

# Traco Power

## Model: TBL 015-124

### EMC – Test Report

Amendment to EMC-Report:  
EMC\_TBL015-124\_revised\_04.07.12

EUT: Traco Power - Model: TBL 015-124

Serial No.: 31315768720

Manufacturer No.: 015PSL184

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

Tester: Gunnar Tapper, Convertec Ltd

Date: 18/07/2014

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.

**Table of Contents**

1. Voltage Sag Immunity Test (Semi F47).....3

1.1. Test Setup .....3

1.2. Voltage Sag Immunity test Results (Semi F47) .....4

2. Summary.....8

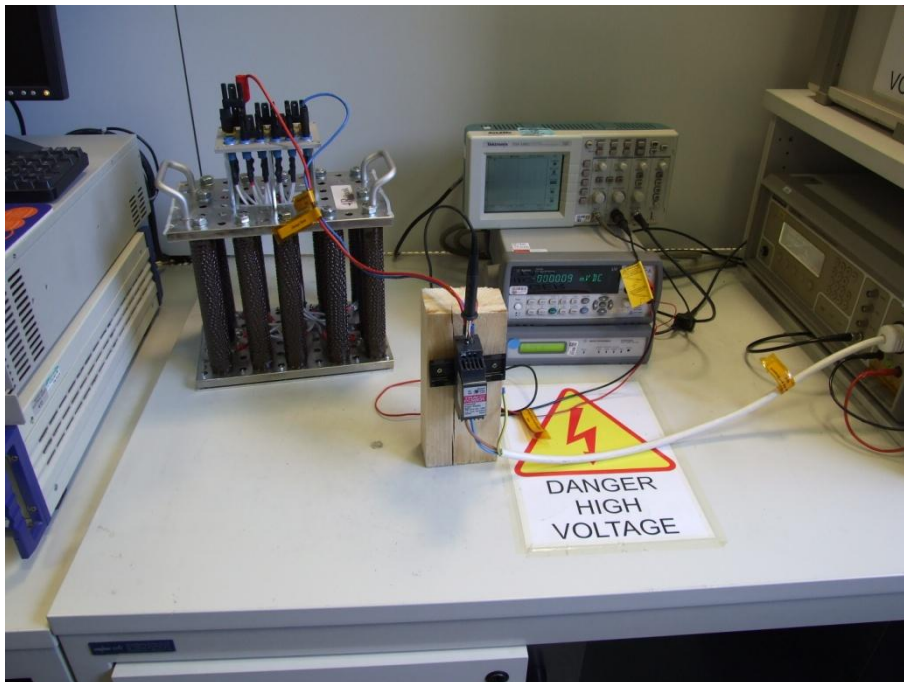
## 1. Voltage Sag Immunity Test (Semi F47)

**Equipment under Test:** TBL 015-124  
**EUT Serial No.:** 31315768720  
**Customer Spec:** CS - XXXPSL.doc  
**Date:** 18/07/2014  
**Standard:** SEMI F47-0706

### Notes:

- EUT tested under operating conditions of 230V and 115V 50Hz input at full nominal load (24V/0.63A Resistive).
- Test carried out using test generator using Voltage Sag Generator: Schaffner NSG1003: Dropout and Variation Simulator and Oscilloscope Tektronix: TDS2014C.
- Pass/Fail Criteria for Subsystems and Components-Voltage sag immunity testing of subsystems and components should meet the following as required by Semi-F47:
  - A. Performs at full rated operation.
  - B. May not perform at full rated operation but recovers operation without operator and/or host controller intervention. Must not send error signals to the equipment host controller indicating when full rated operation is not achieved.
  - C. May not perform at full rated operation but recovers operation without operator and/or host controller intervention. May send signals to the equipment host controller indicating when full rated operation is not achieved.
  - D. Does not perform at full rated operation and requires an operator and/or host controller intervention for recovering.

### 1.1. Test Setup



## 1.2. Voltage Sag Immunity test Results (Semi F47)

Input Voltage = 230VAC, Output = 24V,0.63A

Voltage Sag	Duration	Duration	Output Voltage	% delta of nominal output voltage	Semi F47	Criteria
[V]	[s]	[cycles]	[V]	DUT 50Hz [%]	[%]	[Class]
207	20	1000	24.02	-0.1	90	A
207	10	500	24.02	-0.1	90	A
184	10	500	24.03	-0.1	80	A
184	1	50	24.03	-0.1	80	A
184	0.5	25	24.02	-0.1	80	A
161	0.5	25	24.01	0.0	70	A
161	0.5	10	24.03	-0.1	70	A
115	0.2	10	24.01	0.0	50	A
115	0.02	1	24.04	-0.2	50	A
0	0.02	1	24.04	-0.2	0	A

\*Yellow indicates the required Voltage SAG Immunity Levels. Other levels are recommended.

