

72W Reliable Triple Output Medical Grade

RPT-75 series



ANSI/AAMI ES60601-1

EN60601-1

IEC60601-1

### Features

- 5"×3" compact size
- Medical safety approved (2 x MOPP) according to ANSI/AAMI ES60601-1 and IEC/EN60601-1
- 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

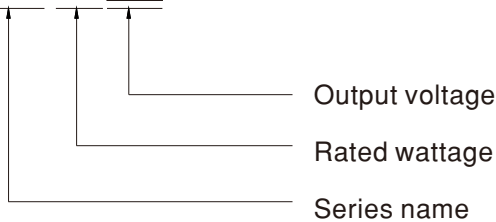
### Description

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 150µA. In addition, it conforms to international medical regulations (2\*MOPP) and EMC EN55011.

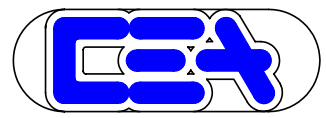
### Model Encoding

RPT - 75 A



Note: all features are subject to change without notice.

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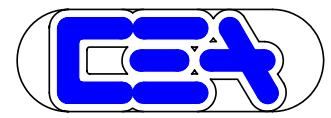


## 72W Reliable Triple Output Medical Grade

# RPT-75 series

### 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 μA/264VAC , Touch current < 100 μA/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, 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 μf &amp; 47 μf 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 5°C/1000m is needed for operating altitude greater than 3000m (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." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> </ol>										



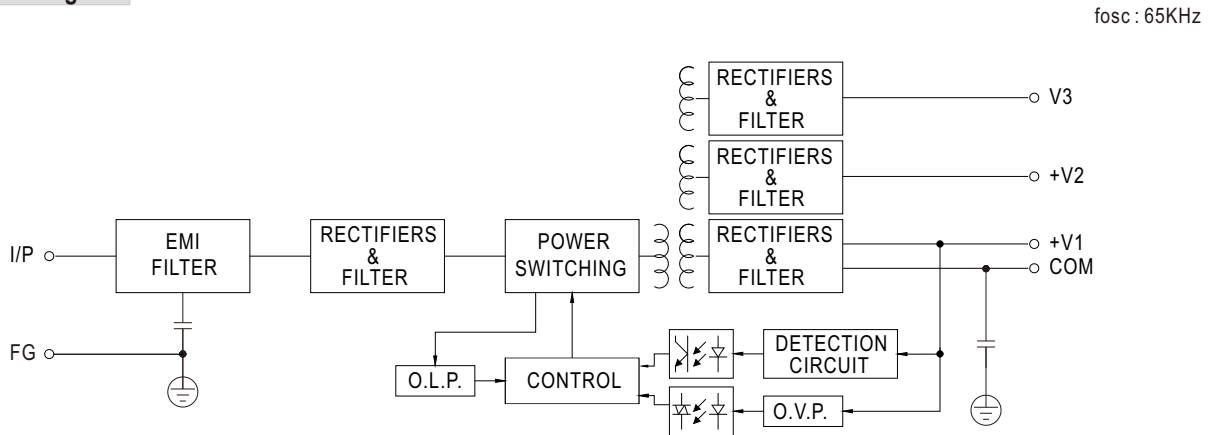
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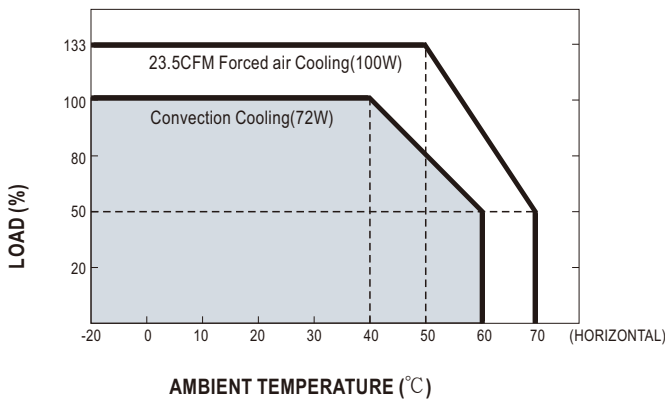
**SPECIFICATION**

