



Certificate Number: 20191213X3-A6005

Date: October 20, 2021

## UL CONDITIONS OF ACCEPTABILITY

**Company Name:** TRACO ELECTRONIC AG

**File-CCN:** E188913 – QQJQ2, QQJQ8

**Product Description:** DC to DC Converter

**Models:** TEP 40-3611UIRzzzzzz, TEP 40-3612UIRzzzzzz, TEP 40-3613UIRzzzzzz, TEP 40-3615UIRzzzzzz, TEP 40-3616UIRzzzzzz, TEP 40-3618UIRzzzzzz, TEP 40-36153UIRzzzzzz, TEP 40-7211UIRzzzzzz, TEP 40-7212UIRzzzzzz, TEP 40-7213UIRzzzzzz, TEP 40-7215UIRzzzzzz, TEP 40-7216UIRzzzzzz, TEP 40-7218UIRzzzzzz, TEP 40-72153UIRzzzzzz.

Note: z = alphanumeric, "-", "/" or blank for marketing purposes

### Conditions Of Acceptability:

#### Engineering 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 end-product Electric Strength Test is to be based upon a maximum working voltage of :  
Primary-Secondary: 220 Vrms / 608 Vpk
- The following output circuits are at ES1 energy levels : Outputs
- The following output circuits are at PS3 energy levels : Outputs
- The terminals of the DC to DC Converter are only suitable for factory wiring only.
- The DC to DC Converter was evaluated for Reinforced Insulation and is intended to be installed in an ES3 circuit which is separated from a.c. mains ES3 circuit by Double or Reinforce Insulation.
- 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 current rating of protective device is to be evaluated in the end-product. Simulated Abnormal Operating Conditions Test and Simulated Single Fault Conditions Test were carried out with an External Fuse rated as follows.
  - External Fuse rated 8.0A/250Vdc for Models, TEP 40-3611UIRzzzzzz, TEP 40-3612UIRzzzzzz, TEP 40-3613UIRzzzzzz, TEP 40-3615UIRzzzzzz, TEP 40-3616UIRzzzzzz, TEP 40-3618UIRzzzzzz, TEP 40-36153UIRzzzzzz,
  - External Fuse rated 5.0A/250Vdc for Models TEP 40-7211UIRzzzzzz,

TEP 40-7212UIRzzzzzz, TEP 40-7213UIRzzzzzz, TEP 40-7215UIRzzzzzz, TEP 40-7216UIRzzzzzz, TEP 40-7218UIRzzzzzz, TEP 40-72153UIRzzzzzz.

Repeating Simulated Abnormal Operating Conditions Test and Simulated Single Fault Conditions Test in the end-product shall be considered if using different rated protective device.

- Class of equipment shall be evaluated in end-product.
- Maximum Normal Load used for the Temperature Tests was provided with a DC Fan 300 LFM located 10 cm from the DC to DC Converter Optocouplers side.
- DC to DC Converter provided with internal Plastic Frame of Input and Output for internal support parts. See Enclosure Id. 03-12 for details. Transformer (TX01) of Output PWB Shape changes. See Enclosure Id. 04-23 for details.

#### Ratings:

No.	Model	External Fuse Rated	Input Voltage Range (Vdc)	Input Current (A)	Output Voltage (Vdc)	Output Current (A)	Type of Main Board	Part Number of TX01	Construction of TX01
1	TEP 40-3611UIRzzzzzz	8.0A 250Vdc	9-75	4.99	5	8	A	9T-2554	A
2	TEP 40-3612UIRzzzzzz	8.0A 250Vdc	9-75	4.99	12	3.33	A	9T-2555	A
3	TEP 40-3613UIRzzzzzz	8.0A 250Vdc	9-75	4.99	15	2.67	A	9T-2556	A
4	TEP 40-3615UIRzzzzzz	8.0A 250Vdc	9-75	4.99	24	1.67	B	9T-2557	A
5	TEP 40-3616UIRzzzzzz	8.0A 250Vdc	9-75	4.99	28	1.43	B	9T-2558	A
6	TEP 40-3618UIRzzzzzz	8.0A 250Vdc	9-75	4.99	48	0.83	B	9T-2559	A
7	TEP 40-36153UIRzzzzzz	8.0A 250Vdc	9-75	4.99	53	0.75	B	9T-2560	A
8	TEP 40-7211UIRzzzzzz	5.0A 250Vdc	14-160	3.21	5	8	A	9T-2561	A

9	TEP 40-7212UIRzzzzzz	5.0A 250Vdc	14-160	3.21	12	3.33	A	9T-2562	A
10	TEP 40-7213UIRzzzzzz	5.0A 250Vdc	14-160	3.21	15	2.67	A	9T-2563	A
11	TEP 40-7215UIRzzzzzz	5.0A 250Vdc	14-160	3.21	24	1.67	B	9T-2564	A
12	TEP 40-7216UIRzzzzzz	5.0A 250Vdc	14-160	3.21	28	1.43	B	9T-2565	A
13	TEP 40-7218UIRzzzzzz	5.0A 250Vdc	14-160	3.21	48	0.83	B	9T-2566	A
14	TEP 40-72153UIRzzzzzz	5.0A 250Vdc	14-160	3.21	53	0.75	B	9T-2567	A

**Nomenclature:** n/a