



72W Reliable Triple Output Medical Grade

RPT-75 series



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
- 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

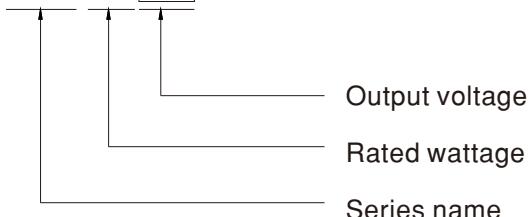
■ Description

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 μ A. In addition, it conforms to international medical regulations (2*MOPP) and EMC BS EN/EN55011.

■ Model Encoding

RPT-75 **A**





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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 | | | | | | | | |
| | RIPLPE & 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% | | | | | | |
| INPUT | 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 | | | | | | | | | | | |
| | VOLTAGE RANGE | 90 ~ 264VAC 127 ~ 370VDC | | | | | | | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | | | | | | | |
| PROTECTION | 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 μ A/264VAC , Touch current < 100 μ A/264VAC | | | | | | | | | | | | | | |
| | OVERLOAD | 140 ~ 180% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | | | | | | | |
| ENVIRONMENT | OVER VOLTAGE | Ch1: 5.7 ~ 6.8V Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | | | | | | | |
| | 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) | | | | | | | | | | | | | | |
| SAFETY & EMC (Note 8) | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes | | | | | | | | | | | | | | |
| | OPERATING ALTITUDE Note.5 | 3000 meters | | | | | | | | | | | | | | |
| | 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 BS EN/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 | | | | | | | | | | | | | | |
| EMC IMMUNITY | 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 | BS EN/EN55011 (CISPR11) | | | Class B | | | | | | | | | | |
| | | Radiated emission | BS EN/EN55011 (CISPR11) | | | Class B | | | | | | | | | | |
| | | Harmonic current | BS EN/EN61000-3-2 | | | Class A | | | | | | | | | | |
| OTHERS | 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 | | | | | | | | | | |
| NOTE | Voltage dip, interruption | BS EN/EN61000-4-11 | | | 100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods | | | | | | | | | | | |
| | 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/1.28CUFT | | | | | | | | | | | | | | | |
| | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature. 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ F & 47 μ F 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°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). 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. 7. Heat Sink HS1,HS2,HS3 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 http://www.meanwell.com) | | | | | | | | | | | | | | | |
| ※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx | | | | | | | | | | | | | | | | |

