



## ■ Features

- 5"×3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- Suitable for BF application with appropriate system consideration
- 72W convection, 100W force air
- EMI class B for class I configuration
- Extremely low leakage current
- Protections: Short circuit / Overload / Over voltage
- Lifetime > 140K hours
- 3 years warranty

## ■ Applications

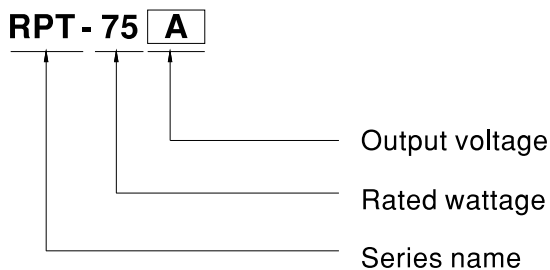
- Oral irrigator
- Hemodialysis machine
- Medical computer monitors
- Sleep apnea devices

## ■ Description

RPT-75 is a 72W highly reliable PCB type medical power supply with a high power density on the 5" by 3" footprint. It accepts 90~264VAC input and offers triple output voltages .

RPT-75 is able to be used for Class I system design. The extremely low leakage current is less than 150 $\mu$ A. In addition, it conforms to international medical regulations (2\*MOPP) and EMC EN55011.

