

File E122103  
Project 02ME19907

**Issued:** October 7, 2002  
**Revised:** January 17, 2019

REPORT

On

COMPONENT - POWER SUPPLIES, INFORMATION TECHNOLOGY  
EQUIPMENT INCLUDING ELECTRICAL BUSINESS EQUIPMENT

**COMPLEMENTARY LISTED TO  
COMPONENT - POWER SUPPLIES FOR USE WITH AUDIO/VIDEO, INFORMATION AND  
COMMUNICATION TECHNOLOGY EQUIPMENT**

\*  
\*

**TDK-Lambda Corp.**  
**Niigata, Japan**

Copyright © 2002 Underwriters Laboratories Inc.

Underwriters Laboratories Inc. authorizes the above named company to reproduce this Report provided it is reproduced in its entirety.

Underwriters Laboratories Inc. authorizes the above named company to reproduce that portion of this Report consisting of this Cover Page through Page 3.

## DESCRIPTION

**PRODUCT COVERED:**

USR/CNR - Component - Power Supplies,

\*Model: PAF700F48-12, PAF700F48-28, with or without suffixes.

For use in Information Technology Equipment Including Electrical Business Equipment

## GENERAL CHARACTER AND USE:

The units covered by this Report are DC to DC converters. They are provided with input and output terminals for connection to the end use equipment.

## RATINGS:

Model	Input, dc		Output, dc	
	V	A	V	A
PAF700F48-12	36-76	25	12	58.5
*PAF700F48-28	36-76	25	28	25

Maximum Output Power: 702W

Suffix /T - Indicates that the four corner studs are not threaded; standard models, without suffix /T, include four, threaded corner studs.

Suffix /TMI - Used with Model PAF700F48-12 only. This suffix is identical to the basic model with the exception of some minor, non-critical component changes.

Suffix /TC - Indicates additional adhesive between daughter board PWB and plastic case.

Suffix /V - Indicates auto restart.

## 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.

\*CNR indicates investigation to Canadian Standard Information Technology Equipment - Safety - Part 1: General Requirements, CSA C22.2 No. 60950-1-07, 2nd Edition, **2014-10**.

\*USR indicates investigation to United States Standard Information Technology Equipment - Safety - Part 1: General **Requirements**, UL 60950-1, 2nd Edition, **2014-10-14**.

**USR, CNR indicates investigation to UL 62368-1, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements) and CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements).**

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

- \*1. The component has been judged on the basis of the required creepage and clearances in the Standard for Information Technology Equipment - Safety - Part 1: General Requirements, UL 60950-1, 2nd Edition, **2014-10-14** and CSA C22.2 No. 60950-1-07, 2nd Edition, **2014-10**, **UL 62368-1, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements)**, and **CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12-01 (Audio/Video, Information and Communication Technology Equipment - Part 1: Safety Requirements)** which would cover the end use product for which the component was designed.
2. The product shall be installed in compliance with the enclosure, mounting, creepage, casualty, markings and segregation requirements of the end use application. The DC to DC converters were tested with the heatsink mounted below the baseplate of the converters (worst case).
3. The equipment has been evaluated for use in a pollution Degree 2 environment, over voltage category II.

\*

4. Consideration shall 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. Transformers T101 and T102 employ a Class 180(H) insulation system and T1 employs a Class 155 (F) insulation system. It must be ensured that the baseplate temperature does not exceed the following:-

Maximum baseplate temperature at full load is 85°C.

Maximum baseplate temperature at 86% load is 100°C.

This temperature limit governs the working ambient temperature.

- \*5. The input to the units must be isolated from the mains by reinforced insulation in accordance with UL 60950-1, 2nd Edition, **2014-10-14** and CSA C22.2 No. 60950-1-07, 2nd Edition, **2014-10**, **UL 62368-1, 2nd Edition, 2014-12-01, and CSA C22.2 No. 62368-1-14, 2nd Edition, 2014-12-01**. Due to the potential non-SELV voltages at the input, the input to these units must be considered a hazardous secondary voltage. Outputs are considered SELV. The SELV output is classed as an energy hazard and must not be accessible to the operator in the end product.
6. The input and output connectors are not acceptable for field connections and are only intended for connection to mating connectors of internal wiring inside the end use equipment. The acceptability of these and the mating connectors relative to secureness, insulating materials, and temperature shall be considered.
7. This power supply shall be properly bonded to earth in the end use product as this unit was investigated for Class I construction.
8. Note: The units do not have an internal fuse, therefore during all tests an external fuse in series with the input was used: F30AH, 125Vac. The breaking capacity and voltage rating are subject to the end use application.
9. The unit has been evaluated for basic insulation from input to output and from input to metal case.
10. **The unit has been evaluated for tropical climate and altitude up to 3,000 m.**
11. **Output circuit was considered ES1/PS3.**
12. **Classification of PIS has not been conducted. Therefore, all electrical components and conductors including printed wirings were assumed to be arcing PIS and resistive PIS.**
13. **This component has been evaluated in "control of fire spread" method assuming appropriate fire enclosure is provided in end product. Unless the fire enclosure is made of non-combustible or V-0 material, the separation from the PIS shall be considered.**