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, 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		
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		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 0.1µf &amp; 47µf 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 5°C/1000m is needed for operating altitude greater than 3000m (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." (as available on <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</li> </ol>							

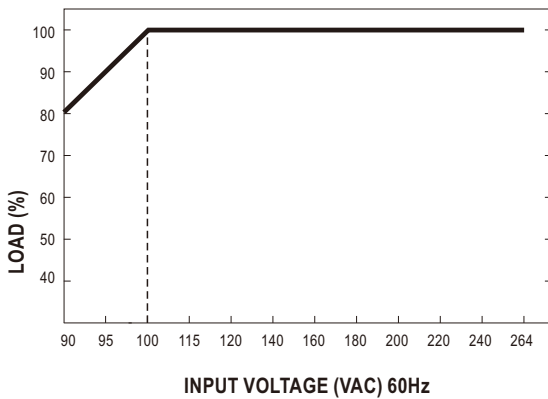
■ Block Diagram



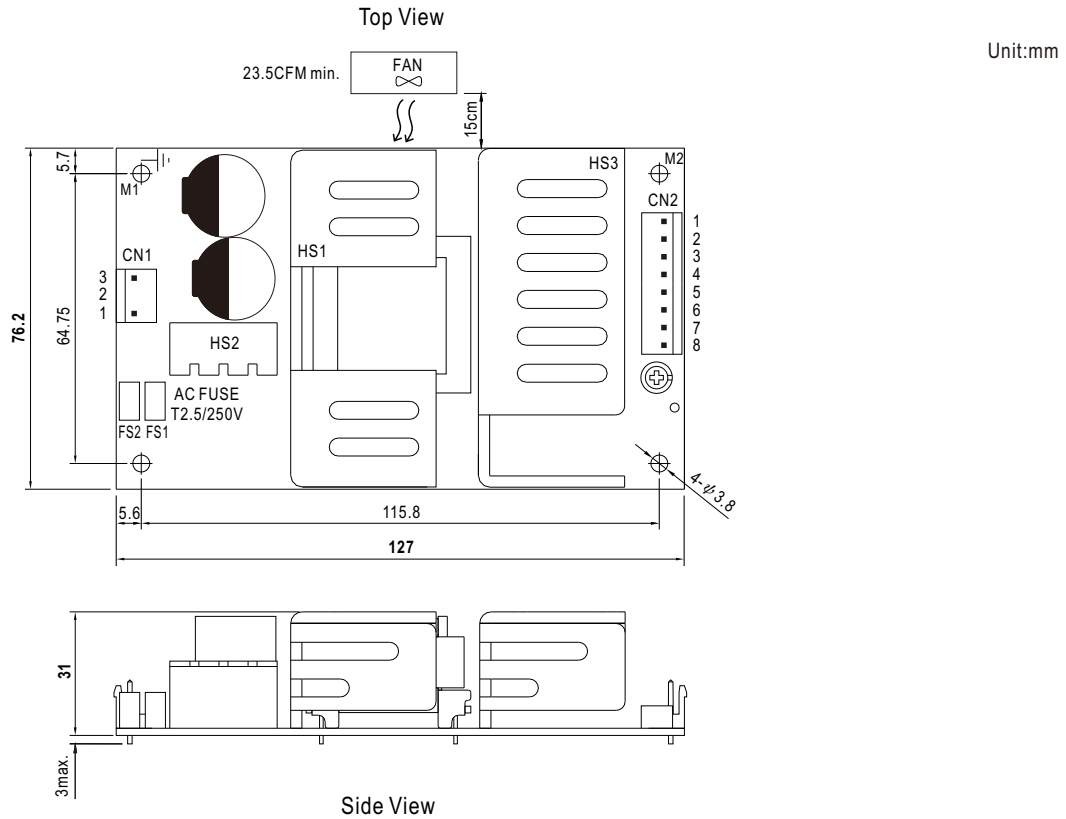
■ Derating Curve



■ 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.

**Installation Manual**

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