

POWER CONVERSION PRODUCTS
Medical Series

VPCT Part No.: VTA02056-00

Main Unit Power Supply

FEATURES

- ❑ Up to 600 Watts Output Power
- ❑ Wide AC Input Range / EMI Filtered
- ❑ IEC60601-1, IEC60950 Standards, compliant
- ❑ Natural Convection Cooling
- ❑ Powers a Remote DC/DC Multi-channel PSU and a Cooling/Heating System
- ❑ Low Ripple & Noise @ 20 MHz B/W
- ❑ E5CN Compact, Intelligent Digital Controller for Remote Temperature Control
- ❑ Over Current / Short Circuit Protection
- ❑ High Degree of Input/Output Isolation
- ❑ Humidity Interlock Protection
- ❑ FPD Over / Under Temperature Protection
- ❑ AC Remote ON/OFF signal

This low voltage, custom-designed Power Supply Unit used in Medical Electrical Equipment applications features a low profile package of 12” L x 7” W x 5.5” H, or 1.3Watt/in³. It has excellent load regulation, input filtering, and low output ripple as well as current limiting.

Input Specifications:

Steady State Input Voltage	200 Vrms ± 10% to 240 Vrms ± 10%
Voltage Surge	Nominal voltage +15% for 120 sec.
Frequency	50 / 60 Hz, 1Ø
Inrush Current.....	10 A peak maximum
Isolation (input/output to chassis).....	Meet IEC 60950 Specification
Electromagnetic Interference.....	Meet EN55011, classA, EN61000-4-2/2/3/4/6/11, ENV50204.
Remote ON Signal	100 Vrms ± 10% to 120 Vrms ± 10%. Once Remote ON voltage is applied to J8, Enable signal (Active Low) is generated at J9.
Humidity Interlock Protection Signal	To maintain operation, contacts at J10 must Remain closed. Once J10 contacts open, J9 will be disabled causing Relay Unit to

Power OFF.
Each Main Unit is shipped with mating connector on J10 normally closed. To use Humidity Interlock feature, remove and discard mating connector and attach Humidity Interlock Cable.

FPD Over/Under Temperature Protection..... Main Unit provides through a digital temperature controller an over/under temperature protection for FPD. As soon as FPD temperature is below or over 2 set temperature points, Main Unit shuts-down and latches off. To reset Main Unit, allow FPD to return to normal temperature range and cycle Main Unit Power OFF for ... seconds and Power ON.

Overcurrent Protection Constant current limiting for output voltage $\geq 19 \text{ Vdc} \pm 2 \text{ Vdc}$. PSU will latch off when output voltage $< 19 \text{ Vdc}$. To restore power, cycle input power OFF then ON.

Output Specifications:

CH1: Powers the Relay Unit P.S. and Fans of the Cooling / Heating System. i.e., its output power is dependent on the input requirements of the Relay Unit, for a given load condition.

CH2: Powers the Cooling / Heating System which maximum duty cycle is 75%. Its voltage polarity is (+) during cooling periods and (-) during heating periods.

<u>Nominal Voltage</u>	<u>Maximum Current</u>	<u>DC Load Regulation</u>	<u>Ripple & Noise</u>	<u>Maximum Power</u>
CH1: + 28VDC	10 A	$\pm 4\%$	} $< 250 \text{ mVp-p}$	600W
CH2: $\pm 28\text{VDC}$	10 A pk (7.5A avg)	$\pm 4\%$		

Over-voltage Protection $< 120\%$ of nominal level
 Over-current Protection..... Constant current limiting down to $19 \pm 2\text{VDC}$, then it latch up.
 Efficiency (full load)..... $> 80\%$

External Interface:

- ❑ AC Input: IEC Mate with Cable VWD02038-00.
(Anrad 100-00808).
- ❑ DC Output..... J1 Mate with Cable VWD02037-XX.
(Anrad 100-00806XX).
- ❑ Remote Temperature Sensor..... J7 Mate with Cable VWD02015-XX.
(Anrad 100-00816XX).
- ❑ Main Unit Power ON/OFF Control J8 Mate with Cable VWD02017-00.
(Anrad 100-00818).
- ❑ Relay Unit Power ON/OFF J9 Mate with Cable VWD02018-XX.
(Anrad 100-00819XX).
- ❑ Humidity Sensor J10 Mate with DE9SA197 connector

Physical Specifications:

- Weight..... < 5 kgs
- Enclosure..... Aluminum
- Finish..... Alodine Chemical film, Class 1, yellow
- Mounting Position..... Three positions. PSU to be mounted with
fins pointing UP. If oriented in any other
position, ensure there ia a minimum pf
Linear Feet per minute airflow.

Environmental Specifications:

- Air Temperature..... Operating: +10°C to +50°C @ Full Load
Storage: -10°C to +60°C
- Atmospheric Pressure Operating: 70 to 106kPa
Storage: 50 to 106 kPa
- Humidity..... Operating: 30 to 85% non-condensing
Storage: 30 to 85% non-condensing

Reliability:

- Reliabilty Prediction (MIL-HDBK-217F) >70,000 hours

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