



Certificate Number: 20200902X3-A6016

Date: 2023-07-14

## UL CONDITIONS OF ACCEPTABILITY

**Company Name:** TRACO ELECTRONIC AG

**File-CCN:** E188913 - QQJQ2, QQJQ8

**Product Description:** DC-DC Converter

**Models:** TON 15-2410Wlzzzzzz, TON 15-2411Wlzzzzzz, TON 15-2412Wlzzzzzz, TON 15-2413Wlzzzzzz, TON 15-4810Wlzzzzzz, TON 15-4811Wlzzzzzz, TON 15-4812Wlzzzzzz, TON 15-4813Wlzzzzzz

### Conditions Of Acceptability:

For use only in or with complete equipment where the acceptability of the combination is determined by UL LLC. When installed in an end-product, consideration must be given to the following:

- The following output circuits are at ES1 energy levels : Output
- The following output circuits are at PS3 energy levels : Output
- The terminals of the DC-DC Converter are only suitable for factory wiring only.
- The need for suitable electrical enclosure (for ES safeguard), fire enclosure (for PS safeguard), and safeguard for thermal burn injury (for TS safeguard) is to be evaluated and provided (if necessary) in the end-product.
- The DC-DC Converter complies with Basic Insulation Electric Strength 2500 V d.c. in accordance with manufacturer's request.
- The DC-DC Converter was evaluated and tested in combination with a supplementary external fuse, rated 125 V, 3 A, wired in the + side in Simulated Single Fault Conditions Test. The need for repeating the Simulated Single Fault Conditions Test in the end-product shall be considered if installed with a higher rated protective device.
- The DC-DC Converter was evaluated for Functional Insulation and is intended to be installed in an isolated (non-mains) ES1 (for model "x" = 24) or ES2 (for model "x" = 48) circuit which is separated from a.c. mains circuit by Double or Reinforced Insulation.
- The DC-DC Converter provides Functional Insulation from input side and output side and was tested for short circuiting of input side and output side and passed Electrical Strength Test for Basic Insulation based on transient voltage 2500 V peak and maximum working voltage of 95 V rms / 144 V peak.
- The DC-DC Converter shall be provided with external cooling fan (minimum 13.82 CFM) for external cooling. See Enclosure Id. 07-02 for details



**Ratings:**

All models are identical except for model designation, PWB Layout of Transformer (T1), input rated and output rated differences.

Model	Input Rating		Output Rating	
	Voltage (V d.c.)	Current (mA)	Voltage (V d.c.)	Current (mA)
TON 15-2410WIzzzzzz	9-36	1746	3.3	4000
TON 15-2411WIzzzzzz		1938	5	3000
TON 15-2412WIzzzzzz		2039	12	1300
TON 15-2413WIzzzzzz		1961	15	1000
TON 15-4810WIzzzzzz	18-75	863	3.3	4000
TON 15-4811WIzzzzzz		958	5	3000
TON 15-4812WIzzzzzz		996	12	1300
TON 15-4813WIzzzzzz		958	15	1000

**Nomenclature:** z = alphanumeric, "-", "/" or blank for marketing purposes.