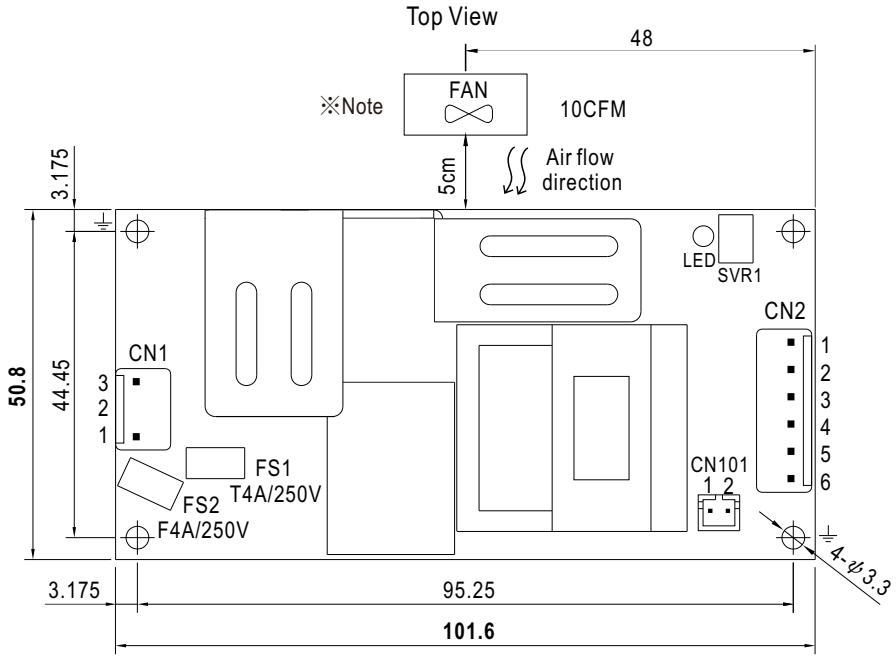


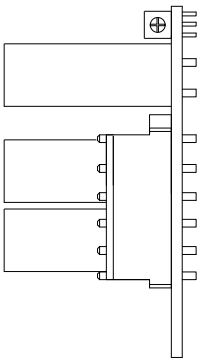
INPUT VOLTAGE (VAC) 60Hz

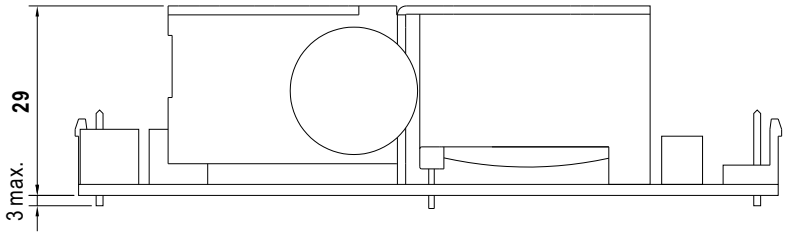
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

● RPS-200 (PCB Type)



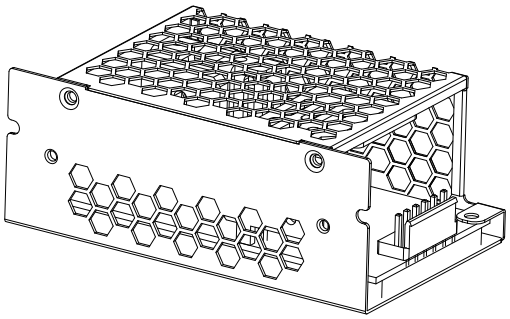


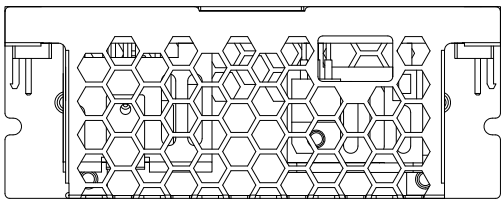


Side View

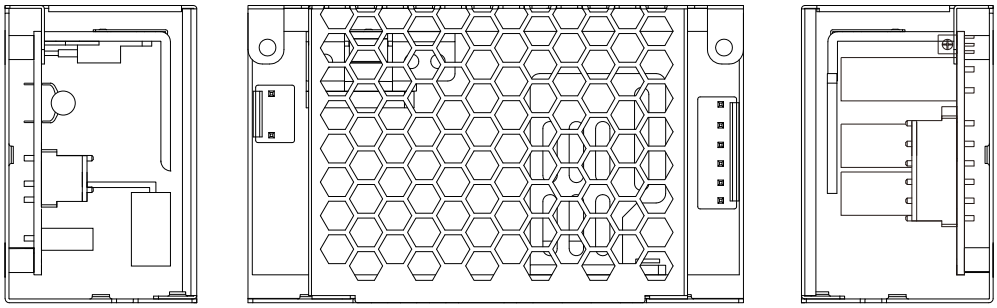
RPS-200-C (Enclosed Type)

Case No.245A

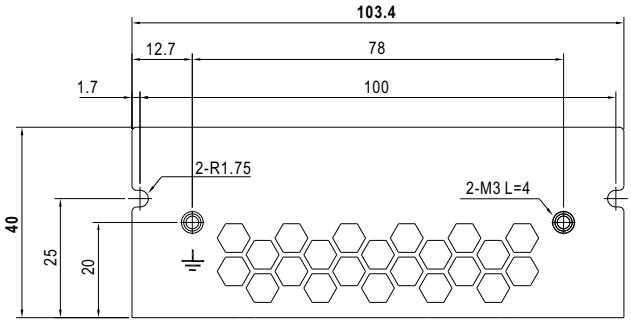




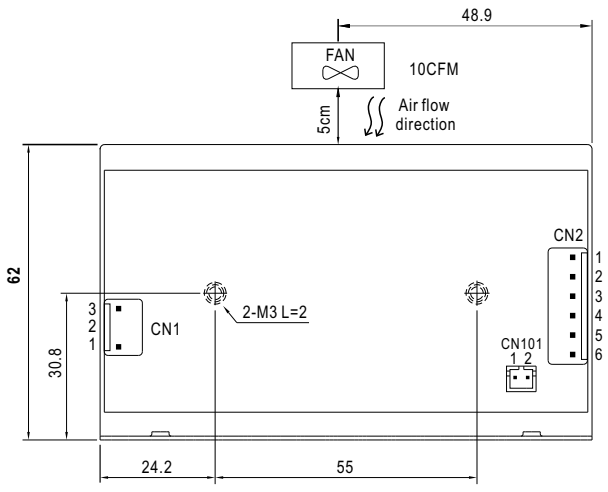
Side View



Side View　　Top View　　Side View



Side View



Bottom View

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

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

DC Output Connector (CN2) : JST B6P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1,2,3	+V	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
4,5,6	-V		

FAN Connector(CN101) : JST B2B-PH-K-S or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	+12V	JST PHR-2 or equivalent	JST SPH-002T-P0.5S or equivalent
2	DC COM		

※Note : 1. The FAN supply is designed to serve as the source of the additive external fan for the cooling of the power supply, enabling the full load delivery and assuring the best life span of the product. Please do not use this FAN supply to drive other devices.

2.The PCB type(Blank type)EMI Conduction for Class B. Radiation for Class B with FG(Class Ⅰ) and Class A without FG(Class Ⅱ)

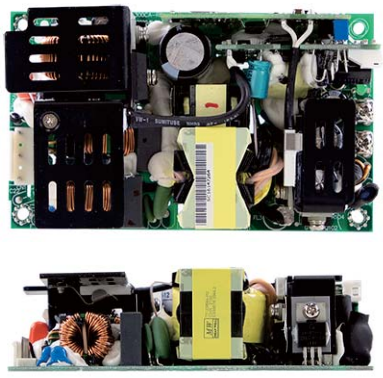
3.The enclosed type(-C type) model is not suitable for the configuration within a Class Ⅱ (no FG) system but is suggested to used within a Class Ⅰ (with FG) system.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

300W Reliable Green Medical Power Supply

RPS-300 series



User's Manual

ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 IEC60335-1 TPTC004 BS EN/EN60335-1

ECO Medical 2xMOPP BF rated

Features

- 5"×3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system consideration
- 200W convection,300W force air
- No load power consumption<0.5W by PS-ON control
- Extremely low leakage current
- 5Vdc standby output, 12Vdc fan supply, Power Good, Power Fail and remote sense
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Typical Lifetime > 40K hours
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices
- Pump machine
- Electric bed

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-300 is a 300W highly reliable green PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 90~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 93% and the extremely low no load power consumption is down below 0.5W. The extremely low leakage current is less than 150 μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment. RPS-300 series also offers the enclosed style model (RPS-300-C).

