



Certificate Number: 050809X2-A22

Date: 2017-05-03

UL CONDITIONS OF ACCEPTABILITY

Company Name: TRACO ELECTRONIC AG

File-CCN: E188913 - QQQQ2, QQQQ8

Product Description: DC/DC Converters

Models: THB 3-0512, THB 3-0515, THB 3-0522, THB 3-0523, THB 3-1211, THB 3-1223, THB 3-2412, THB 3-2422, THB 3-4815, THB 3-4822, THB 3-1212, THB 3-1222, THB 3-1215, THB 3-2411, THB 3-2423, THB 3-2415, THB 3-4811, THB 3-4812, THB 3-4823, THB 3-0511

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: Input-Output: 106 Vrms, 220 Vpk
- The following secondary output circuits are SELV: All outputs
- The following secondary output circuits are at non-hazardous energy levels: All outputs
- The power supply terminals and/or connectors are: Suitable for factory wiring only
- The investigated Pollution Degree is: 2
- The following end-product enclosures are required: Fire , Electrical , Mechanical
- The Unit is considered as functional insulation and intended to be installed in isolated secondary circuit which is separated from primary circuit by Reinforce or Double insulation; additional tests of Humidity Test should be considered in the end product.
- Abnormal/Component Failure Tests were conducted with an external fuse (T2.0A for x = 1002, 1003, 1006, 1007, 1008; T1.0A for x = 1012, 1013, 1017, 1016, 1018; T0.5A for x = 1022, 1023, 1026, 1027, 1028, 1032, 1033, 1036, 1037, 1038). Repeated tests in the end-use appliance shall be considered for installing different rated protective devices.
- Special spacing consideration should be given to the end-use product as the spacings between the unit and mounting surface have not been evaluated.
- The DC/DC Converter with potting compound has been tested according to sub-clause 5.2.2. The actual test voltage was DC 5600 V by manufacturer's request.
- The DC/DC Converter shall be installed in compliance with the enclosure, mounting, spacing, casualty, markings and separation requirements of the end use application.
- The DC/DC Converter has not been evaluated for patient connected applications.
- The need for conducting Leakage Current Tests should be considered as part of the end product evaluation.

Ratings:

Model	Input Voltage	Input Current	Output 1	Output 2
THB 3-0512	4.5 - 9 Vdc	1.1 - 0.56A	+ 12Vdc/250mA	--
THB 3-0515	4.5 - 9 Vdc	1.1 - 0.56A	+24Vdc/150mA	--
THB 3-0522	4.5 - 9 Vdc	1.1 - 0.56A	+ 12Vdc/125mA	-12Vdc/125mA
THB 3-0523	4.5 - 9 Vdc	1.1 - 0.56A	+ 15Vdc/100mA	+ 15Vdc/100mA
THB 3-1211	9 - 18 Vdc	0.56 - 0.28A	+5Vdc/600mA	--
THB 3-1223	9 - 18 Vdc	0.56 - 0.28A	+ 15Vdc/100mA	+ 15Vdc/100mA
THB 3-2412	18 - 36 Vdc	0.28 - 0.14A	+ 12Vdc/250mA	--
THB 3-2422	18 - 36 Vdc	0.28 - 0.14A	+ 12Vdc/125mA	+ 12Vdc/125mA
THB 3-4815	36 - 75 Vdc	0.14 - 0.07A	+24Vdc/150mA	--
THB 3-4822	36 - 75 Vdc	0.14 - 0.07A	+ 12Vdc/125mA	-12Vdc/125mA
THB 3-1212	9 - 18 Vdc	0.56 - 0.28A	+ 12Vdc/250mA	--
THB 3-1222	9 - 18 Vdc	0.56 - 0.28A	+ 12Vdc/125mA	+ 12Vdc/125mA
THB 3-1215	9 - 18 Vdc	0.56 - 0.28A	+24Vdc/150mA	--
THB 3-2411	18 - 36 Vdc	0.28 - 0.14A	+5Vdc/600mA	--
THB 3-2423	18 - 36 Vdc	0.28 - 0.14A	+ 15Vdc/100mA	--
THB 3-2415	18 - 36 Vdc	0.28 - 0.14A	+24Vdc/150mA	--
THB 3-4811	36 - 75 Vdc	0.14 - 0.07A	+5Vdc/600mA	--
THB 3-4812	36 - 75 Vdc	0.14 - 0.07A	+ 12Vdc/250mA	--
THB 3-4823	36 - 75 Vdc	0.14 - 0.07A	+ 15Vdc/100mA	+ 15Vdc/100mA
THB 3-0511	4.5 - 9 Vdc	1.1 - 0.56A	+5Vdc/600mA	--