



Certificate Number: 20180306D1-D1012

Date: 2018-04-09

UL CONDITIONS OF ACCEPTABILITY

Company Name: TRACO ELECTRONIC AG

File-CCN: E188913, QQHM2 & QQHM8

Product Description: Switching Power Supply

Models: TPP 450-112A-MB4zzzzzzzz, TPP 450-115A-MB4zzzzzzzz, TPP 450-124A-MB4zzzzzzzz, TPP 450-128A-MB4zzzzzzzz, TPP 450-136A-MB4zzzzzzzz, TPP 450-148A-MB4zzzzzzzz, TPP 450-153A-MB4zzzzzzzz, TPP 450-112A-Mzzzzzzzz, TPP 450-115A-Mzzzzzzzz, TPP 450-124A-Mzzzzzzzz, TPP 450-128A-Mzzzzzzzz, TPP 450-136A-Mzzzzzzzz, TPP 450-148A-Mzzzzzzzz, TPP 450-153A-Mzzzzzzzz, TPP 450-112-MB3zzzzzzzz, TPP 450-115-MB3zzzzzzzz, TPP 450-124-MB3zzzzzzzz, TPP 450-128-MB3zzzzzzzz, TPP 450-136-MB3zzzzzzzz, TPP 450-148-MB3zzzzzzzz, TPP 450-153-MB3zzzzzzzz, TPP 450-112-MB2zzzzzzzz, TPP 450-115-MB2zzzzzzzz, TPP 450-124-MB2zzzzzzzz, TPP 450-128-MB2zzzzzzzz, TPP 450-136-MB2zzzzzzzz, TPP 450-148-MB2zzzzzzzz, TPP 450-153-MB2zzzzzzzz, TPP 450-112-MB1zzzzzzzz, TPP 450-115-MB1zzzzzzzz, TPP 450-124-MB1zzzzzzzz, TPP 450-128-MB1zzzzzzzz, TPP 450-136-MB1zzzzzzzz, TPP 450-148-MB1zzzzzzzz, TPP 450-153-MB1zzzzzzzz, TPP 450-112-Mzzzzzzzz, TPP 450-115-Mzzzzzzzz, TPP 450-124-Mzzzzzzzz, TPP 450-128-Mzzzzzzzz, TPP 450-136-Mzzzzzzzz, TPP 450-148-Mzzzzzzzz, TPP 450-153-Mzzzzzzzz, TPP 450-112-MB6zzzzzzzz, TPP 450-115-MB6zzzzzzzz, TPP 450-124-MB6zzzzzzzz, TPP 450-128-MB6zzzzzzzz, TPP 450-136-MB6zzzzzzzz, TPP 450-148-MB6zzzzzzzz, TPP 450-153-MB6zzzzzzzz, TPP 450-112-MB5zzzzzzzz, TPP 450-115-MB5zzzzzzzz, TPP 450-124-MB5zzzzzzzz, TPP 450-128-MB5zzzzzzzz, TPP 450-136-MB5zzzzzzzz, TPP 450-148-MB5zzzzzzzz, TPP 450-153-MB5zzzzzzzz

Conditions Of Acceptability:

When installed in an end-product, consideration must be given to the following:

This equipment has been judged on the basis of the required Creepage and Clearance according to Clause 8.9 in the ANSI/AAMI ES60601-1 (2005)/(R)2012 + A1:2012, C1:2009/(R)2012 + A2:2010/(R)2012) - Revision Date 2012/08/21, CAN/CSA-C22.2 No. 60601-1:14 – Edition 3 - Revision Date 2014/03, that cover the end application for which the component was designed.

This power supply has been evaluated as a Class I, continuous operation, ordinary Equipment and has not been evaluated for use in the presence of a flammable anesthetic mixture with air, oxygen, or nitrous oxide. An additional evaluation shall be made if the power supply is intended for use in other than Class I equipment.

This equipment is intended for building-in, a suitable Electrical, Mechanical or Fire enclosure must be provided as part of end application.

The unit provides the following MOPP (means of patient protection): 1 MOPP based upon a working voltage 250Vrms, 354Vpk between opposite polarity. 1MOPP based upon a working voltage (1) 250Vrms, 354Vpk between Primary and Earth; (2) 264Vrms, 368Vpk under Y-Cap CY3; (3) 279Vrms, 432Vpk under Y-Cap CY1. 2 MOPP based upon a working voltage 312Vrms, 508Vpk between Primary to Secondary.

Considerations to the accessible/applied part requirements shall be evaluated in the end application.

The output circuits have not been evaluated for direct patient connection (Type B, BF or CF). For end application intend to connect the output circuit to Applied Parts, suitable evaluation of the separation, leakage current, dielectric voltage withstand, and related requirements shall be conducted.

Abnormal operation and single fault conditions for the equipment were tested with 20A branch circuit breaker, if the equipment used with other branch circuit breaker, all fault conditions shall be re-evaluated.

Considerations shall be given to measure the temperatures on power electronic components and transformer windings when this equipment is installed in the end application. The end application shall ensure that this equipment is used within its ratings. Transformer T1 is rated Class F (155 °C), and Transformer T2 is rated Class B (130 °C).

Temperature, Leakage Current, Dielectric Voltage Withstand test should be considered as part of the end product evaluation.

The end application evaluation shall ensure that the requirements related to Accompanying Documents, Clause 7.9 are met.

The Legibility of Markings (Clause 7.1.2) and Durability of Marking (Clause 7.1.3) tests for Label, (Clause 7.2.2) S/N & date of manufacture, shall be considered in the end application.

The component shall be installed in compliance with the enclosure, mounting, marking, spacing, and separation requirements of the end use application.

The input/output connectors are not acceptable for field connections; they are only intended for factory wiring inside the end-use product.

The additional temperature measurement conditions according to sub-clause 11.1 (normal temperature) were conducted as per client's request for reference only: for test input 115VAC/230VAC is ambient 50 degree C.

Clause 8.11.5 Overcurrent releases of adequate breaking capacity of fuse must be employed in the end product.

For open frame type: The distance measured between T1 secondary winding and Primary Heatsink (screwed on Heatsink of PFC MOS) without 2N force applied to Heatsink. The end application evaluation shall ensure that the requirements related to Creepage & Clearances are met.

Ratings:

Input Rating: 100-240Vac, 50/60Hz, 5.8A Max.

Nomenclature: Where "z" can be any alphanumeric or dash or blank for marketing purpose only.