Model Encoding

RPS - 300 - 12 -C

- -C: Type
- 12: Output voltage
- 300: Rated wattage
- RPS: Series name

Type	Description	Note
Blank	PCB Type	In stock
C	Enclosed casing Type	In stock

SPECIFICATION

MODEL			RPS-300-12□	RPS-300-15□	RPS-300-24□	RPS-300-27□	RPS-300-48□
OUTPUT	DC VOLTAGE		12V	15V	24V	27V	48V
	RATED CURRENT (20.5CFM)		25A	20A	12.5A	11.12A	6.25A
	CURRENT	Convection	0 ~ 16.67A	0 ~ 13.33A	0 ~ 8.33A	0 ~ 7.4A	0 ~ 4.17A
		20.5CFM	0 ~ 25A	0 ~ 20A	0 ~ 12.5A	0 ~ 11.12A	0 ~ 6.25A
	RATED POWER	Convection	200W	200W	200W	200W	200.2W
		20.5CFM	300W	300W	300W	300W	300W
	RIPPLE & NOISE (max.) Note.2		120mVp-p	120mVp-p	150mVp-p	200mVp-p	250mVp-p
	VOLTAGE ADJ. RANGE (main output)		11.4 ~ 12.6V	14.25 ~ 15.75V	22.8 ~ 25.2V	25.65 ~ 28.35V	45.6 ~ 50.4V
	VOLTAGE TOLERANCE Note.3		±3.0%	±3.0%	±2.0%	±2.0%	±2.0%
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION		±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
	SETUP, RISE TIME		2500ms, 30ms/230VAC 3000ms, 30ms/115VAC at full load				
	HOLD UP TIME (Typ.)		13ms/230VAC/115VAC at full load				
INPUT	VOLTAGE RANGE Note.4		90 ~ 264VAC 127 ~ 370VDC				
	FREQUENCY RANGE		47 ~ 63Hz				
	POWER FACTOR (Typ.)		PF>0.93/230VAC PF>0.98/115VAC at full load				
	EFFICIENCY (Typ.)		90%	90%	92.5%	93%	93%
	AC CURRENT (Typ.)		3.5A/115VAC 1.8A/230VAC				
	INRUSH CURRENT (Typ.)		COLD START 35A/115VAC 70A/230VAC				
	LEAKAGE CURRENT(max.) Note.5		PCB Type: Earth leakage current <150μA / 264VAC, Touch current <70μA/264VAC Enclosed Type: Earth leakage current <200μA / 264VAC, Touch current <70μA/264VAC				
PROTECTION	OVERLOAD		105 ~ 135% rated output power				
			Protection type : Hiccup mode, recovers automatically after fault condition is removed				
	OVER VOLTAGE		13.5 ~ 15V	16.2 ~ 18.5V	26 ~ 30V	29.5 ~ 33.5V	52 ~ 59.5V
			Protection type : Shut down o/p voltage, re-power on to recover				
	OVER TEMPERATURE		Protection type : (TSW1)Shut down o/p voltage, recovers automatically after temperature goes down				
			Protection type : (TSW2)Shut down o/p voltage, re-power on to recover				
FUNCTION	5V STANDBY		5Vsb : 5V@0.6A without fan, 1A with fan 20.5CFM ; tolerance ± 2%, ripple : 150mVp-p(max.)				
	FAN SUPPLY		12V@0.5A for driving a fan ; Tolerance -15% ~ +10% at main output 20% rated current (20.5CFM)				
	PS-ON INPUT SIGNAL		Power on: PS-ON = "Hi" or " > 2 ~ 5V" ; Power off: PS-ON = "Low" or " < 0 ~ 0.5V"				
	POWER GOOD / POWER FAIL		500ms>PG>10ms ; The TTL signal goes high with 10ms to 500ms delay after power set up ; The TTL signal goes low at least 1ms before Vo below 90% of rated value				
ENVIRONMENT	WORKING TEMP.		-30 ~ +70℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃ , 10 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)				
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes				
	OPERATING ALTITUDE Note.6		2000 meters				

SAFETY & EMC (Note 7)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2, CAN/CSA C22.2 No. 60601-1:2014+A2, IEC 60335-1:2010+A1+A2, Dekra BS EN/ EN 60335-1:2012+A11+A13A+A1+A14+A2+A15 EAC TP TC 004 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, O/P-FG:100M Ohms / 500VDC / 25℃ / 70% RH		
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
		Conducted emission	BS EN/EN55011 (CISPR11)	Class B
		Radiated emission	BS EN/EN55011 (CISPR11)	Class B
		Harmonic current	BS EN/EN61000-3-2	Class A
		Voltage flicker	BS EN/EN61000-3-3	-----
	EMC IMMUNITY	BS EN/EN55035, BS EN/EN60601-1-2		
		Parameter	**Standard**	**Test Level / Note**
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m
		Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods
OTHERS	MTBF	PCB type: 2853.1K hrs min. Telcordia SR-332 (Bellcore) ; 160.0K hrs min. MIL-HDBK-217F (25℃)		
		Enclosed type: 1487.9K hrs min. Telcordia SR-332 (Bellcore) ; 163.8K hrs min. MIL-HDBK-217F (25℃)		
	DIMENSION (L*W*H)	PCB type:127*76.2*35mm or 5″*3″*1.37″inch		
		Enclosed type:130*86*43mm or 5.11″*3.39″*1.69″inch		
	PACKING	PCB type:0.37Kg; 36pcs/14.3Kg/0.96CUFT		
		Enclosed type:0.563Kg; 24pcs/14.5Kg/0.77CUFT		

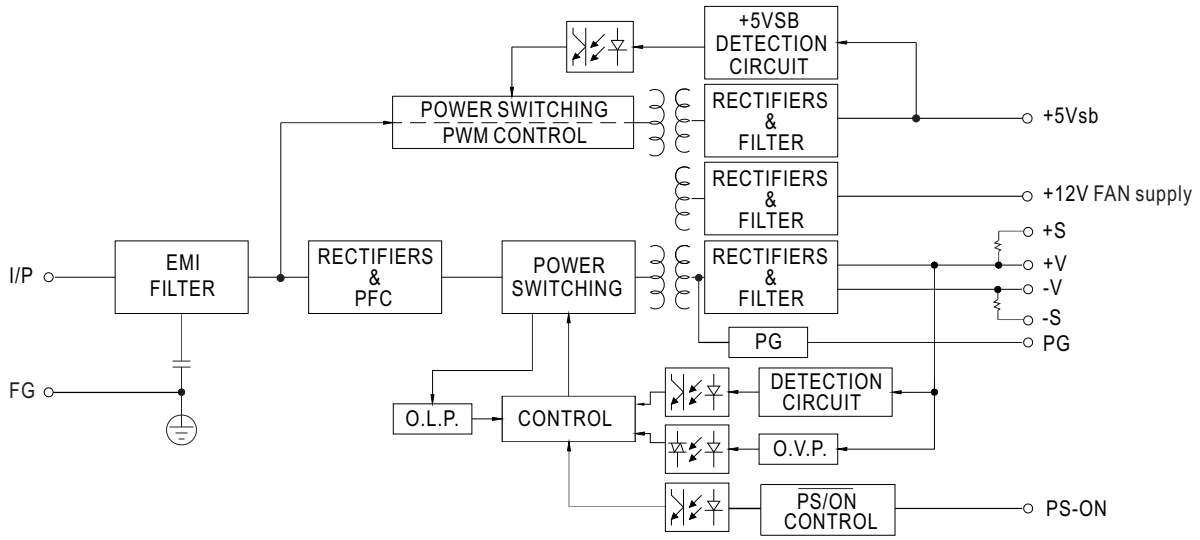
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. The power supply is considered a component which will be installed into a final equipment. All the Class Ⅰ (with FG) EMC tests are 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

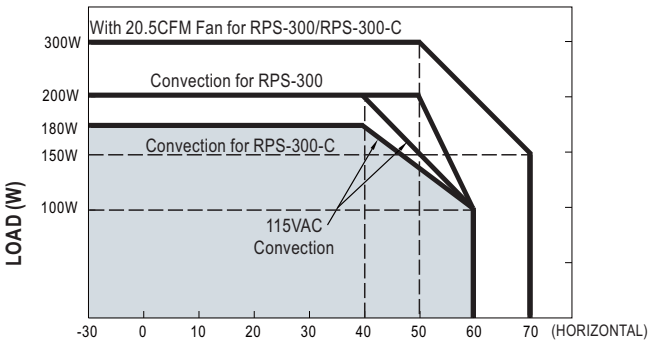
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

PFC fosc : 65KHz
PWM fosc : 70KHz

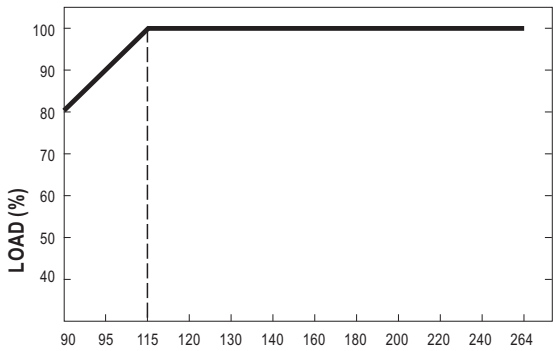


■ Derating Curve



AMBIENT TEMPERATURE (℃)

■ Output Derating VS Input Voltage



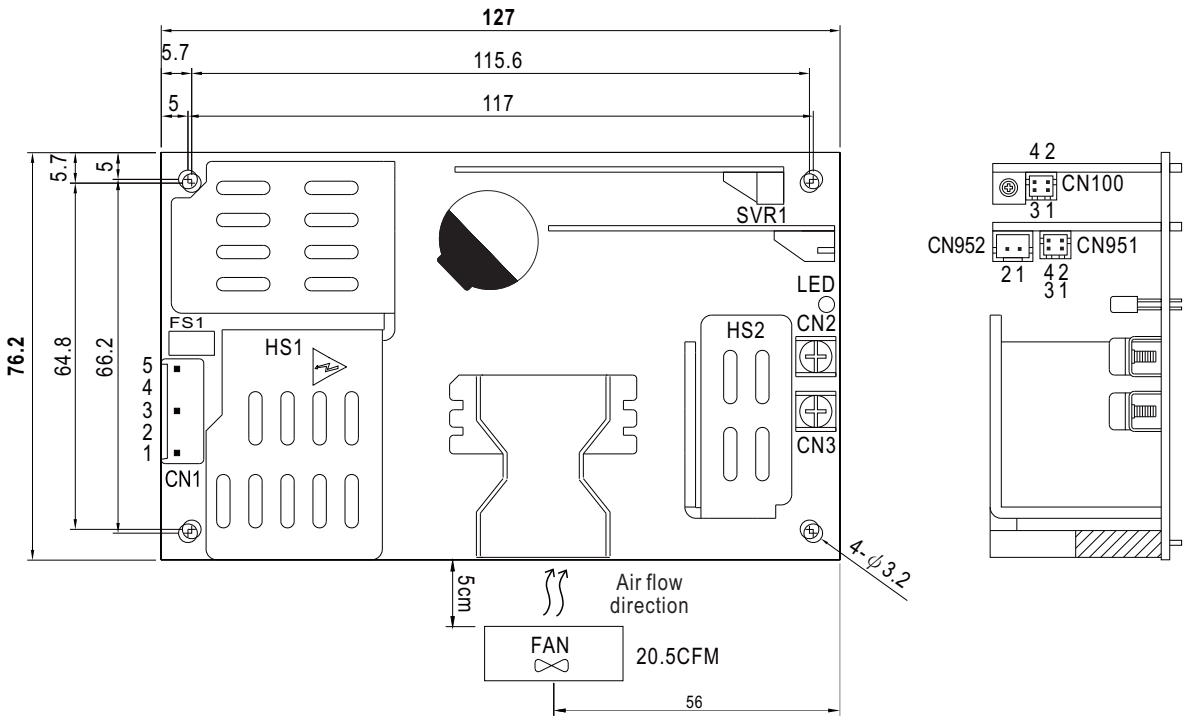
INPUT VOLTAGE (VAC) 60Hz

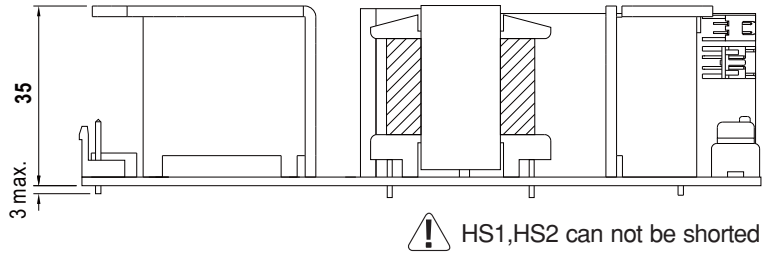
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