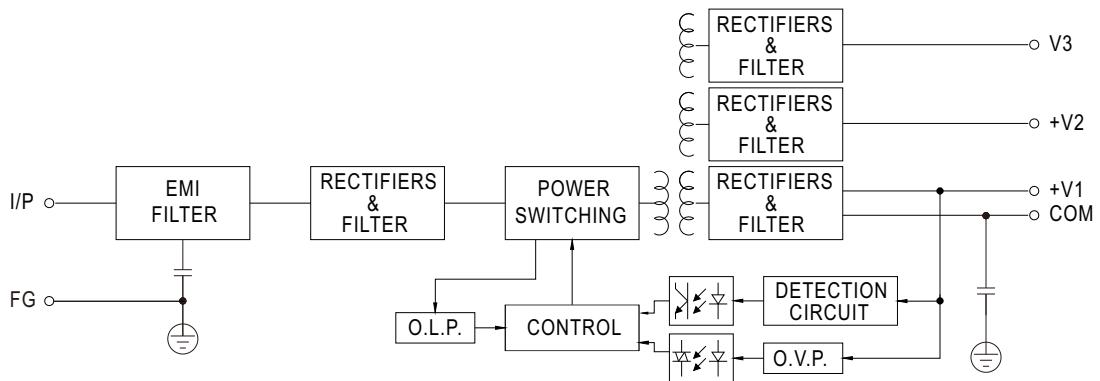


SPECIFICATION

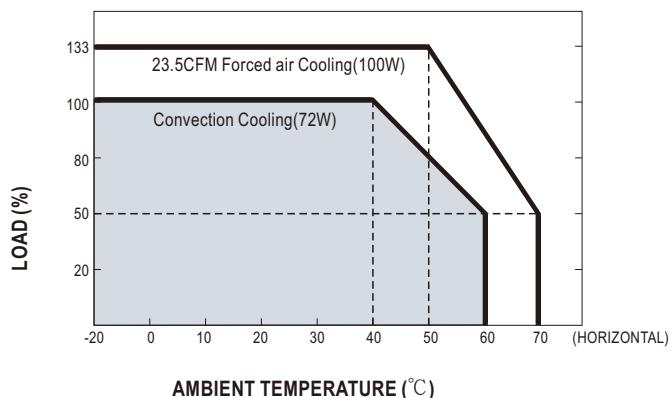
| MODEL | RPT-75D | | | RPT-7503 | | | | | | | | | | |
|-----------------------|---|--|---------------------------------|---|----------|----------|--|--|--|--|--|--|--|--|
| OUTPUT | OUTPUT NUMBER | CH1 | CH2 | CH3 | CH1 | CH2 | | | | | | | | |
| | DC VOLTAGE | 5V | 24V | 12V | 3.3V | 5V | | | | | | | | |
| | RATED CURRENT | 5A | 1.5A | 1A | 6A | 6A | | | | | | | | |
| | CURRENT RANGE | 0.6 ~ 7A | 0.1 ~ 2A | 0.1 ~ 1A | 0.7 ~ 7A | 0 ~ 8A | | | | | | | | |
| | RATED POWER | 73W | | | 61.8W | | | | | | | | | |
| | PEAK LOAD (23.5CFM) | 95W | | | 81.1W | | | | | | | | | |
| | RIPLE & NOISE (max.) Note.2 | 80mVp-p | 200mVp-p | 120mVp-p | 80mVp-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% | | | | | | | | |
| | LINE REGULATION | ±0.5% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | | | | | | | | |
| | LOAD REGULATION | ±1.5% | ±3.0% | ±3.0% | +3,-4% | +5,-4% | | | | | | | | |
| INPUT | SETUP, RISE TIME | 500ms, 30ms/230VAC | 500ms, 30ms/115VAC at full load | | | | | | | | | | | |
| | HOLD UP TIME (Typ.) | 90ms/230VAC | 20ms/115VAC at full load | | | | | | | | | | | |
| PROTECTION | 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 | | | | | | | | | | | |
| ENVIRONMENT | LEAKAGE CURRENT Note.4 | Earth leakage current < 150µA/264VAC , Touch current < 100µA/264VAC | | | | | | | | | | | | |
| | 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 | | | | | | | | | | | | |
| | WORKING TEMP. | -20 ~ +70°C (Refer to "Derating Curve") | | | | | | | | | | | | |
| SAFETY & EMC (Note 8) | 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) | | | | | | | | | | | | |
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| | EMC EMISSION | Parameter | Standard | Test Level / Note | | | | | | | | | | |
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| | | Radiated emission | BS EN/EN55011 (CISPR11) | Class B | | | | | | | | | | |
| | | Harmonic current | BS EN/EN61000-3-2 | Class A | | | | | | | | | | |
| | EMC IMMUNITY | Voltage flicker | BS EN/EN61000-3-3 | ----- | | | | | | | | | | |
| | | 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 | | | | | | | | | | |
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| | DIMENSION (L*W*H) | 127*76.2*31mm or 5" * 3" * 1.22" inch | | | | | | | | | | | | |
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■ Block Diagram

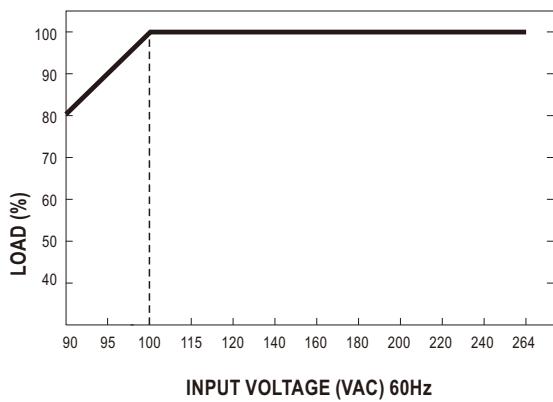
fosc : 65KHz



■ Derating Curve



■ Output Derating VS Input Voltage

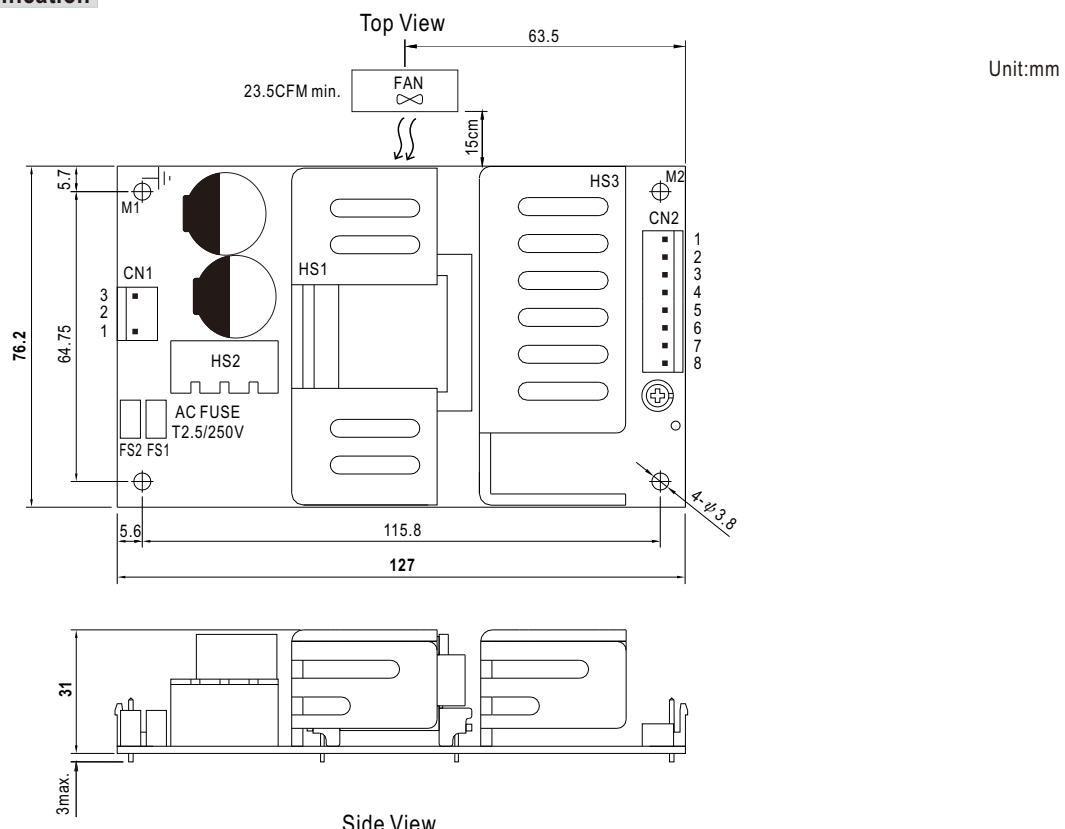




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■ Mechanical Specification



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>