## ■ Model Encoding



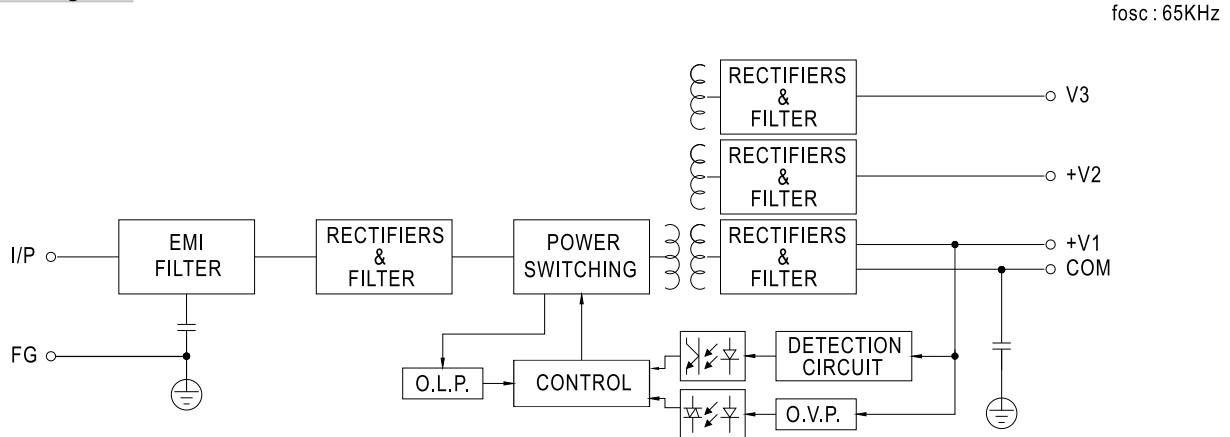
**SPECIFICATION**

MODEL		RPT-75A			RPT-75B			RPT-75C			
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3	CH1	CH2	CH3	
	DC VOLTAGE	5V	12V	-5V	5V	12V	-12V	5V	15V	-15V	
	RATED CURRENT	6A	3A	0.5A	6A	3A	0.5A	6A	2.3A	0.5A	
	CURRENT RANGE	0.6 ~ 8A	0.2 ~ 4A	0.1 ~ 1A	0.6 ~ 8A	0.2 ~ 4A	0.1 ~ 1A	0.6 ~ 8A	0.1 ~ 3A	0.1 ~ 1A	
	RATED POWER	68.5W			72W			72W			
	PEAK LOAD (23.5CFM)	93W			100W			100W			
	RIPPLE & NOISE (max.) Note.2	80mVp-p	120mVp-p	80mVp-p	80mVp-p	120mVp-p	80mVp-p	80mVp-p	120mVp-p	80mVp-p	
	VOLTAGE ADJ. RANGE	CH1: 4.75 ~ 5.5V									
	VOLTAGE TOLERANCE Note.3	±2.0%	±6.0%	±5.0%	±2.0%	±6.0%	±5.0%	±2.0%	±8.0%	±5.0%	
	LINE REGULATION	±0.5%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	±0.5%	±1.0%	±1.0%	
	LOAD REGULATION	±1.5%	±3.0%	±1.0%	±1.5%	±3.0%	±1.0%	±1.5%	±3.0%	±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.)	76%			77%			77%			
	AC CURRENT (Typ.)	1.5A/115VAC		1A/230VAC							
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC		50A/230VAC							
	LEAKAGE CURRENT Note.4	Earth leakage current < 150 $\mu$ A/264VAC , Touch current < 100 $\mu$ A/264VAC									
PROTECTION	OVERLOAD	140 ~ 180% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed									
	OVER VOLTAGE	Ch1: 5.7 ~ 6.8V Protection type : Shut down o/p voltage, re-power on to recover									
ENVIRONMENT	WORKING TEMP.	-20 ~ +70°C (Refer to "Derating Curve")									
	WORKING HUMIDITY	20 ~ 90% RH non-condensing									
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing									
	TEMP. COEFFICIENT	±0.03%/°C (0 ~ 45°C)									
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes									
OPERATING ALTITUDE Note.5	3000 meters										
SAFETY & EMC (Note 8)	SAFETY STANDARDS	IEC60601-1, UL ANSI/AAMI ES60601-1, CAN/CSA-C22.2 No. 60601-1:14 - Edition 3 approved, EAC TP TC 004, TUV EN60601-1 approved									
	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°C / 70% RH									
	EMC EMISSION	Parameter	Standard			Test Level / Note					
		Conducted emission	EN55011 (CISPR11)			Class B					
		Radiated emission	EN55011 (CISPR11)			Class B					
		Harmonic current	EN61000-3-2			Class A					
	Voltage flicker	EN61000-3-3			----						
	EMC IMMUNITY	EN60601-1-2									
		Parameter	Standard			Test Level / Note					
ESD		EN61000-4-2			Level 4, 15KV air ; Level 4, 8KV contact						
RF field susceptibility		EN61000-4-3			Level 3, 10V/m( 80MHz~2.7GHz ) Table 9, 9~28V/m( 385MHz~5.78GHz )						
EFT bursts		EN61000-4-4			Level 3, 2KV						
Surge susceptibility		EN61000-4-5			Level 4, 4KV/Line-FG ; 2KV/Line-Line						
Conducted susceptibility		EN61000-4-6			Level 3, 10V						
Magnetic field immunity		EN61000-4-8			Level 4, 30A/m						
Voltage dip, interruption	EN61000-4-11			100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods							
OTHERS	MTBF	521.2K hrs min. MIL-HDBK-217F (25°C)									
	DIMENSION (L*W*H)	127*76.2*31mm or 5" * 3" * 1.22" inch									
	PACKING	0.25Kg; 63pcs/17.3Kg/1.46CUFT									
NOTE	<ol style="list-style-type: none"> <li>All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 <math>\mu</math>f &amp; 47 <math>\mu</math>f parallel capacitor.</li> <li>Tolerance : includes set up tolerance, line regulation and load regulation.</li> <li>Touch current was measured from primary input to DC output.</li> <li>The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</li> <li>Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</li> <li>Heat Sink HS1,HS2,HS3 can not be shorted.</li> <li>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."</li> </ol>										