◎ RPS-300 (PCB type)

Top View

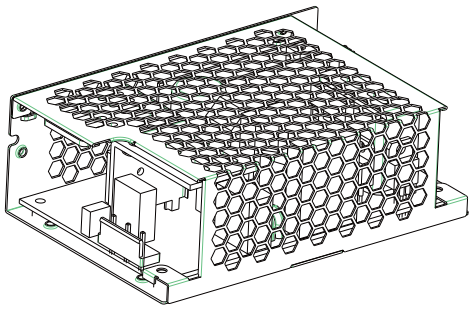


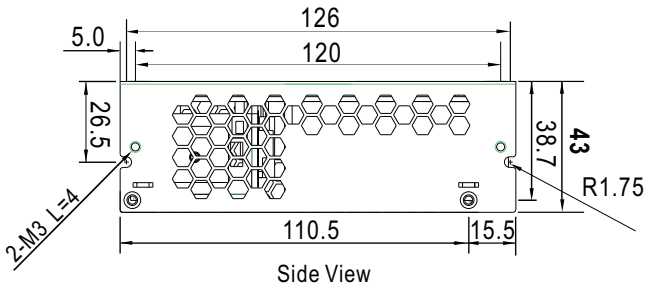


Side View

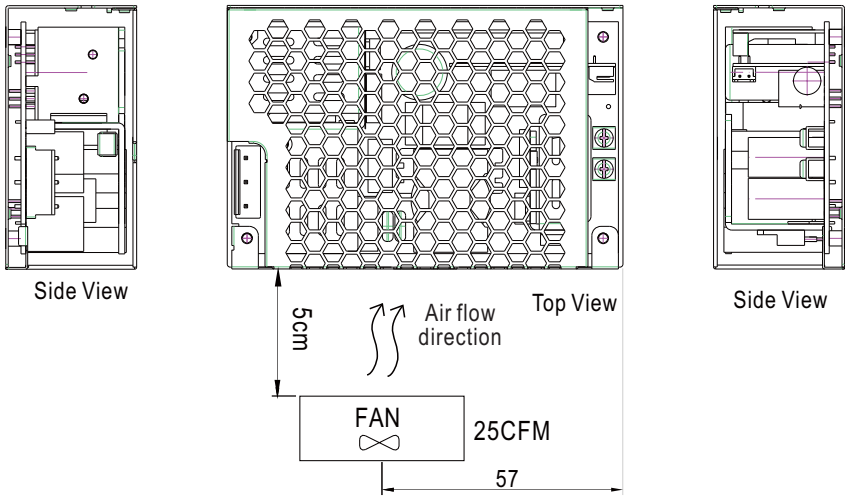
◎ **RPS-300-C (Enclosed type)**

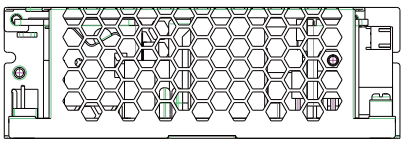
Case No. 247A



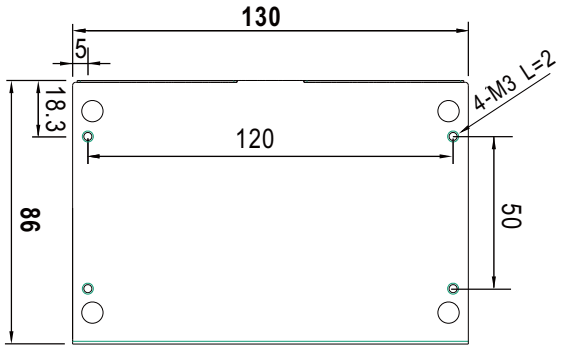


Side View





Side View



Bottom View

AC Input Connector (CN1) : JST B5P-VH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	FG ⏚	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2,4	No Pin		
3	AC/L		
5	AC/N		

Function Connector(CN100):HRS DF11-4DP-2DS or equivalent

Pin No.	Status	Mating Housing	Terminal
1	-S	HRS DF11-4DS or equivalent	HRS DF11-**SC or equivalent
2	+S		
3	DC COM		
4	PG		

DC Output Connector (CN2,CN3)

Pin No.	Assignment	Output Terminals
CN2	-V	M3.5 Pan HD screw in 2 positions
CN3	+V	Torque to 8 lbs-in(90cNm)max.

⚠ 1.HS1,HS2 cannot be shorted.

Function Connector(CN951):HRS DF11-4DP-2DS or equivalent

Pin No.	Status	Mating Housing	Terminal
1	5VSB	HRS DF11-4DS or equivalent	HRS DF11-**SC or equivalent
2,4	DC COM		
3	PS-ON		

FAN Connector(CN952) : JST S2B-XH or equivalent

Pin No.	Assignment	Mating Housing	Terminal
1	DC COM	JST XHP or equivalent	JST SXH-001T-P0.6 or equivalent
2	+12V		

※Note : 1. The FAN supply is designed to serve as the source of the additive external fan for the cooling of the power supply, enabling the full load delivery and assuring the best life span of the product. Please do not use this FAN supply to drive other devices.

2.The PCB type (Blank type) model delivers EMI Class B for both conducted emission and radiated emission for power supply , when configured into either Class Ⅰ (with FG) .

3.The enclosed type(-C type) model is not suitable for configuration within a Class Ⅱ (no FG) system but suggested within a Class Ⅰ (with FG) system.

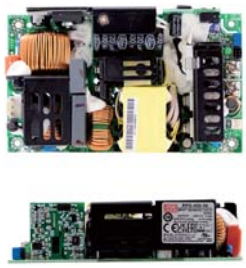
■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

400W Reliable Green Medical Power Supply

RPS-400 series

User's Manual



ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1 TPTC004

Features

- 5"×3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- Suitable for BF application with appropriate system configuration
- 250W convection,400W force air
- EMI Class B for Class I & Class A for Class II configuration
- No load power consumption<0.5W by PS-ON control
- 5Vdc standby output, 12Vdc fan supply, Power Good, Power Fail and remote sense
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Operating altitude up to 4000 meters
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices
- Pump machine
- Electric bed

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-400 is a 400W highly reliable green PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V. The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.5W. RPS-400 (blank type only) is able to be used for both Class I (with FG) or Class II (no FG) system design. The extremely low leakage current is less than 160μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectly fitting all kinds of BF rated "patient contact" medical system equipment. RPS-400 series also offers the enclosed style models(-C / TF /SF)

Model Encoding

RPS - 400 - 12 -C

- -C: Type
- 12: Output voltage
- 400: Rated wattage
- RPS: Series name

Type	Description	Note
Blank	PCB Type	In stock
C	Enclosed casing Type	In stock
TF	Enclosed Type with fan on the top	In stock
SF	Enclosed Type with fan on the side	In stock

SPECIFICATION

MODEL			RPS-400-12□	RPS-400-15□	RPS-400-18□	RPS-400-24	RPS-400-27□	RPS-400-36□	RPS-400-48□
OUTPUT	DC VOLTAGE		12V	15V	18V	24V	27V	36V	48V
	CURRENT	25CFM	33.3A	26.7A	22.3A	16.7A	14.9A	11.2A	8.4A
		Convection	20.8A	16.7A	13.9A	10.5A	9.3A	7A	5.3A
	RATED POWER	25CFM	399.6W	400.5W	401.4W	400.8W	402.3W	403.2W	403.2W
		Convection	249.6W	250.5W	250.2W	252W	251.1W	252W	254.4W
	RIPPLE & NOISE (max.) Note.2		120mVp-p	120mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE(main output)		11.4~12.6V	14.3~15.8V	17.1~18.9V	22.8~25.2V	25.6 ~ 28.4V	34.2 ~37.8V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3		±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 (Typ.)		16ms/230VAC 16ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.4		80 ~ 264VAC 113 ~ 370VDC						
	FREQUENCY RANGE		47 ~ 63Hz						
	POWER FACTOR		PF>0.94/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)		91.5%	92%	93%	93%	93.5%	94%	94%
	AC CURRENT (Typ.)		4.2A/115VAC 2.1A/230VAC						
	INRUSH CURRENT (Typ.)		COLD START 35A/115VAC 70A/230VAC						
	LEAKAGE CURRENT (max.) Note.5		Earth leakage current <200μA/264VAC 50Hz , Touch current < 70μA/264VAC						
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
			Protection type : Shut down o/p voltage, re-power on to recover						
	OVER TEMPERATURE		Protection type : 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 fan ; Tolerance -15% ~+10% at main output 35% rated current (25CFM)						
	FAN CONTROL		Fan on by 20% load min. (For RPS-400-xxTF/SF)						
	PS-ON INPUT SIGNAL		Power on: PS-ON = "Hi" or " > 2 ~ 5V" ; Power off: PS-ON = "Low" or " < 0 ~ 0.5V"						
	POWER GOOD / POWER FAIL		500ms>PG>10ms ; The TTL signal goes high with 10ms to 500ms delay after power set up ; The TTL signal goes low at least 1ms before Vo below 90% of rated value						
ENVIRONMENT	WORKING TEMP.		-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY		20 ~ 90% RH non-condensing						
	STORAGE TEMP., HUMIDITY		-40 ~ +85℃, 10 ~ 95% RH non-condensing						
	TEMP. COEFFICIENT		±0.03%/℃ (0 ~ 50℃)						
	VIBRATION		10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.6		4000 meters						

