File E156996
Project 94ME78496

October 27, 1994

REPORT

on

COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY EQUIP.
INCLUDING ELEC. BUSINESS EQUIP.

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COMPONENT - POWER SUPPLIES, TELEPHONE

Westcor Corp.
Sunnyvale, CA

D E S C R I P T I O N

PRODUCT COVERED:

USR, CNR - Component - Switching Power Supply, DC MegaPAC series, Model MDaa-Xbbccc where aa is any number 0 through 16, X can be 0, W, 1, 2, N, 3, 4 bb is any number 0 through 16, and ccc is any combination of letters, numbers or blank. MD may be replaced by IMD.

ELECTRICAL RATING:

Input: 72 V dc, 100 A max

Output: 0 - 95 V dc, 320 A max, 1600 W max

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

The Model DC MegaPAC is built using up to sixteen Recognized (QQGQ2) dc-dc converter modules. It can be configured by selecting the desired output voltages of the modules and paralleling similar outputs to provide the output configurations described in the Ratings section of this report. All units share the same front end circuitry and fan cooling.

Use - For use only in end-use equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Special Considerations - The following items are considerations that were used when evaluating this product.

* USR/CNR indicates investigation to the U.S. and Canadian Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2 No. 60950-00, UL609, CAN/CSA C22.2, No. 950-95, UL 1950 3rd Edition.

The Component was submitted by the manufacturer for use in a maximum air ambient of 40°C.

Maximum continuous output with 38 cfm forced air cooling: 1600 W at 72 V dc input.

Conditions of Acceptability - When installed in the end-use equipment, considerations shall be given to the following:

1. * This component has been judged on the basis of the required spacings in the Standard for Safety of Information Technology Equipment, Including Electrical Business Equipment, CAN/CSA C22.2 No. 60950-00, UL60950, CAN/CSA C22.2, No. 950-95, UL1950 3rd Edition, Sub-Clause 2.10, which would cover the component itself, if submitted for Listing.

2. This power supply shall be installed in compliance with the enclosure, mounting, creepage, clearance, casualty, markings and segregation requirements of the end-use application.

3. The need for conducting leakage current tests is to be determined as part of the end-product evaluation.

4. This power supply has only been evaluated for use in a pollution degree 2 environment.

5. A Heating Test should be conducted in the end product. Consideration should be given to measuring the temperature on power electronic components, inductors and transformer windings when the power supply is installed in the end-use equipment. This power supply employs Recognized Component (QQGQ2) ModuPAC modules; the baseplate temperature is not to exceed 85°C.

6. The input and output connectors have not been evaluated for field connections and are only intended for connection to mating connectors of internal wiring inside the end-use machine. The acceptability of these and the mating connectors relative to secureness, insulating materials, and temperature shall be considered.

7. The secondary outputs of this power supply are considered SELV.

8. This power supply has only been evaluated for use in a 25°C and a 40°C ambient. An additional evaluation should be made if the power supply is intended to be used in an elevated ambient.

9. This power supply has outputs which exceed 240 VA at a potential of 2 V or more. Therefore, the accessibility of these circuits should be considered when installed in the end-use product.

CONSTRUCTION DETAILS:

If provided and unless otherwise described in the individual Report, the following paragraphs apply to all equipment included in this Procedure.

Abbreviations - Sec. Gen. - Section General
R/C - Recognized Component
PRI - Primary
SEC - Secondary
HAZ/V - Hazardous Voltage
ELV - Extra Low Voltage
SELV - Safety Extra Low Voltage
LIM - Limited Current Circuit
HAZ/EL - Hazardous Energy Level
TNV - Telecommunication Network Voltage

Corrosion Protection - Ferrous meal parts protected by painting, plating or equivalent.

Internal Wiring - Listed, wire or R/C (AVLV2), rated minimum 80°C, 300 V ac. PVC, TFE, PTFE, FEP, or neoprene or surface marked "VW-1". Routed away from edges and moving parts.

Markings - Required markings are either permanently ink-stamped, silk-screened, molded in or are provided on self-adhesive labels - see Section General, Labeling Materials.

Mechanical Assembly - Enclosure parts and component mounting assemblies are reliably secured by welding, thread forming screws, rivets, or machine bolts provided with nuts and lockwashers or star washers or any combination thereof.

Marking Recognized Company's name or File umber, model number, and optional electrical ratings.

Marking is located on the equipment in an area where tools are not necessary for gaining access to the marking. The part on which the marking is located is not likely to be discarded or lost. Refer to Ill. 9 for details on nameplate and Warning Marking information. Corrected text for Input Connection Warning is noted below and should appear on label shown in Ill. 9. Warning - To avoid permanent damage do not exceed the units operating range. No damage will result from reversing input leads. Use stranded cable No. 6 through No. 2. Tinning not necessary. Insert cable between input tab and Vee-bottom of lug. Tighten set screw to 60 in lbs.

Soldered Connections - Mechanically secured before soldering.

Exception - Wave-soldered printed circuit board assemblies.

Terminal Blocks - Terminal blocks in low voltage secondary circuits (SELV, ELV, SEC) consist of molded phenolic composition of R/C (QMFZ2) with integral barriers between adjacent terminals. Terminal plates, binding screws or connectors are made of copper alloy. Open-backed types provided with min 0.8 mm thick fiber or phenolic insulator between terminal block and mounting surface, except for penetration type terminal blocks.

Printed Wiring Boards - Unless otherwise specified, all printed wiring boards are R/C (ZPMV2), rated 94V-0 minimum. The general appearance of the trace layout shall not change from that detailed in Ills. 1 - 7. The boards are rated 105°C.

Plastic Materials - Unless noted otherwise, all plastic materials are R/C (QMFZ2), with minimum flammability rating 94V-2 for the thickness used.

Electrical Schematics - Refer to Ill. 8 for electrical schematics.

	V dc Input	Code	Low Line	High Line
	12 V	X = 0	10	20
	24 V	X = 1	21	32
	24 W V	X = W	18	36
	36 V	X = 2	21	56
	48 V	X = 3	42	60
*	48 W V	X = N	36	76
*	72 V	X = 4	55	100

Model Differences - The various Model DC MegaPAC configurations have identical front end circuitry, but use different dc-dc converter modules for different output configurations. The aa in the model designation may be any *number 0 to 16 (for number of outputs), X is the V dc input value up to 72 V dc, bb may be any number 0 to 16 (for number of modules) and cc may be any combination of letters, numbers or blank, for factory tracking purposes.