



Certificate Number: 072720182-5

Date: 2018-12-05

UL CONDITIONS OF ACCEPTABILITY

Company Name: TRACO ELECTRONIC AG

File-CCN: E188913- QQJQ2/8

Product Description: DC to DC Converter

Models: TMDC 06-2411B, TMDC 06-2411, TMDC 06-2412, TMDC 06-2413, TMDC 06-2415, TMDC 06-2418, TMDC 06-2422, TMDC 06-2423, TMDC 06-2425, TMDC 06-4811B, TMDC 06-4811, TMDC 06-4812, TMDC 06-4813, TMDC 06-4815, TMDC 06-4818, TMDC 06-4822, TMDC 06-4823, TMDC 06-4825, TMDC 10-2411B, TMDC 10-2411, TMDC 10-2412, TMDC 10-2413, TMDC 10-2415, TMDC 10-2418, TMDC 10-2422, TMDC 10-2423, TMDC 10-2425, TMDC 10-4811B, TMDC 10-4811, TMDC 10-4812, TMDC 10-4813, TMDC 10-4815, TMDC 10-4818, TMDC 10-4822, TMDC 10-4823, TMDC 10-4825

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 converters provide functional insulation between input and output circuit and intend to be supplied by a DC power source that provides double/reinforced insulation from the AC mains.
- The terminals of this component DC to DC Converter are only suitable for factory wiring only.
- The outputs of this component DC to DC Converter has been evaluated for PS3 and ES1; the ES classification of circuits and parts that are accessible to ordinary persons should be reconsidered when it's employed in the end-use equipment.
- The product was investigated to the electric strength 3000 Vdc between input and output circuits, declared by manufacturer.
- A UL recognized Fuse rated 1 A, time delay was connected before the input of power supply when conduct the Simulated Abnormal Operating Conditions (B.3) and Simulated Single Fault Conditions (B.4) tests for Models TMDC 06-4811B, TMDC 06-4811, TMDC 06-4812, TMDC 06-4813, TMDC 06-4815, TMDC 06-4818, TMDC 06-4822, TMDC 06-4823, TMDC 06-4825, TMDC 10-4811B, TMDC 10-4811, TMDC 10-4812, TMDC 10-4813, TMDC 10-4815, TMDC 10-4818, TMDC 10-4822, TMDC 10-4823, TMDC 10-4825.

- A UL recognized Fuse rated 2 A, time delay was connected before the input of power supply when conduct the Simulated Abnormal Operating Conditions (B.3) and Simulated Single Fault Conditions (B.4) tests for Models TMDC 06-2411B, TMDC 06-2411, TMDC 06-2412, TMDC 06-2413, TMDC 06-2415, TMDC 06-2418, TMDC 06-2422, TMDC 06-2423, TMDC 06-2425, TMDC 10-2411B, TMDC 10-2411, TMDC 10-2412, TMDC 10-2413, TMDC 10-2415, TMDC 10-2418, TMDC 10-2422, TMDC 10-2423, TMDC 10-2425.
- The investigated Pollution Degree is: 3
- The need for suitable Electrical enclosure (for ES safeguard), fire enclosure (for PS safeguard), mechanical enclosure (for MS safeguard), and safeguard for thermal burn injury (for TS safeguard) is to be evaluated and provided (if necessary) when it's employed in the end-use equipment.
- The class of equipment is not classified; the likelihood is to be determined when employed in the end-use equipment.
- The power supply was evaluated to be used at altitudes up to: 5000 m.
- Electrical Energy Source of unit output (V+ to earth, GND to earth) under normal, abnormal operation and single fault condition should be considered in the end product investigation.

Ratings:

| Model No. | Input Voltage Range | Rated Input Current (mA) | Output Voltage (Vdc) | Output Current (mA) |
|---------------|-----------------------|--------------------------|----------------------|---------------------|
| TMDC 06-2411B | 9 - 36 Vdc or 24 Vdc | 877 | 5.0 | 1200 |
| TMDC 06-2411 | | | 5.1 | 1200 |
| TMDC 06-2412 | | | 12.0 | 500 |
| TMDC 06-2413 | | | 15.0 | 400 |
| TMDC 06-2415 | | | 24.0 | 250 |
| TMDC 06-2418 | | | 48.0 | 125 |
| TMDC 06-2422 | | | ±12 | ±250 |
| TMDC 06-2423 | | | ±15 | ±200 |
| TMDC 06-2425 | | | ±24 | ±125 |
| TMDC 06-4811B | 18 - 75 Vdc or 48 Vdc | 444 | 5.0 | 1200 |
| TMDC 06-4811 | | | 5.1 | 1200 |
| TMDC 06-4812 | | | 12.0 | 500 |
| TMDC 06-4813 | | | 15.0 | 400 |
| TMDC 06-4815 | | | 24.0 | 250 |
| TMDC 06-4818 | | | 48.0 | 125 |
| TMDC 06-4822 | | | ±12 | ±250 |
| TMDC 06-4823 | | | ±15 | ±200 |
| TMDC 06-4825 | | | ±24 | ±125 |

Ratings:

| Model No. | Input Voltage Range | Rated Input Current (mA) | Output Voltage (Vdc) | Output Current (mA) |
|---------------|-----------------------|--------------------------|----------------------|---------------------|
| TMDC 10-2411B | 9 - 36 Vdc or 24 Vdc | 1408 | 5.0 | 2000 |
| TMDC 10-2411 | | | 5.1 | 2000 |
| TMDC 10-2412 | | | 12.0 | 833 |
| TMDC 10-2413 | | | 15.0 | 666 |
| TMDC 10-2415 | | | 24.0 | 416 |
| TMDC 10-2418 | | | 48 | 208 |
| TMDC 10-2422 | | | ±12 | ±416 |
| TMDC 10-2423 | | | ±15 | ±333 |
| TMDC 10-2425 | | | ±24 | ±208 |
| TMDC 10-4811B | 18 - 75 Vdc or 48 Vdc | 704 | 5.0 | 2000 |
| TMDC 10-4811 | | | 5.1 | 2000 |
| TMDC 10-4812 | | | 12.0 | 833 |
| TMDC 10-4813 | | | 15.0 | 666 |
| TMDC 10-4815 | | | 24.0 | 416 |
| TMDC 10-4818 | | | 48 | 208 |
| TMDC 10-4822 | | | ±12 | ±416 |
| TMDC 10-4823 | | | ±15 | ±333 |
| TMDC 10-4825 | | | ±24 | ±208 |

Nomenclature: N/A