SPECIFICATION

SAFETY & EMC (Note 7)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	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℃/ 70% RH				
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**		
		Conducted emission	BS EN/EN55011 (CISPR11)	Class B(Please see last page note1)		
		Radiated emission	BS EN/EN55011 (CISPR11)	Class B(Please see last page note1)		
		Harmonic current	BS EN/EN61000-3-2	Class A		
		Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY	BS EN/EN55035 , BS EN/EN60601-1-2, BS EN/EN61204-3				
		Parameter	**Standard**	**Test Level / Note**		
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line		
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
		Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF	1393.3K hrs min. Telcordia SR-332 (Bellcore) ; 194.1K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	Type	RPS-400	RPS-400-C	RPS-400-TF	RPS-400-SF
		L*W*H	127*76.2*35mm	130*86*43mm	130*86*58.5mm	160*86*43mm
			5″*3″*1.37″inch	5.11″*3.39″*1.69″inch	5.11″*3.39″*2.30″inch	6.3″*3.39″*1.69″inch
	PACKING	P.W.	0.39Kg	0.51Kg	0.58Kg	0.64Kg
		Q'TY	36pcs	24pcs	24pcs	24pcs
		G.W.	15Kg	13.2Kg	14.9Kg	16.4Kg
		M'MENT	0.96CUFT	0.77CUFT	0.86CUFT	0.91CUFT

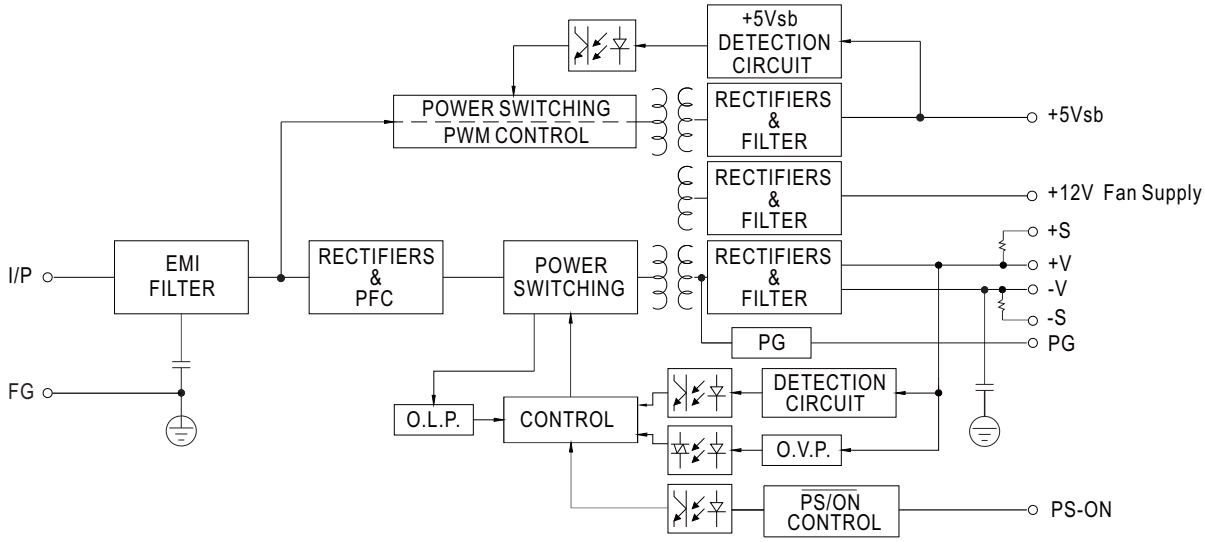
NOTE

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf & 47μf parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. The power supply is considered a component which will be installed into a final equipment. All the Class Ⅰ (with FG) EMC tests are executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The Class Ⅱ (without FG) EMC tests are executed by mounting the unit on a 130mm*86.6mm 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

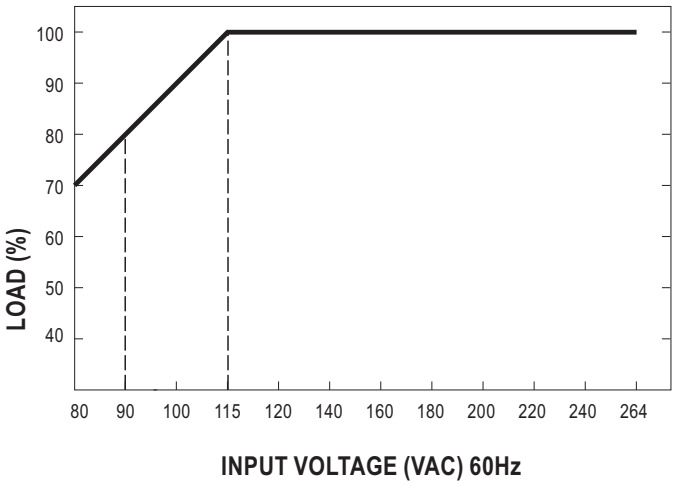
※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

■ Block Diagram

PFC fosc : 90KHz
PWM fosc : 100KHz

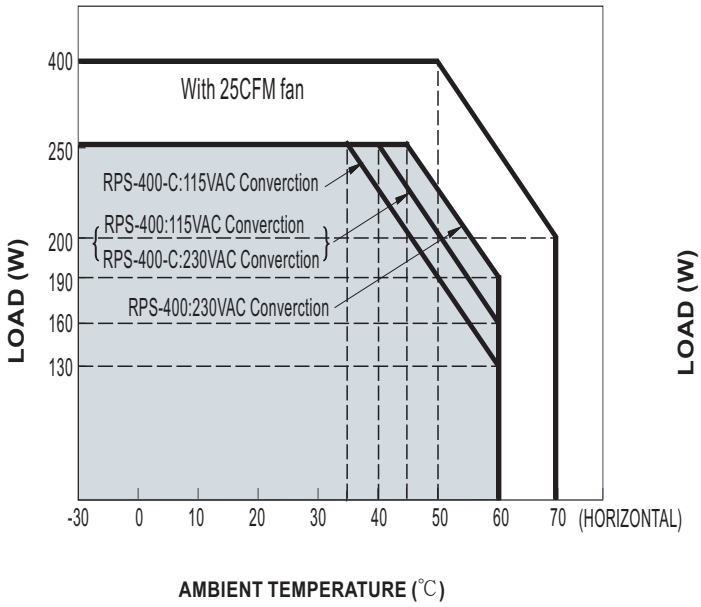


■ Output Derating vs Input Voltage

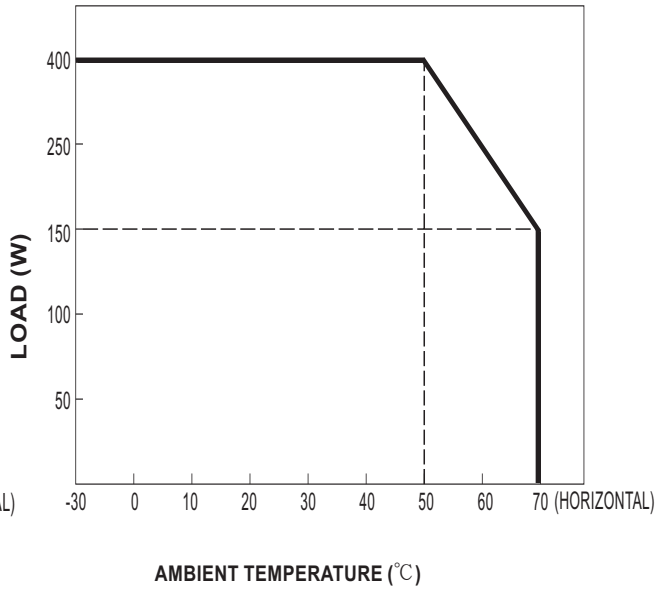


■ Derating Curve

◎ **RPS-400 & RPS-400-C**



◎ **RPS-400-TF/SF**



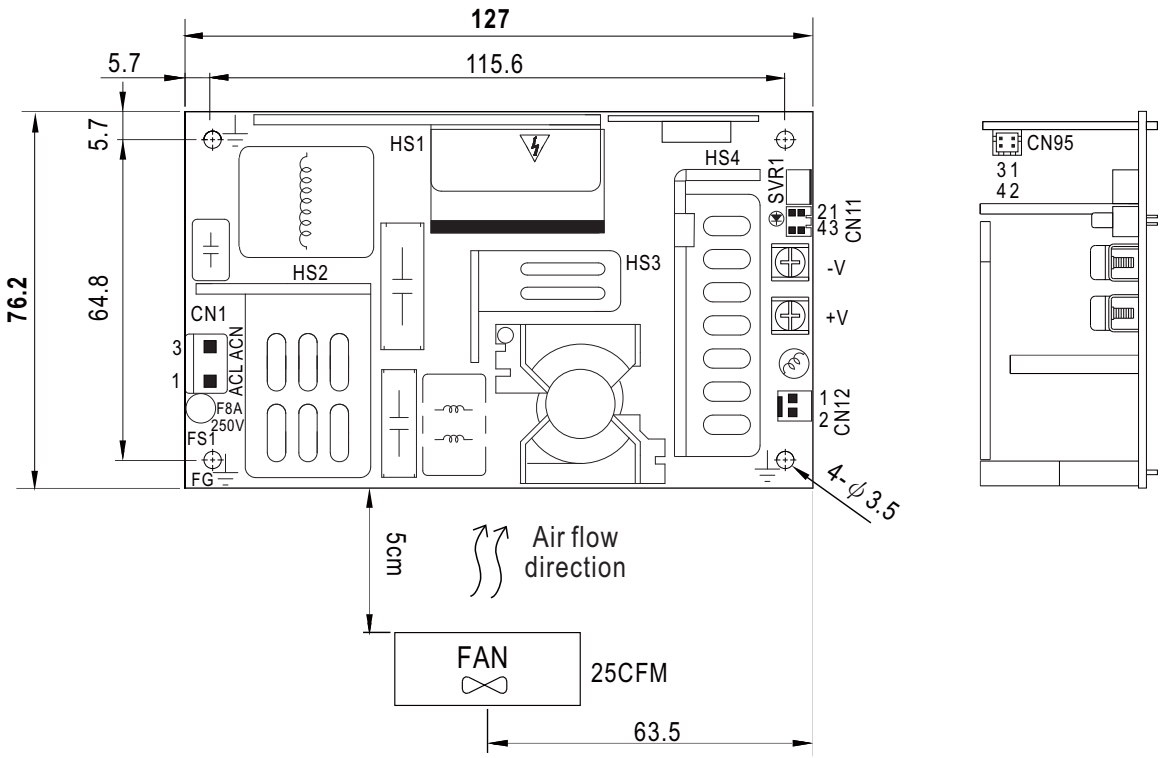
Order No.	RPS-400	RPS-400-C	RPS-400-TF	RPS-400-SF
Products				
Convection	250W	250W	---	---
Force Air	400W	400W	400W	400W

