

TRACOPOWER

Model: TIS600-148

EMC – Test Report

EUT: TRACOPOWER Model: TIS600-148

Serial No.: N/A

Manufacturer No.: 600PSH148

Manufacturer: Convertec Ltd.
Whitemill Industrial Estate
Wexford
Republic of Ireland

Tester: Tim Whelan, Convertec

Date: 24/03/11

It should be noted, that combining two or more CE compliant finished appliances does not automatically produce a compliant system. The manufacturer of an apparatus or a fixed installation as defined in the “Guide for the EMC Directive 2004/108EC, 21. May 2007” is responsible for the EMC-compliance of the final apparatus.

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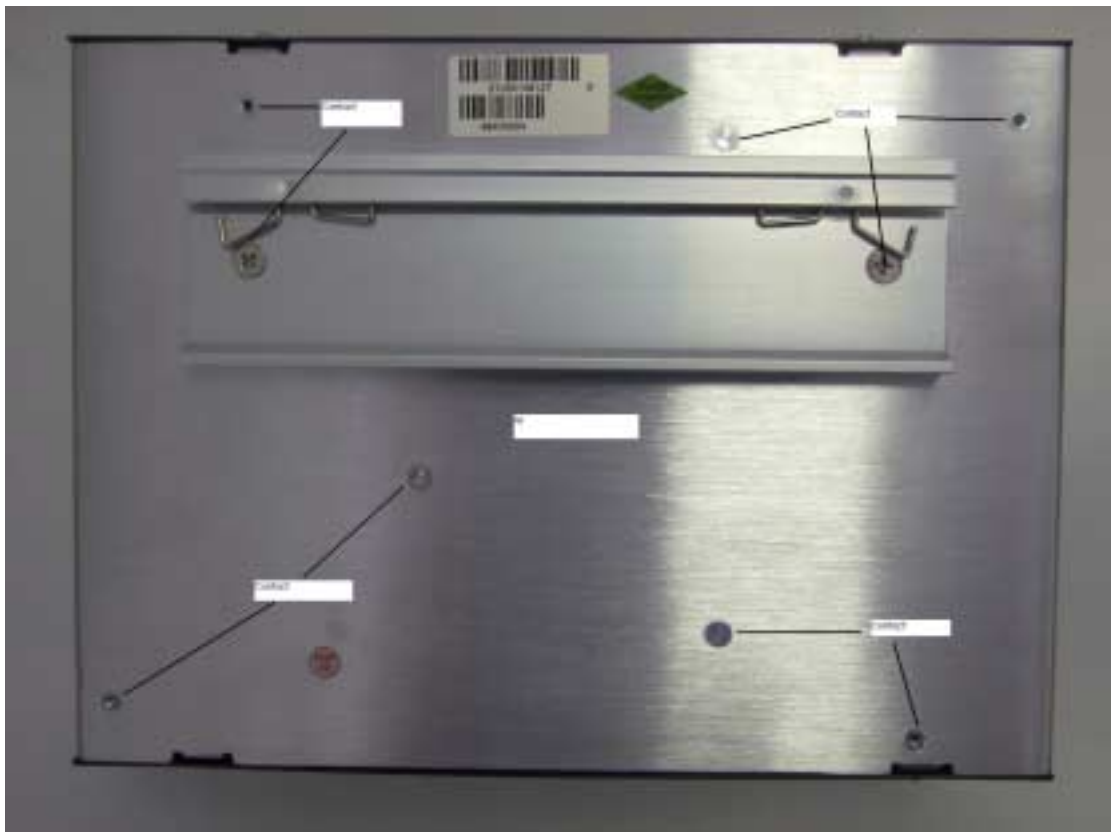
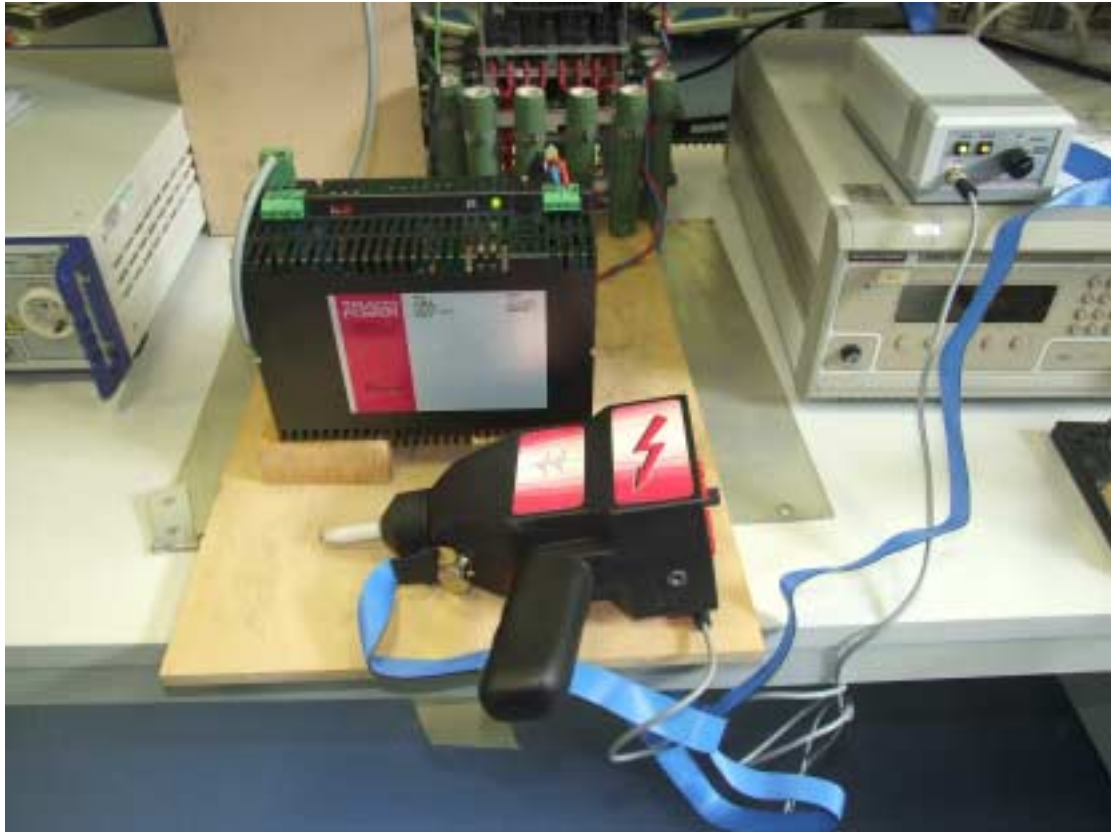
1 Electrostatic Discharge Test