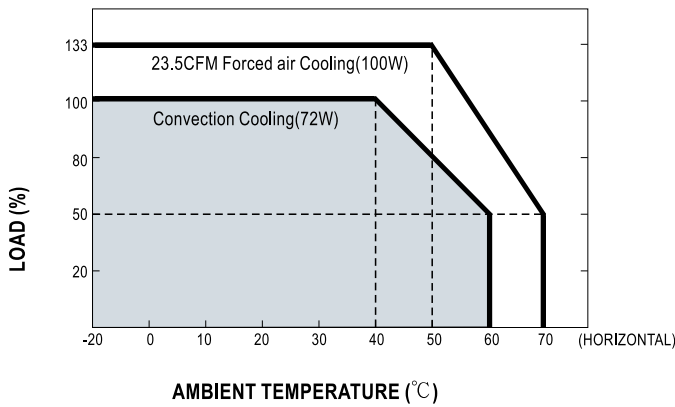
**SPECIFICATION**

MODEL		RPT-75D			RPT-7503					
OUTPUT	OUTPUT NUMBER	CH1	CH2	CH3	CH1	CH2	CH3			
	DC VOLTAGE	5V	24V	12V	3.3V	5V	12V			
	RATED CURRENT	5A	1.5A	1A	6A	6A	1A			
	CURRENT RANGE	0.6 ~ 7A	0.1 ~ 2A	0.1 ~ 1A	0.7 ~ 7A	0 ~ 8A	0 ~ 1.5A			
	RATED POWER	73W			61.8W					
	PEAK LOAD (23.5CFM)	95W			81.1W					
	RIPPLE & NOISE (max.) Note.2	80mVp-p	200mVp-p	120mVp-p	80mVp-p	120mVp-p	120mVp-p			
	VOLTAGE ADJ. RANGE	CH1:4.75 ~ 5.5V			-----					
	VOLTAGE TOLERANCE Note.3	± 2.0%	± 8.0%	± 8.0%	± 4.0%	± 6.0%	+10,-6%			
	LINE REGULATION	± 0.5%	± 1.0%	± 1.0%	± 1.0%	± 1.0%	± 1.5%			
	LOAD REGULATION	± 1.5%	± 3.0%	± 3.0%	+3,-4%	+5,-4%	± 6.0%			
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.)	79%			74%					
	AC CURRENT (Typ.)	1.5A/115VAC		1A/230VAC						
	INRUSH CURRENT (Typ.)	COLD START 25A/115VAC		50A/230VAC						
	LEAKAGE CURRENT 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	Ch1: 5.7 ~ 6.8V			Ch1: 3.8 ~ 4.5V Protection type : Shut down o/p voltage, re-power on to recover					
ENVIRONMENT	WORKING TEMP.	-20 ~ +70°C (Refer to "Derating Curve")								
	WORKING HUMIDITY	20 ~ 90% RH non-condensing								
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C , 10 ~ 95% RH non-condensing								
	TEMP. COEFFICIENT	± 0.03%/°C (0 ~ 45°C)								
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
	OPERATING ALTITUDE Note.5	3000 meters								
SAFETY & EMC (Note 8)	SAFETY STANDARDS	IEC60601-1, UL ANSI/AAMI ES60601-1, CAN/CSA-C22.2 No. 60601-1:14 - Edition 3 approved, EAC TP TC 004,TUV EN60601-1 approved								
	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°C / 70% RH								
	EMC EMISSION	Parameter	Standard			Test Level / Note				
		Conducted emission	EN55011 (CISPR11)			Class B				
		Radiated emission	EN55011 (CISPR11)			Class B				
		Harmonic current	EN61000-3-2			Class A				
		Voltage flicker	EN61000-3-3			-----				
	EMC IMMUNITY	EN60601-1-2	Parameter			Standard			Test Level / Note	
		ESD	EN61000-4-2			EN61000-4-2			Level 4, 15KV air ; Level 4, 8KV contact	
		RF field susceptibility	EN61000-4-3			EN61000-4-3			Level 3, 10V/m( 80MHz~2.7GHz ) Table 9, 9~28V/m( 385MHz~5.78GHz )	
		EFT bursts	EN61000-4-4			EN61000-4-4			Level 3, 2KV	
		Surge susceptibility	EN61000-4-5			EN61000-4-5			Level 4, 4KV/Line-FG ; 2KV/Line-Line	
Conducted susceptibility		EN61000-4-6			EN61000-4-6			Level 3, 10V		
Magnetic field immunity		EN61000-4-8			EN61000-4-8			Level 4, 30A/m		
Voltage dip, interruption		EN61000-4-11			EN61000-4-11			100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods		
OTHERS	MTBF	521.2K hrs min.    MIL-HDBK-217F (25°C)								
	DIMENSION (L*W*H)	127*76.2*31mm or 5" * 3" * 1.22" inch								
	PACKING	0.25Kg; 63pcs/17.3Kg/1.46CUFT								
NOTE	<p>1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.</p> <p>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µf &amp; 47µf parallel capacitor.</p> <p>3. Tolerance : includes set up tolerance, line regulation and load regulation.</p> <p>4. Touch current was measured from primary input to DC output.</p> <p>5. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).</p> <p>6. Length of set up time is measured at cold first start. Turning ON/OFF the power supply may lead to increase of the set up time.</p> <p>7. Heat Sink HS1,HS2,HS3 can not be shorted.</p> <p>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."</p>									