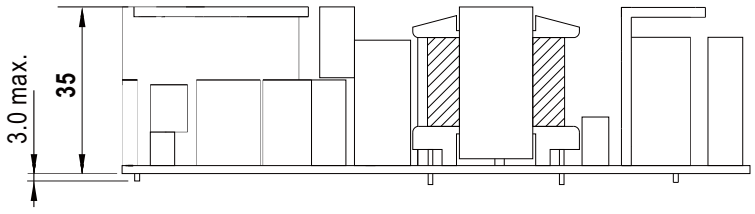
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

● RPS-400 (PCB Type)

Top View

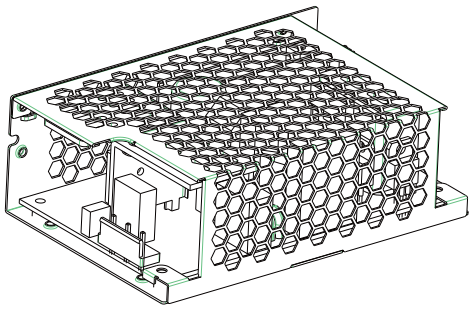


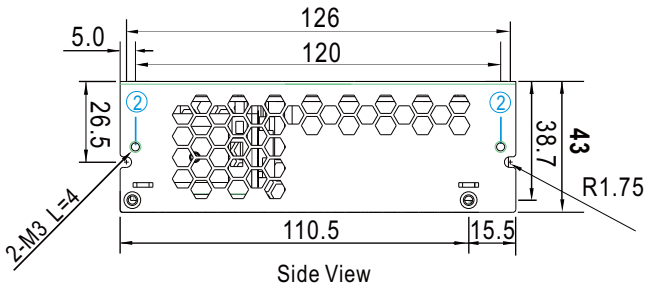


Side View

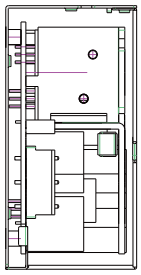
RPS-400-C (Enclosed type)

Case No. 247A

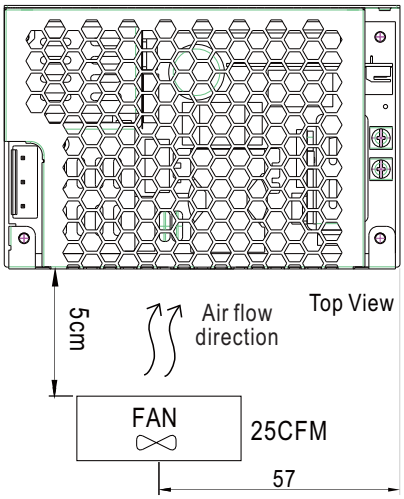




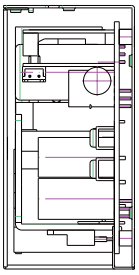
Side View



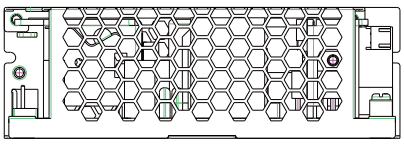
Side View



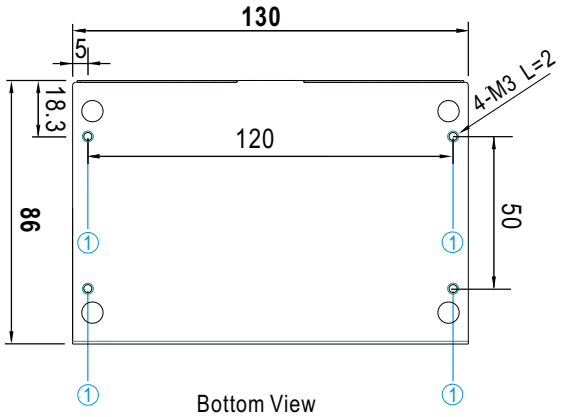
Top View



Side View



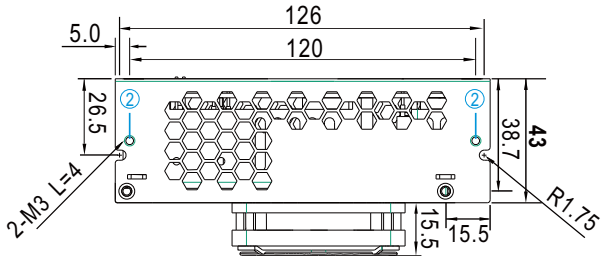
Side View



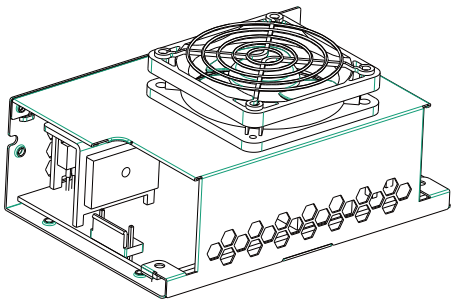
Bottom View

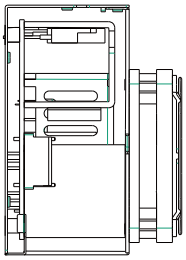
RPS-400-TF (Enclosed type with fan on the top)

Case No. 247A-D 247B-T

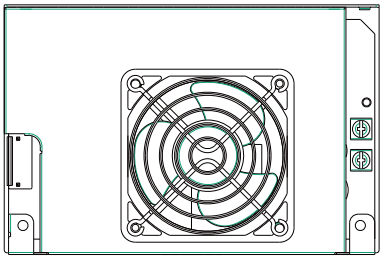


Side View

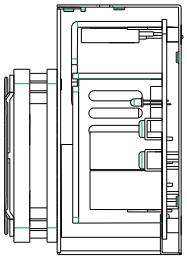




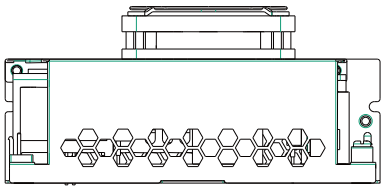
Side View



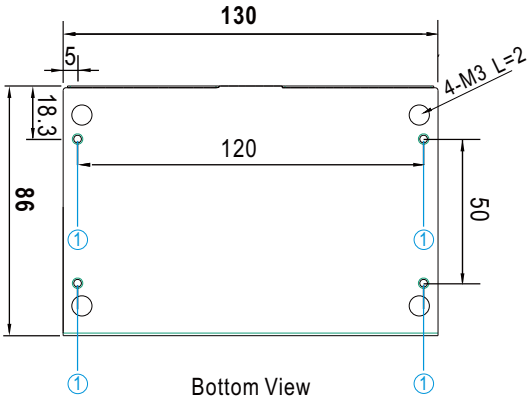
Top View



Side View



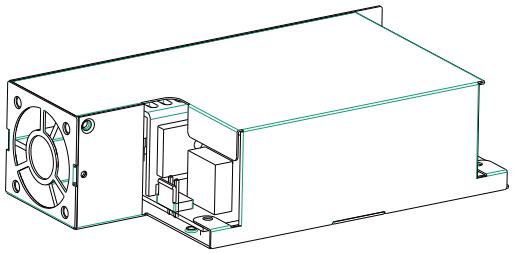
Side View

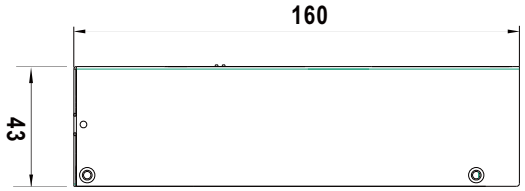


Bottom View

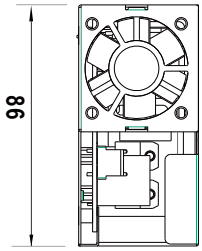
RPS-400-SF (Enclosed type with fan on the side)

Case No. 248A

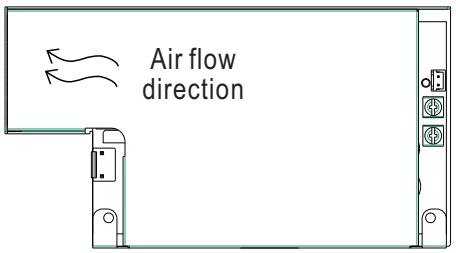




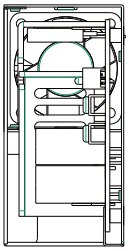
Side View



Side View

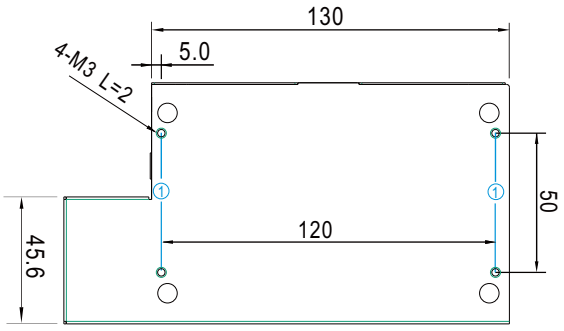


Top View



Side View

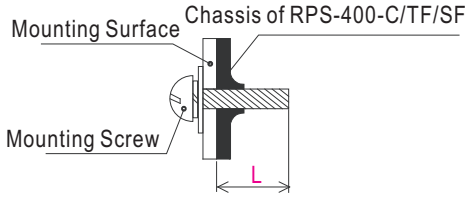
Side View



Bottom View

※ 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/L	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/N		