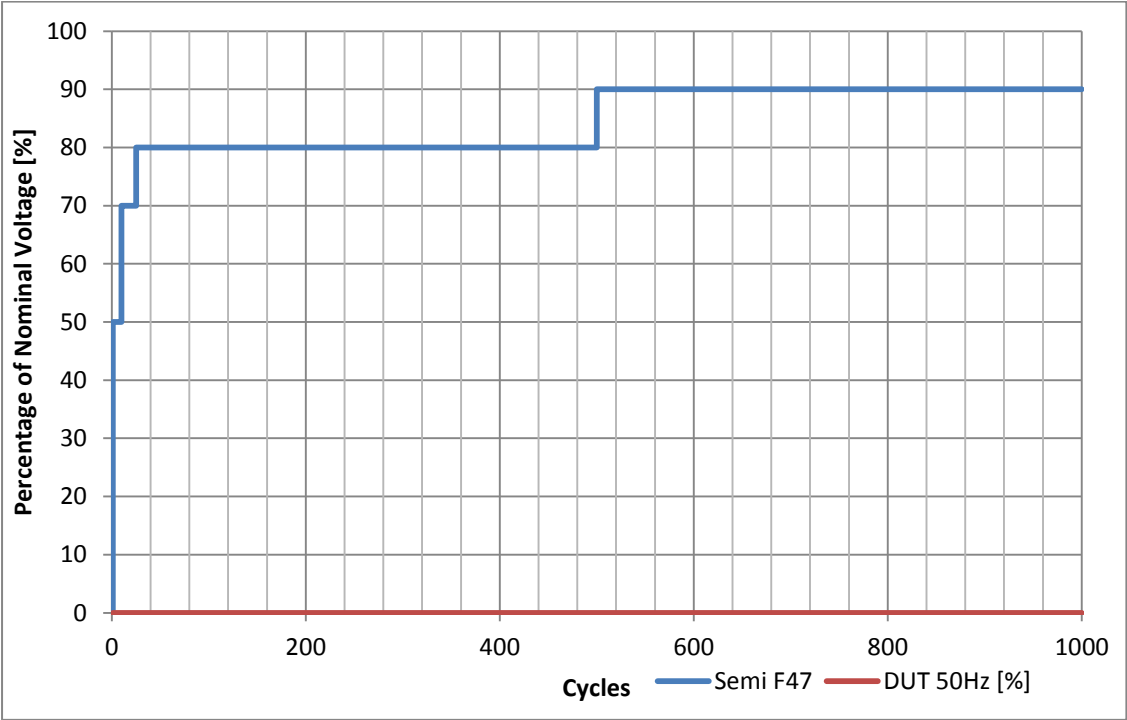


Figure 1: TBL 015-124/ 0-1000 cycles

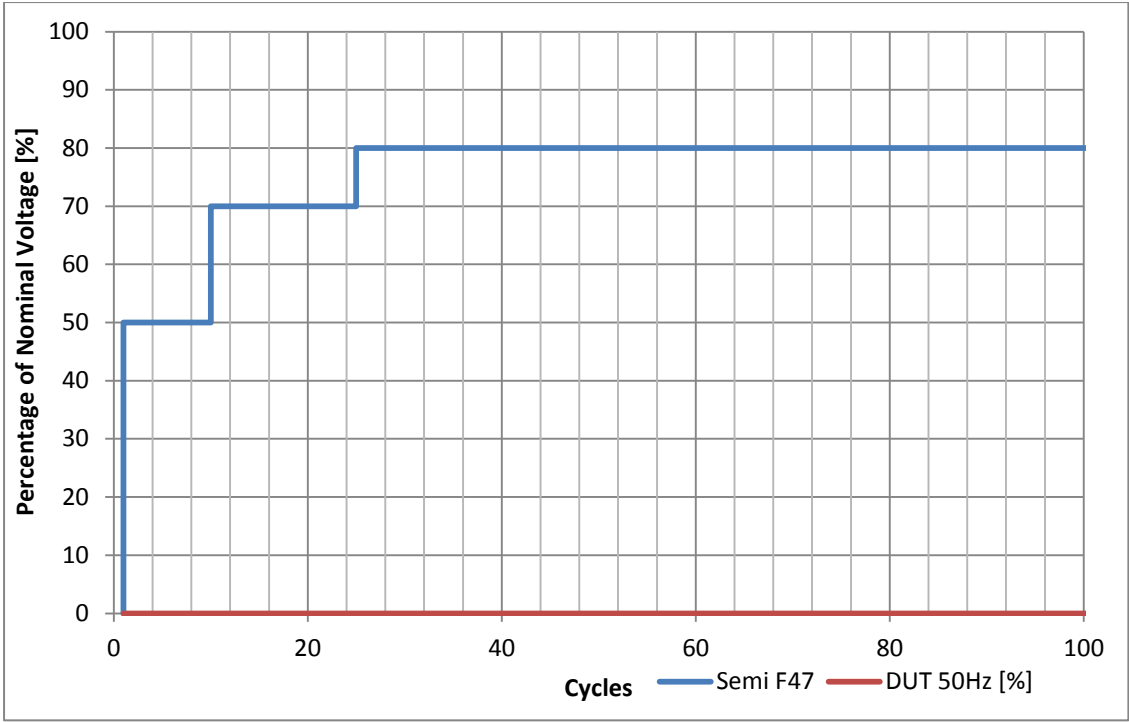


Figure 2: TBL 015-124/ 0-100 cycles

Input Voltage = 115VAC, Output = 24V, 0.63A

Voltage Sag	Duration	Duration	Output Voltage	% delta of nominal output voltage	Semi F47	Criteria
[V]	[s]	[cycles]	[V]	DUT 50Hz [%]	[%]	[Class]