Equipment Under Test: TIS600-148
EUT Serial No.: N/A
Customer Spec: CS-600PSH185.doc
Date: 24/03/2011
Standard: IEC61000-6-2: 2005 referring to IEC 61000-4-2: 2000

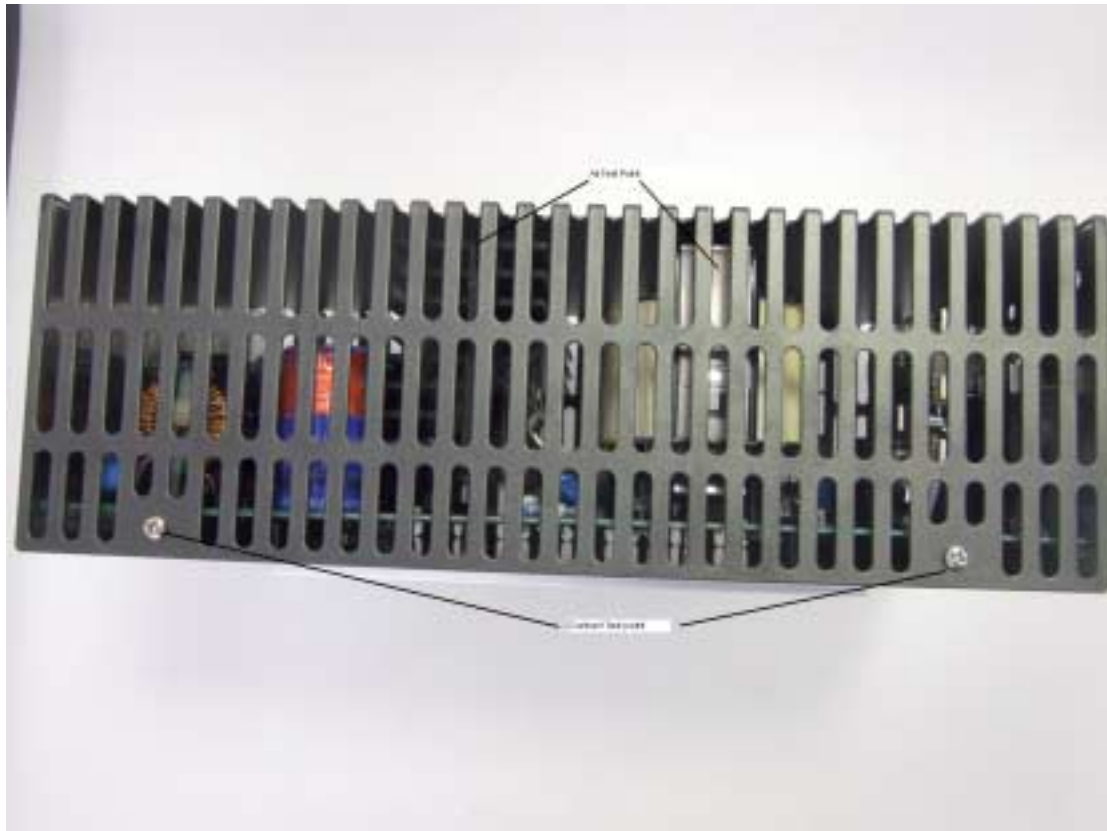
Notes:

- EUT tested under normal operating conditions of 230V 50Hz input at full load (48V/12A Resistive)
- Since the EUT output is isolated from earth, a 470K HV resistor was placed between output and Earth to provide a discharge path between spikes
- Contact discharge tests shall be applied to all areas exposed to the end user under final installation (See contact test points in diagram) using ESD gun SESD 200
- Test voltage shall be increased from 2kV up to the max 8kV/4kV (air/contact) As required by standard IEC/EN 61000-4-2
- At least 10 discharges were applied per test-point (in both polarities)
- A time interval between discharges of a least 1s was used
- The ESD generator was held perpendicular to the test-point wherever possible for repeatability of results
- In the case of contact discharges, the trigger is engaged at about 20cm and the tester is moved quickly toward the test point until a spark occurs and trigger is released

1.1 Test Set-Up:







1.2 ESD Results

	Contact Testpoints:	Air Testpoints:
EUT	PASS	PASS

Conclusion:

EUT still functions as expected after tests therefore are in accordance with IEC61000-4-2

PASS

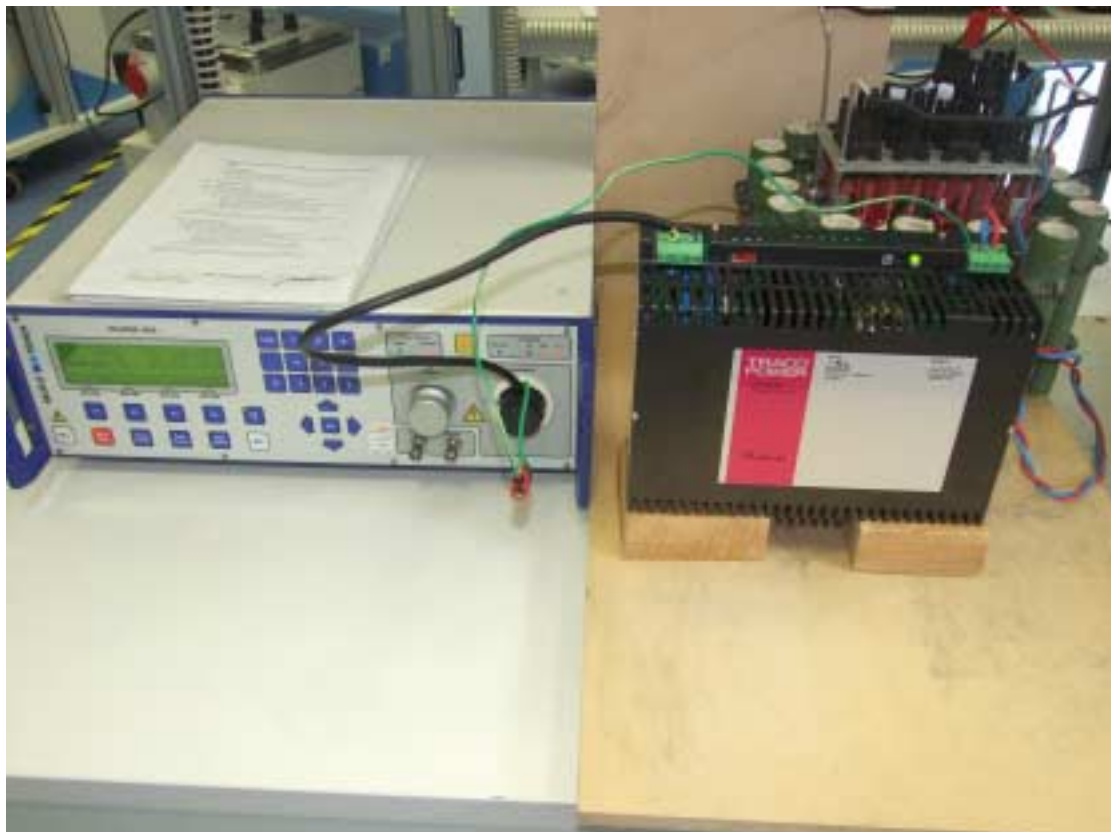
2 Surge Test

Equipment Under Test: TIS600-148
EUT Serial No.: N/A
Customer Spec: CS-600PSH185.doc
Date: 24/03/2011
Standard: IEC61000-6-2: 2005 referring to IEC 61000-4-5: 2005

Notes:

- EUT tested under normal operating conditions of 230V 50Hz input at full load (48V/12A Resistive)
- Used Haefely Surge generator PSURGE 4010
- Voltage test level: +/- 1kV Line-Line, +/- 2kV Line-Earth (installation class 3)
- No. of Surges per set: 5 tests Positive at 0, 90, 180, and 270 and 5 tests Negative at 0, 90, 180, and 270
- Interval Between Surges: 10s

2.1 Test Setup



2.2 Surge Results

	L to N	L to PE	N to PE
EUT: TIS600-148	PASS	PASS	PASS

Conclusion:

Meets Classification A (Ref. Section 9, IEC 61000-4-5)

Only Class B performance criteria are required as per Table 6, IEC 61204-3