DC Output Connector (CN2,CN3)

Pin No.	Assignment	Output Terminals
CN2	-V	M3.5 Pan HD screw in 2 positions Torque to 8 lbs-in(90cNm)max.
CN3	+V	

⚠ HS1,HS2,HS3,HS4 can not be shorted

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		

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		

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 (no 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.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html

500W 5"×3" Reliable Green Medical Power Supply RPS-500 series

User's Manual

ANSI/AAMI ES60601-1 BS EN/EN60601-1 IEC60601-1

Features

- 5"×3" compact size
- 320W convection,500W force air
- 550W peak power (3sec.)
- Medical safety approved (2 x MOPP) accroding to ANSI/AAMI ES60601-1 and IEC/BS EN/EN60601-1
- EMI for both Class Ⅰ & Class Ⅱ configuration
- -30~+70℃ wide range operating temperature
- No load power consumption<0.5W by PS_ON control
- High efficiency up to 94%
- Protections: Short circuit / Overload / Over voltage / Over temperature
- 5Vdc standby output, 12Vdc fan supply, Power Good, Power Fail and remote sense
- Operating altitude up to 4000 meters (Note.5)
- LED indicator for power on
- 3 years warranty

Applications

- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices
- Pump machine
- Electric bed

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

RPS-500 is a 500W highly reliable green PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 80~264VAC input and offers various output voltages between 12V and 48V.The working efficiency is up to 94% and the extremely low no load power consumption is down below 0.5W.RPS-500 (blank type only) is able to be used for both Class Ⅰ (with FG) and Class Ⅱ (no FG) system design. The extremely low leakage current is less than 220μA. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011, perfectlyfitting all kinds of BF rated "patient contact" medical system equipment. RPS-500 series also offers the enclosed style models(-C / TF /SF)

Model Encoding

RPS - 500 - 12 -C

- -C: Type
- 12: Output voltage
- 500: Rated wattage
- RPS: Series name

Type	Description	Note
Blank	PCB Type	In stock
-C	Enclosed casing Type	In stock
-TF	Enclosed Type with fan on the top	In stock
-SF	Enclosed Type with fan on the side	In stock

500W 5"×3" Reliable Green Medical Power Supply RPS-500 series

SPECIFICATION

MODEL				RPS-500-12□	RPS-500-15□	RPS-500-18□	RPS-500-24□	RPS-500-27□	RPS-500-36□	RPS-500-48□
OUTPUT	DC VOLTAGE			12V	15V	18V	24V	27V	36V	48V
	RATED CURRENT Note.7	Blank	25CFM	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
			Convection	26.7A	21.3A	17.8A	13.4A	11.9A	8.9A	6.7A
		-C	25CFM	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
			Convection	25.8A	20.7A	17.2A	12.9A	11.5A	8.6A	6.5A
		-TF/SF	Built-in fan	41.6A	33.3A	27.8A	20.8A	18.5A	13.9A	10.4A
	RATED POWER Note.7	Blank	25CFM	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
			Convection	320.4W	319.5W	320.4W	321.6W	321.3W	320.4W	321.6W
		-C	25CFM	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
			Convection	309.6W	310.5W	309.6W	309.6W	310.5W	309.6W	312W
		-TF/SF	Built-in fan	499.2W	499.5W	500.4W	499.2W	499.5W	500.4W	499.2W
	PEAK POWER(3sec.)			550W						
	RIPPLE & NOISE (max.) Note.2			200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p	200mVp-p
	VOLTAGE ADJ. RANGE(main output)			11.4~12.6V	14.3~15.8V	17.1~18.9V	22.8~25.2V	25.6 ~ 28.4V	34.2 ~37.8V	45.6 ~50.4V
	VOLTAGE TOLERANCE Note.3			±3.0%	±3.0%	±3.0%	±2.0%	±2.0%	±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 (Typ.)			10ms/230VAC 10ms/115VAC at full load						
INPUT	VOLTAGE RANGE Note.4			80 ~ 264VAC 113 ~ 370VDC						
	FREQUENCY RANGE			47 ~ 63Hz						
	POWER FACTOR			PF>0.94/230VAC PF>0.98/115VAC at full load						
	EFFICIENCY (Typ.)			91%	92%	92.5%	93%	93.5%	94%	94%
	AC CURRENT (Typ.)			5.8A/115VAC 2.9A/230VAC						
	INRUSH CURRENT (Typ.)			COLD START 40A/115VAC 80A/230VAC						
	LEAKAGE CURRENT (max.) Note.5			Earth leakage current <220μA/264VAC 50Hz , Touch current < 100μA/264VAC						
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
				Protection type : Hiccup mode, recovers automatically after fault condition is removed						
	OVER TEMPERATURE			Protection type : 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.)						
	12V FAN SUPPLY			12V@0.5A for driving fan ; Tolerance -15% ~+10% at main output 20% rated current (25CFM)						
	FAN CONTROL			Fan on by 20% load min. (For RPS-500-xxTF/SF)						
	PS-ON INPUT SIGNAL			Power ON: PS-ON = "Hi" or " > 2 ~ 5V" ; Power OFF: PS-ON = "Low" or " < 0 ~ 0.5V"						
	POWER GOOD / POWER FAIL			500ms>PG>10ms ; The TTL signal goes high with 10ms to 500ms delay after power set up ; The TTL signal goes low at least 1ms before Vo below 90% of rated value						
ENVIRONMENT	WORKING TEMP.			-30 ~ +70℃ (Refer to "Derating Curve")						
	WORKING HUMIDITY			20 ~ 90% RH non-condensing						
	STORAGE TEMP.			-40 ~ +85℃						
	TEMP. COEFFICIENT			±0.03%/℃ (0 ~ 50℃)						
	VIBRATION			10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						
	OPERATING ALTITUDE Note.6			4000 meters						

500W 5"×3" Reliable Green Medical Power Supply RPS-500 series

SPECIFICATION

SAFETY & EMC (Note 8)	SAFETY STANDARDS	IEC 60601-1:2005+A1+A2, TUV BS EN/ EN 60601-1:2006+A1+A12+A2, ANSI/AAMI ES60601-1:2005+A2 CAN/CSA C22.2 No. 60601-1:2014+A2, EAC TP TC 004 approved; Design refer to BS EN/EN60335-1(by request)				
	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℃/ 70% RH				
	EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**		
		Conducted emission	BS EN/EN55011 (CISPR11)	Class Ⅰ: Class B , Class Ⅱ: Class A		
		Radiated emission	BS EN/EN55011 (CISPR11)	Class A		
		Harmonic current	BS EN/EN61000-3-2	Class A		
		Voltage flicker	BS EN/EN61000-3-3	-----		
	EMC IMMUNITY	BS EN/EN55035 , BS EN/EN60601-1-2, BS EN/EN61204-3				
		Parameter	**Standard**	**Test Level / Note**		
		ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact		
		RF field susceptibility	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)		
		EFT bursts	BS EN/EN61000-4-4	Level 3, 2KV		
		Surge susceptibility	BS EN/EN61000-4-5	Level 4, 4KV/Line-FG ; 2KV/Line-Line		
		Conducted susceptibility	BS EN/EN61000-4-6	Level 3, 10V		
		Magnetic field immunity	BS EN/EN61000-4-8	Level 4, 30A/m		
		Voltage dip, interruption	BS EN/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF	1132.3K hrs min. Telcordia SR-332 (Bellcore) ; 144.2K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION	Type	RPS-500	RPS-500-C	RPS-500-TF	RPS-500-SF
		L*W*H	127x76.2x41mm	130x86x43mm	130x86x58.5mm	160x86x43mm
			5″x3″x1.61″inch	5.11″x3.39″x1.69″inch	5.11″x3.39″x2.30″inch	6.3″x3.39″x1.69″inch
	PACKING	P.W.	0.46Kg	0.54Kg	0.58Kg	0.64Kg
		Q'TY	30pcs	24pcs	24pcs	24pcs
		G.W.	14.8Kg	14Kg	14.9Kg	16.4Kg
		M'MENT	0.96CUFT	0.77CUFT	0.86CUFT	0.91CUFT

NOTE

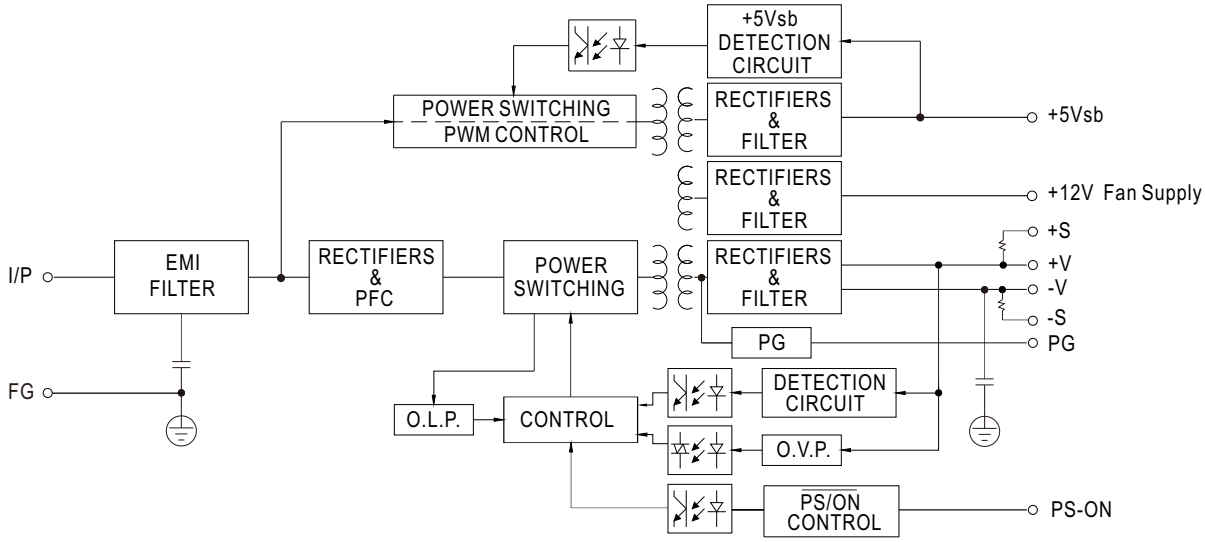
1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25 of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μF & 47 μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and 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 ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).
7. Please refer to "Derating curve".
8. The power supply is considered a component which will be installed into a final equipment. All EMC tests are 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." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

