

Test Report issued under  
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BUREAU  
VERITAS

**TEST REPORT**  
**IEC 60335-1**  
**Safety of household and similar electrical appliances**

Report Number .....: 12TH0326-60335\_0

Date of issue .....: March 20, 2013

Total number of pages.....: 127

Tested by.....: Thomas Ruffer

Approved by.....: Nils Dohrmann

Applicant's name.....: Convertec Limited

Address .....: Whitemill Industrial Estate, Wexford, Republic of Ireland

**Test specification:**

Standard .....: IEC 60335-1:2010 (Fifth Edition) and EN60335-1:2012

Test procedure .....: Test report

Non-standard test  
method.....: This report is valid in conjunction with the test report 12TH0326-60950\_x only; designated as 'main report' within this document.  
The products were tested and comply with all electrical safety requirements. Additional markings and warnings are required for full compliance.

Test Report Form No. ....: IEC60335\_1R

Test Report Form(s) Originator ....: Nemko AS

Master TRF.....: Dated 2012-03

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**This report is not valid as a CB Test Report unless signed by an approved CB Testing Laboratory and appended to a CB Test Certificate issued by an NCB in accordance with IECEE 02.**

Test item description .....: Power Supply (built-in)

Trade Mark .....: TRACOPOWER or CONVERTEC POWER ELECTRONICS

Manufacturer.....: Convertec Limited

Model/Type reference .....: See page 2

Ratings .....: See page 2

Model/Type reference .....

| TRACOPOWER | CONVERTEC<br>POWER<br>ELECTRONICS |
|------------|-----------------------------------|
| TIW 12-124 | INWA 024.005                      |
| TIW 12-115 | INWA 015.008                      |
| TIW 12-112 | INWA 012.010                      |
| TIW 06-103 | INWA 003.012                      |
| TIW 06-105 | INWA 005.010                      |
| TIW 06-106 | INWA 006.010                      |
| TIW 24-112 | INWA 012.020                      |
| TIW 24-124 | INWA 024.010                      |

\*\* Each model can alternatively be marked with a suffix „xxyyyy“ for non-safety relevant changes. No impact on safety.

Ratings .....

TIW 12-124 (012UWA184):

Input: 100-240Vac; 0,33-0,14A; 50/60Hz

Output: 24Vdc / 0,5A / 12W

TIW 12-115 (012UWA183):

Input: 100-240Vac; 0,19-0,14A; 50/60Hz

Output: 15Vdc / 0,8A / 12W

TIW 12-112 (012UWA182):

Input: 100-240Vac; 0,23-0,15A; 50/60Hz

Output: 12Vdc / 1,0A / 12W

TIW 06-103 (006UWA180):

Input: 100-240Vac; 0,10-0,05A; 50/60Hz

Output: 3,3Vdc / 1,2A / 4W

TIW 06-105 (006UWA181):

Input: 100-240Vac; 0,13-0,07A; 50/60Hz

Output: 5Vdc / 1,0A / 5W

TIW 06-106 (006UWA189):

Input: 100-240Vac; 0,15-0,08A; 50/60Hz

Output: 6Vdc / 1,0A / 6W

TIW 24-112 (024UWA182):

Input: 100-240Vac; 0,42-0,32A; 50/60Hz

Output: 12Vdc / 2,0A / 24W

TIW 24-124 (024UWA184):

Input: 100-240Vac; 0,45-0,30A; 50/60Hz

Output: 24Vdc / 1,0A / 24W

**List of Attachments (including a total number of pages in each attachment):****Summary of testing:****Tests performed (name of test and test clause):****see appended tables****Testing location:**Bureau Veritas  
Consumer Products Services Germany GmbH  
Businesspark A96  
86842 Türkheim  
Germany**Summary of compliance with National Differences****List of countries addressed: Europe** **The product fulfils the requirements of IEC 60335-1:2010 (Fifth Edition) and EN60335-1:2012**