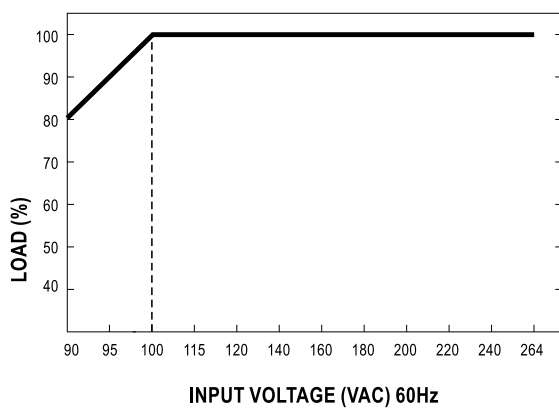
**Block Diagram**



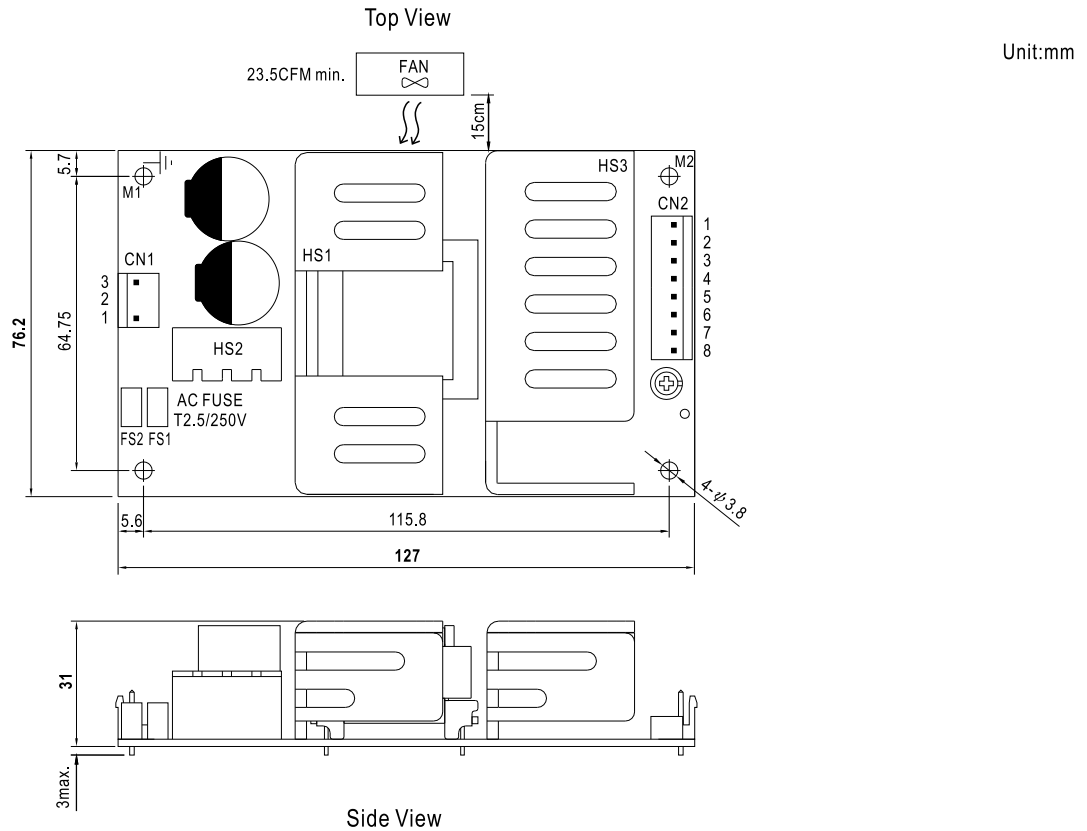
**Derating Curve**



**Output Derating VS Input Voltage**



■ Mechanical Specification



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	V1	JST VHR or equivalent	JST SVH-21T-P1.1 or equivalent
3,4,5	COM		
6,7	V2		
8	V3		

⊕ : 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.