PASS

3 Fast Transient Test (Burst)

Equipment Under Test: TIS600-148
EUT Serial No.: N/A
Customer Spec: CS-600PSH185.doc
Date: 24/03/2011
Standard: IEC61000-6-2: 2005 referring to IEC 61000-4-4: 2004

Notes:

- EUT tested under normal operating conditions of 230V 50Hz input at full load (48V/12A Resistive)
- Units tested to IEC61000-4-4 test level 3
- Used Haefely Burst tester PEFT 4010
- Voltage test level: $\pm 2\text{Kv}$
- Burst Duration: 0.75ms
- Repetition rate: 100kHz
- Burst Period: 300ms
- Individual test time: 1 min
- Polarity: Positive and Negative

The output lines were also tested as above to $\pm 1\text{kV}$ with Haefely coupling capacitor IP4A

3.1 Test Setup



3.2 Fast Transient Results

EUT: TIS600-148	L-G	N-G	PE-G	L,N-G	L,PE-G	N,PE-G	L,N,PE-G
Positive	PASS	PASS	PASS	PASS	PASS	PASS	PASS
Negative	PASS	PASS	PASS	PASS	PASS	PASS	PASS

Conclusion:

Meets Classification A (Ref. Section 9, IEC 61000-4-4)

Only Class B performance criteria are required as per Table 6, IEC 61204-3

PASS

4 Summary

Regulation Cl	ass/Test Level	Result	Comments
IEC61000-6-2: 2005 + IEC 61000-4-2:2000			
Electrostatic Discharge			
- Air Discharge	+/- 2/8kV (Class B)	PASS	
- Contact Discharge	+/- 2/4kV (Class B)	PASS	
IEC61000-6-2: 2005 + IEC 61000-4-5:2005			
Surge			
- AC Supply	+/- 2kV (Class B) L-N	PASS	
	+/- 4kV (Class B) L-PE	PASS	
	+/- 4kV (Class B) N-PE	PASS	
IEC61000-6-2: 2005 + IEC 61000-4-4: 2004			
Fast Transient (Burst)			
- AC Supply	+/- 4kV (Class B Between all lines	PASS	

5 List of Equipment Used

Description	Model No.	Manufacturer	Serial No.
ESD Gun	SESD 200	Schloder	142261
Surge Generator	PSURGE 4010	Haefely	583 334-63
Burst generator	PEFT 4010	Haefely	080 981-08
Coupling Capacitor	IP4A	Haefely	171241
High Power Resistors	n/a	n/a	n/a
Multimeter	34405A	Agilent	TW46290007
Multimeter	34405A	Agilent	TW46290015
Cables	Type	Length	Comments
Mains Supply Cable	3-wire	1m	Unshielded
DC Lines Cable	2-wire	1m	Unshielded