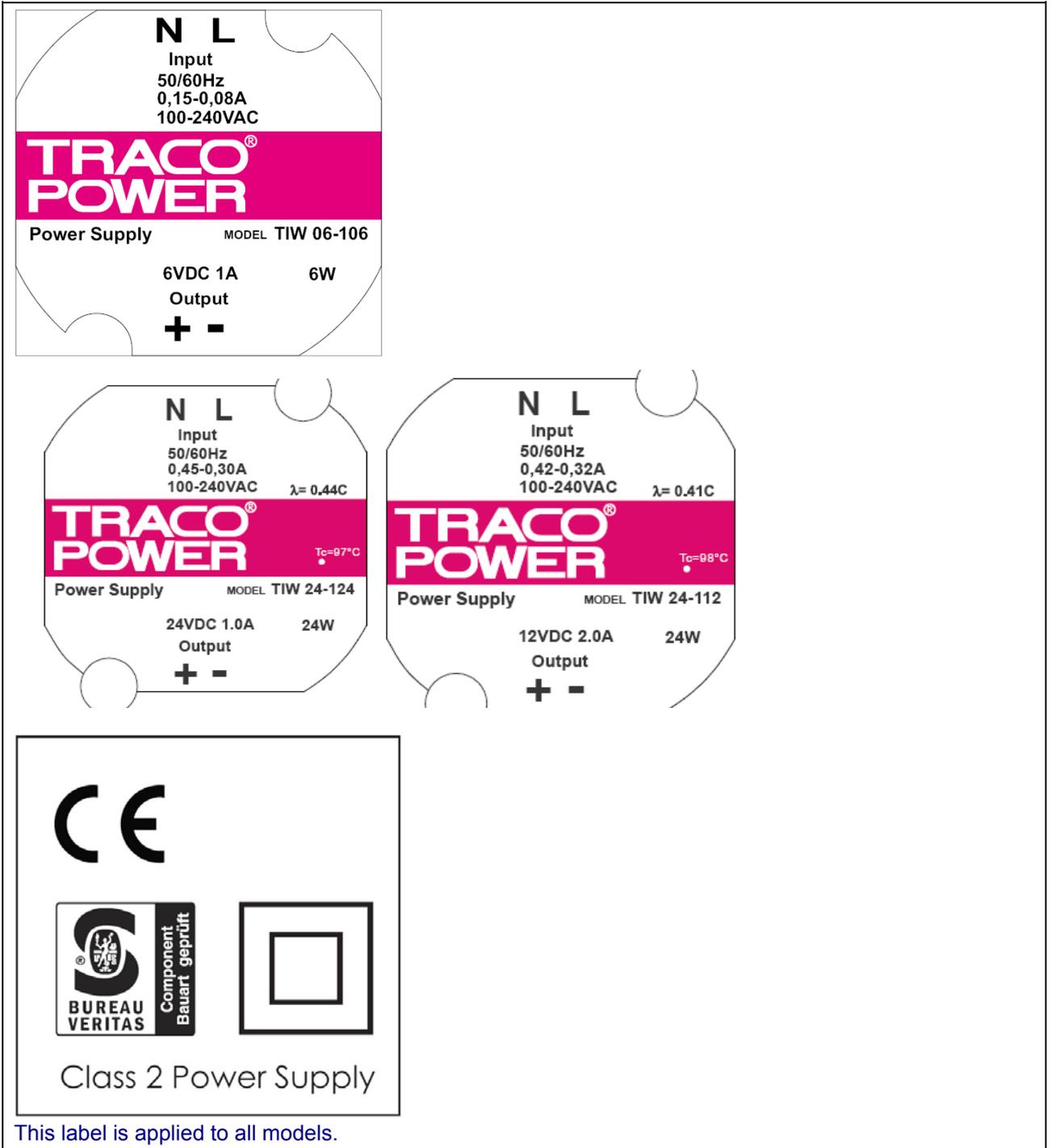
**Copy of marking plate**

The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.

|   |  |
|---|--|
| <b>N L</b><br>Input<br>50/60Hz<br>0,23-0,15<br>100-240VAC | <b>N L</b><br>Input<br>50/60Hz<br>0,19-0,14A<br>100-240VAC |
| <b>TRACO<br/>POWER</b> ®                                  | <b>TRACO<br/>POWER</b> ®                                   |
| Power Supply      MODEL TIW 12-112                        | Power Supply      MODEL TIW 12-115                         |
| 12VDC 1A      12W<br>Output<br>+ -                        | 15VDC 0.8A      12W<br>Output<br>+ -                       |

|  |
|--|
| <b>N L</b><br>Input<br>50/60Hz<br>0,33-0,14A<br>100-240VAC |
| <b>TRACO<br/>POWER</b> ®                                   |
| Power Supply      MODEL TIW 12-124                         |
| 24VDC 0.5A      12W<br>Output<br>+ -                       |

