

DESCRIPTION

PRODUCT COVERED:

USR, CNR Component - Power Supplies,

Model - PAH450S48 series DC-DC converters for use in Information Technology Equipment Including Electrical Business Equipment. All models may include suffix /T.

GENERAL CHARACTER AND USE:

The units covered by this Report are DC-DC converters.

MODELS AND RATINGS:

	Input	*	Output	
Model	V dc	A	V dc	A
PAH450S48-28	36-76	16.5	28	16
PAH450S48-48	36-76	16.5	48	9.4
PAH450S48-132/AT, PAH450S48-132	43.2-52.8	12.5	132	2.2

All above loading conditions are maximum load.

MODEL DIFFERENCES:

Standard models have corner studs with threads with an internal thread hole of approximately 2.5mm diameter.

Models may include suffix /T when the corner studs are without threads and an internal hole of 0.1mm less than the hole with thread for the standard model.

PAH450S48-132/AT is the same as PAH450S48-132 except for model name.

ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

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

*USR, CNR indicates Safety of Information Technology Equipment, **UL 60950-1, 2nd Edition, 2007-03-27/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03**, bi-national standard.

Conditions of Acceptability - When installed in the end use equipment, the following are among the considerations to be made.

*The component has been judged on the basis of the required creepage and clearance distances in the Standard for Safety of Information Technology Equipment, **UL 60950-1, 2nd Edition, 2007-03-27/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03**, bi-national standard, which would cover the end use product for which the component was designed.

NOTE IMPORTANT SAFETY CONSIDERATION FOR INSTALLATION: -

- *a) These products shall be installed in accordance with the requirements of **UL 60950-1, 2nd Edition, 2007-03-27/ CSA C22.2 No. 60950-1-07, 2nd Edition, 2007-03**, for the end use application. The DC-DC converters were tested with the heatsink mounted below the baseplate of the converters (worst case).
- b) The input to the units must be isolated from the mains by Reinforced insulation, and is considered to be a Hazardous Voltage Secondary Circuit. This product provides Basic insulation at working voltage between the input and output, per the last paragraph of sub-clause 2.2.4.
- c) The 28Vdc output model is classed as SELV and the 48V model is classed as ELV, providing the input positive and output positive are not grounded at the same time. The output shall be earthed in the end application per the series instruction manual, see Illustration 4.

- d) The DC to DC converter baseplate shall be properly bonded to earth ground in the end use product as this unit was investigated for Class I construction.
- e) The outputs of the 28Vdc, 48Vdc, and 132Vdc models are energy hazards. Therefore outputs must not be accessible to an operator.
- f) T101 barrier transformer has an insulation system class H.
- f) The operation of these DC-DC converters is subject to the end customer maintaining the baseplate at or below the following values during operation.
100 degrees C baseplate, 100 percent load.
- g) The DC-DC converters have not been assessed for an IT power system.
- h) The input and output connectors are not acceptable for field wiring connections and are only intended for connection to a PCB inside the end use equipment.
- i) **The output of model PAH450S48-132/AT (132 Vdc output) is classed as Non-SELV. However, SELV Reliability Testing was performed in order to classify the input as SELV.**

- i). The recommended input fuse ratings within the instructions were as follows: - F30A, H 250V. The breaking capacity and voltage rating are subject to the end use application.
- j) The potting material used within these models is used for thermal reasons and not for reduction of spacings. The manufacturing process of potting does not allow the potting material to enter the insulation system part of the transformer, as the potting material is not part of the transformer's insulation system.

CONSTRUCTION DETAILS:

Marking - All markings are either permanently ink-stamped, laser etched, silk-screened or provided on a Recognized Component Marking and Labeling System (PGDQ2).

Note: Abbreviation	Explanation
AWM	Appliance Wiring Material
PWB	Printed Wiring Board

See Sec. Gen. for details.

Printed Wiring Boards - Printed wiring boards are Recognized Component ZPMV2, with a flammability rating of minimum V-1, 130 °C. See Section General for details.