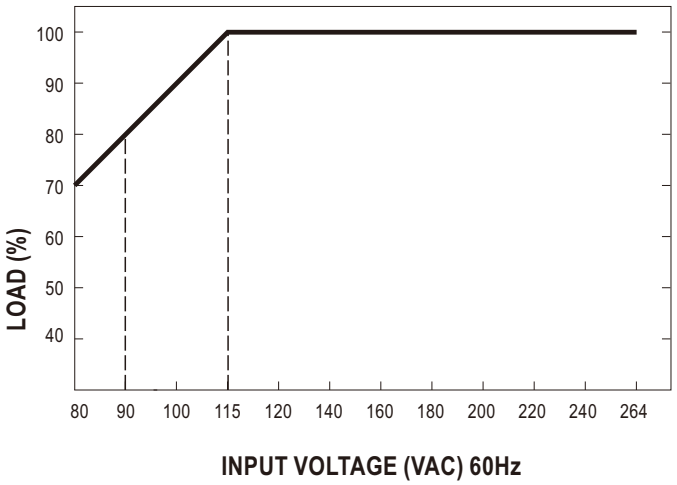
EMI Performance	Conducted	Radiated
Class Ⅰ (with FG)	Class B	Class A
Class Ⅱ (no FG)	Class A	Class A

■ Block Diagram

PFC fosc : 90KHz
PWM fosc : 100KHz

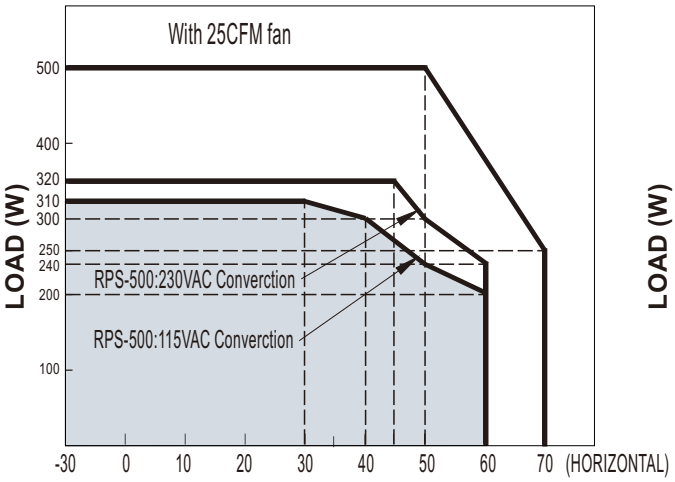


■ Output Derating vs Input Voltage



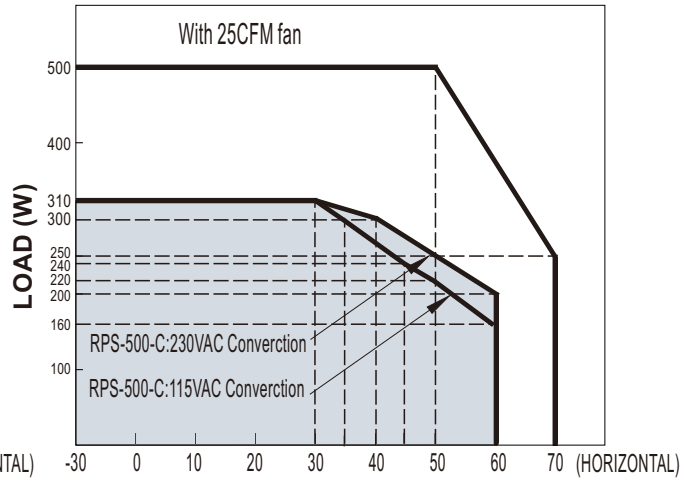
■ Derating Curve

◎ RPS-500



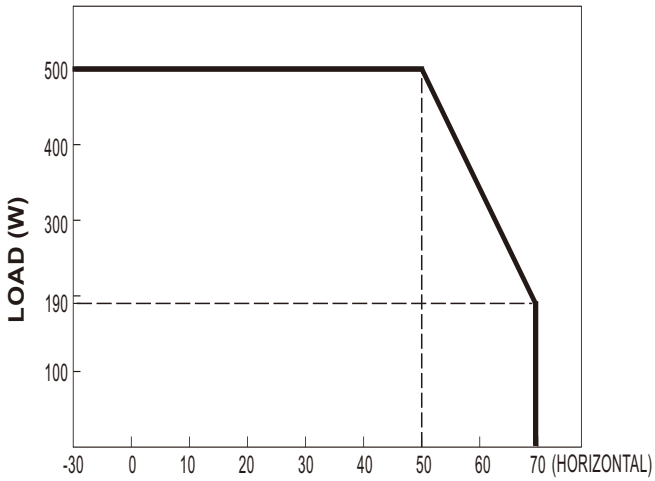
AMBIENT TEMPERATURE (℃)

◎ RPS-500-C



AMBIENT TEMPERATURE (℃)

◎ RPS-500-TF/SF



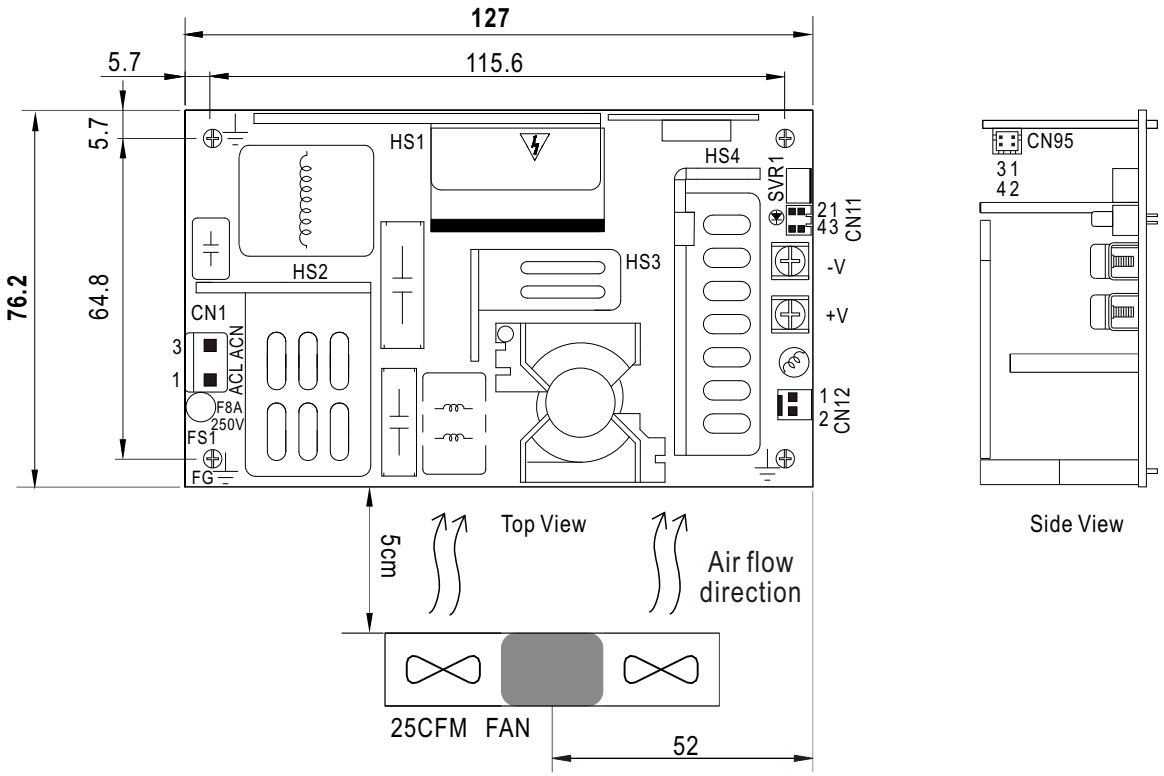
AMBIENT TEMPERATURE (℃)

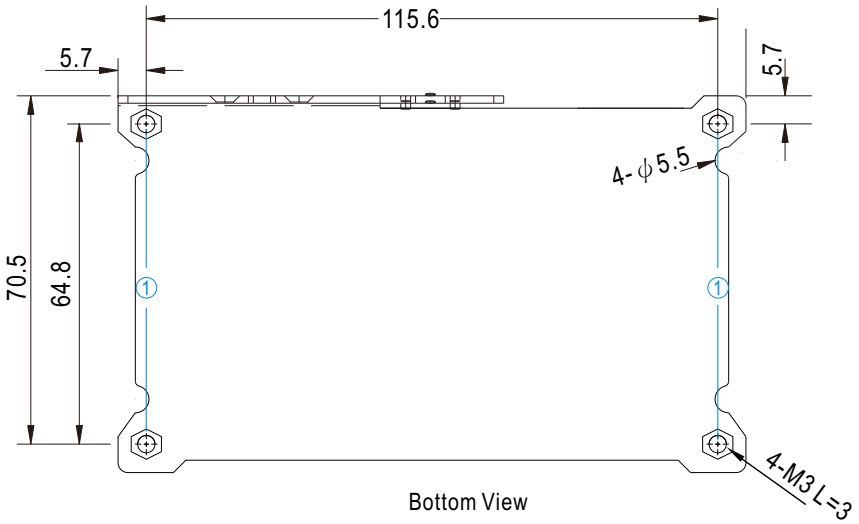
Order No.	RPS-500	RPS-500-C	RPS-500-TF	RPS-500-SF
Products				
Convection	320W	310W	---	---
Force Air	500W	500W	500W	500W