|  |  |
|--|--|
| <b>N L</b><br>Input<br>50/60Hz<br>0,10-0,05A<br>100-240VAC | <b>N L</b><br>Input<br>50/60Hz<br>0,13-0,07A<br>100-240VAC |
| <b>TRACO<br/>POWER</b> ®                                   | <b>TRACO<br/>POWER</b> ®                                   |
| Power Supply      MODEL TIW 06-103                         | Power Supply      MODEL TIW 06-105                         |
| 3.3VDC 1.2A      4W<br>Output<br>+ -                       | 5VDC 1A      5W<br>Output<br>+ -                           |



|   |  |
|---|--|
| <b>Test item particulars</b> .....  |  |
| <b>Classification of installation and use</b> .....   | Power supply for built-in use (no end-product)   |
| <b>Supply Connection</b> .....  | None (see below)   |
| .....   | Power supply for building-in, provided with a non-detachable input cable with free leads for permanent connection.<br>No power supply cord for direct connection to the mains. |
| <b>Possible test case verdicts:</b>   |  |
| - test case does not apply to the test object .....   | N/A  |
| - test object does meet the requirement .....   | P (Pass)   |
| - test object does not meet the requirement .....   | F (Fail)   |
| <b>Testing</b> .....  |  |
| <b>Date of receipt of test item</b> .....   | (see main report)  |
| <b>Date (s) of performance of tests</b> .....   | (see main report)  |
| <b>General remarks:</b>   |  |
| The test results presented in this report relate only to the object tested.<br>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.<br>"(see Enclosure #)" refers to additional information appended to the report.<br>"(see appended table)" refers to a table appended to the report. |  |
| Throughout this report a <input checked="" type="checkbox"/> comma / <input type="checkbox"/> point is used as the decimal separator.   |  |
| <b>Manufacturer's Declaration per sub-clause 6.2.5 of IEC60335-1:</b>   |  |
| The application for obtaining a CB Test Certificate includes more than one factory location and a declaration from the Manufacturer stating that the sample(s) submitted for evaluation is (are) representative of the products from each factory has been provided .....   | <input type="checkbox"/> Yes<br><input checked="" type="checkbox"/> Not applicable ( <b>No CB-Certification</b> )  |
| <b>When differences exist; they shall be identified in the General product information section.</b>   |  |
| <b>Name and address of factory (ies)</b> .....  | Convertec Limited<br>Whitemill Industrial Estate, Wexford, Republic of Ireland   |

**General product information:**

**This test report is a supplement to the main report 12TH0326-60950\_0. Full technical documentation, pictures and test results are stored in this document.**

| TRACOPOWER | CONVERTEC<br>POWER<br>ELECTRONICS | Convertec<br>Drawing No. |
|------------|-----------------------------------|--------------------------|
| TIW 12-124 | INWA 024.005                      | 012UWA184                |
| TIW 12-115 | INWA 015.008                      | 012UWA183                |
| TIW 12-112 | INWA 012.010                      | 012UWA182                |
| TIW 06-103 | INWA 003.012                      | 006UWA180                |
| TIW 06-105 | INWA 005.010                      | 006UWA181                |
| TIW 06-106 | INWA 006.010                      | 006UWA189                |
| TIW 24-112 | INWA 012.020                      | 024UWA182                |
| TIW 24-124 | INWA 024.010                      | 024UWA184                |

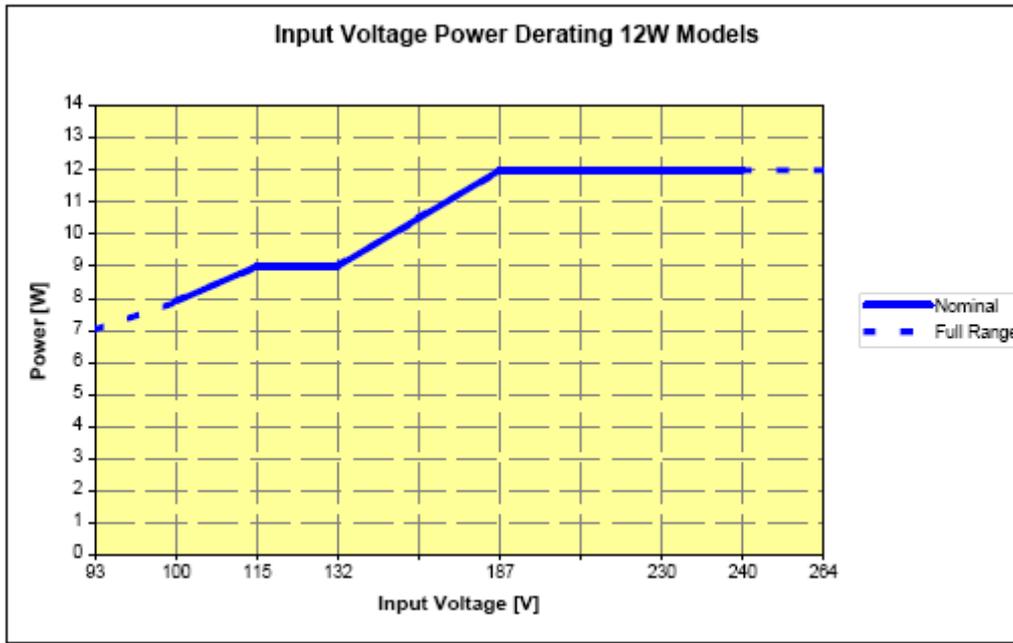
\*\* Each model can alternatively be marked with a suffix „xyyyy“ for non-safety relevant changes. No impact on safety.

1. The equipment was tested for connection to a 16A branch circuit in TN and TT with max. 240Vac phase/neutral and IT mains with 240V phase-to-phase.
2. The equipment provides the following protective device(s): External fuse (6A; Characteristic C); specified by the manufacturer.
3. The input circuit is rated primary. The output circuit is rated SELV and limited power source. The output circuit is separated from the input circuit by reinforced insulation.
4. The equipment is rated class II. The touch current is below 0,25mA.
5. The equipment is complete encapsulated.
6. The equipment provides the following disconnecting device:  
none, must be provided in the end-product
7. The models TIW 24-124 and TIW 24-112 use the same layout (PCB).  
Also the models TIW 06-103, TIW 06-105, TIW 06-106, TIW 12-115, TIW 12-112, TIW 12-124 have the similar layout.
8. The models TIW 24-124 and TIW 24-112 provide a (approx.) 56mm x 54mm x 32mm housing. The models TIW 06-103, TIW 06-105, TIW 06-106, TIW 12-115, TIW 12-112, TIW 12-124 provide a (approx.) 50,2mm x 48mm x 23,6mm housing.
9. The transformer TR1 provides reinforced insulation is rated class B and provides in addition an UL insulation system (OBJY2).
10. The equipment provides no fire-enclosure; fire-enclosure must be provided in the end-product.
11. On applicant's request the models TIW 24-124 and TIW 24-112 were also tested for an nominal input voltage of DC 120-250Vdc (operational 90-370Vdc) and the other models were also tested for an nominal input voltage of 140-250Vdc (operational 130-370Vdc). The measurements (partial testing) are only for information.
12. The product was tested for a maximum ambient of 50°C. The proper use of the equipment in the end-product shall be verified

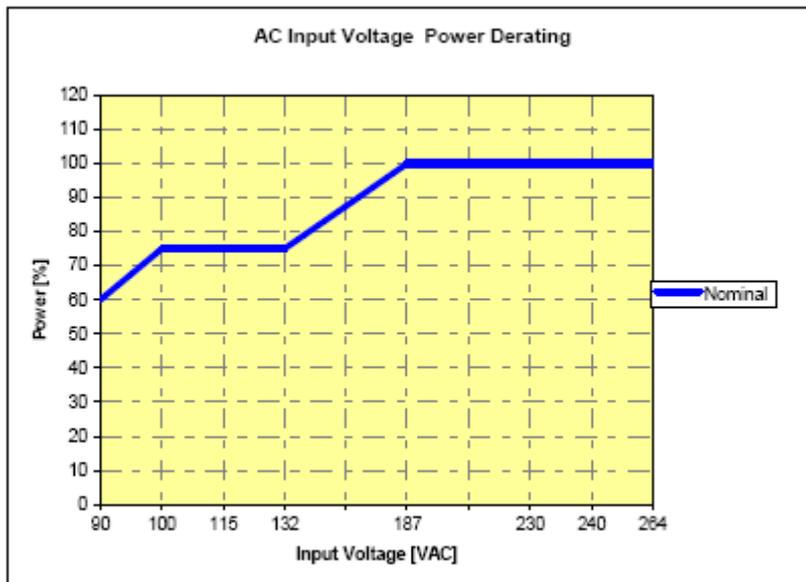
The output power must be de-rated as shown below

TIW 06-103 (006UWA180), TIW 06-105 (006UWA181), TIW 06-106 (006UWA189): **No derating.**

**12W Models:**



**24W Models:**



Full Report available for Notified bodies on request