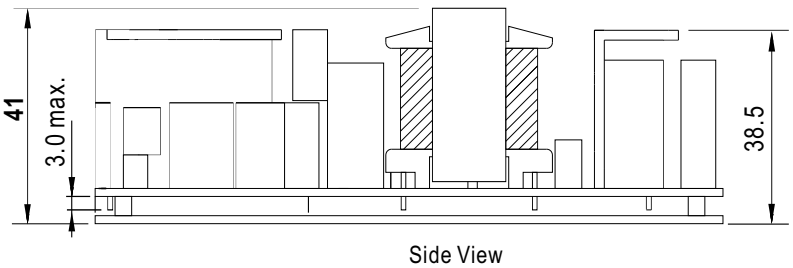
■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

● RPS-500 (PCB Type)

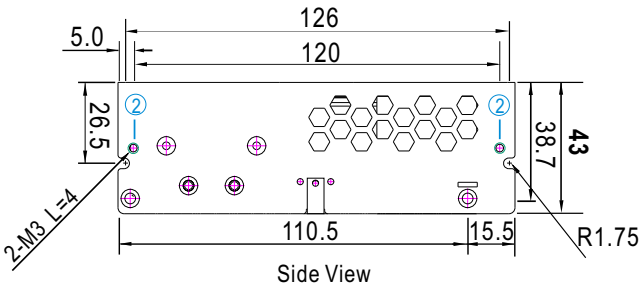




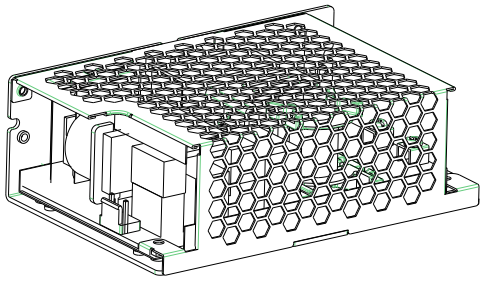


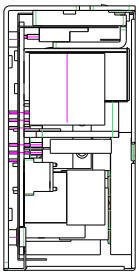
RPS-500-C (Enclosed type)

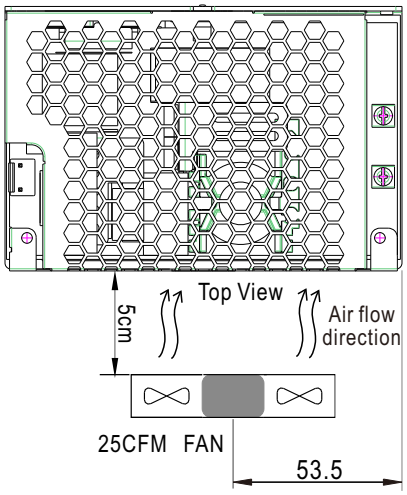
Case No. 247C-T 269A-D

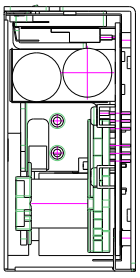


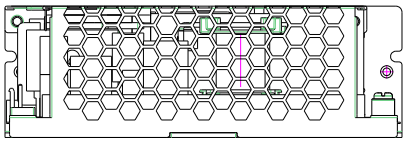
Side View

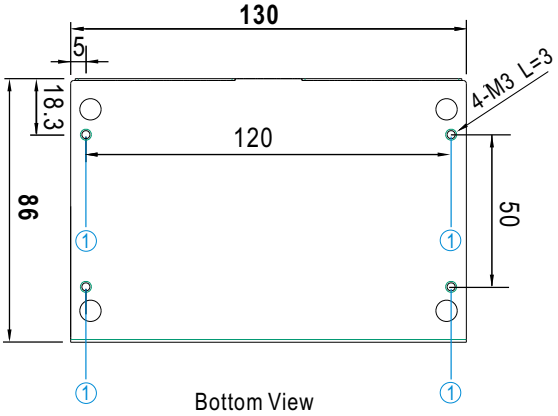



Side View




Side View

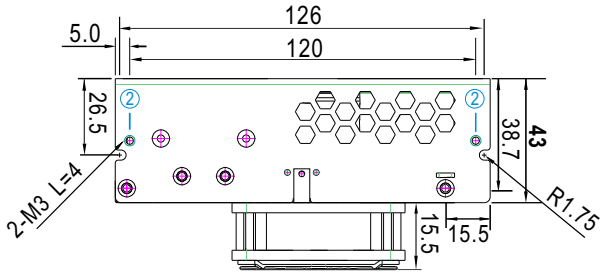

Side View



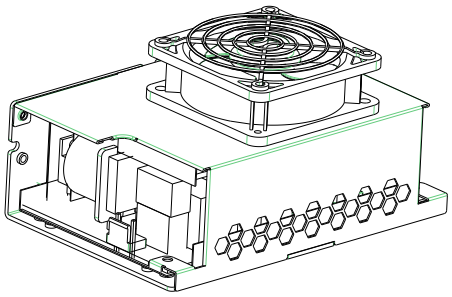
Bottom View

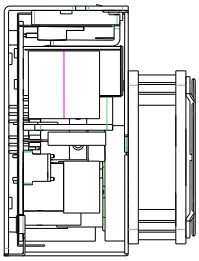
RPS-500-TF (Enclosed type with fan on the top)

Case No. 269A-D 247D-T

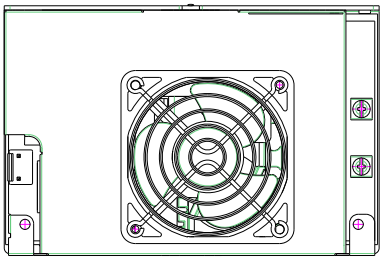


Side View

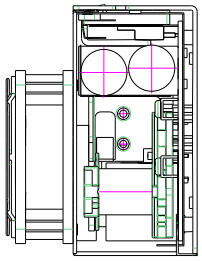




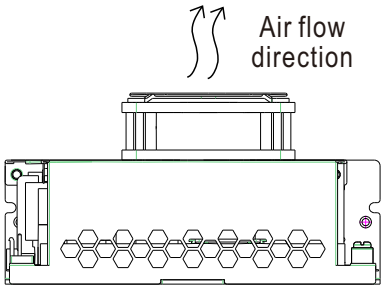
Side View



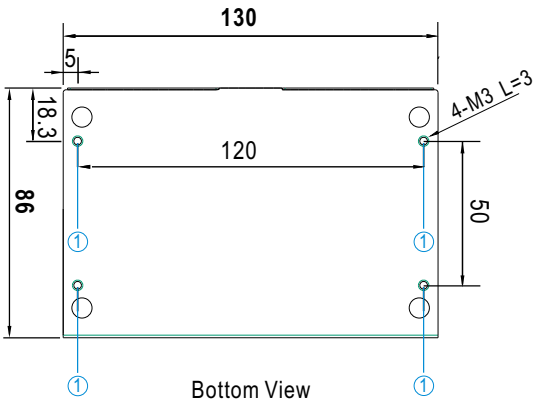
Top View



Side View



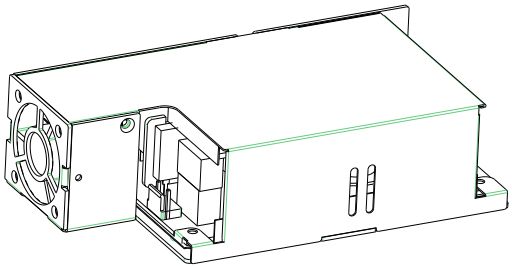
Side View

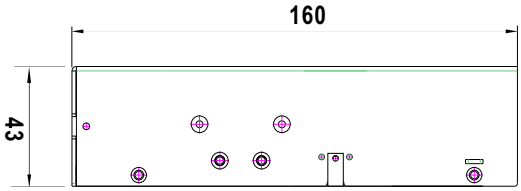


Bottom View

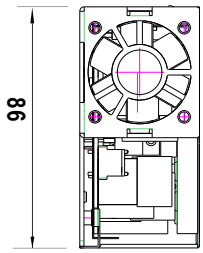
● RPS-500-SF (Enclosed type with fan on the side)

Case No. 248B

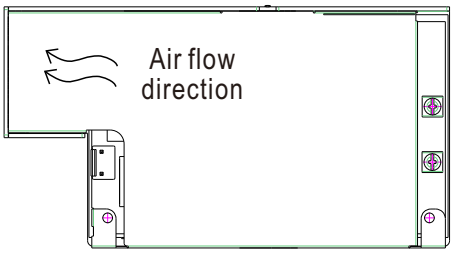




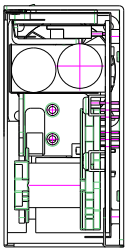
Side View



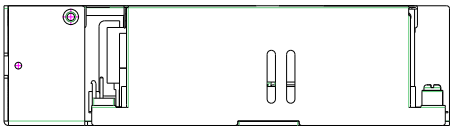
Side View



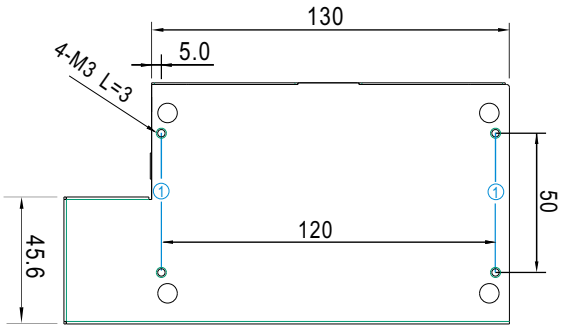
Top View



Side View



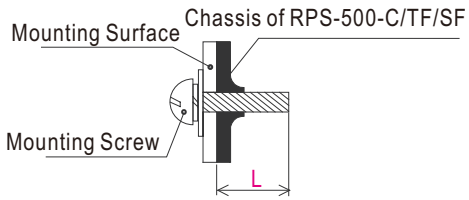
Side View



Bottom View

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

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M3	3mm	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/L	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
2	No Pin		
3	AC/N		

DC Output Connector (CN2,CN3)

Pin No.	Assignment	Output Terminals
CN2	-V	M3.5 Pan HD screw in 2 positions Torque to 8 lbs-in(90cNm)max.
CN3	+V	

⚠ HS1,HS2,HS3,HS4 can not be shorted

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		

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		

FAN Connector(CN12) : TKP 8812-2 or equivalent
(Except for RPS-500-TF/SF)

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

※ Note: 1. 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.
2. Mounting Instruction for enclosed type.

■ Installation Manual

Please refer to : http://www.meanwell.com/manual.html