103.5	20	1000	24.04	-0.1	90	A
103.5	10	500	24.03	-0.1	90	A
92	10	500	23.97	0.1	80	A
92	1	50	23.98	0.1	80	A
92	0.5	25	23.98	0.1	80	A
80.5	0.5	25	23.88	0.5	70	A
80.5	0.5	10	23.88	0.5	70	A
57.5	0.2	10	21.69	9.6	50	B
57.5	0.02	1	23.41	2.5	50	B
0	0.02	1	22.91	4.5	0	B

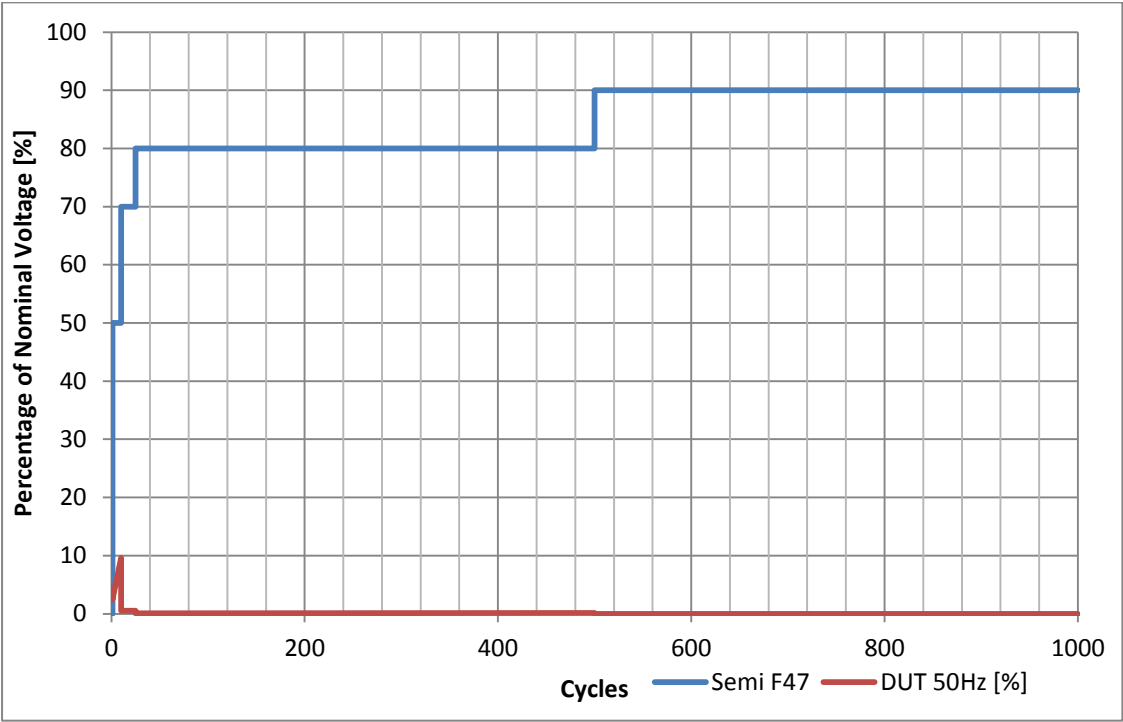


Figure 3: TBL 015-124/ 0-1000 cycles

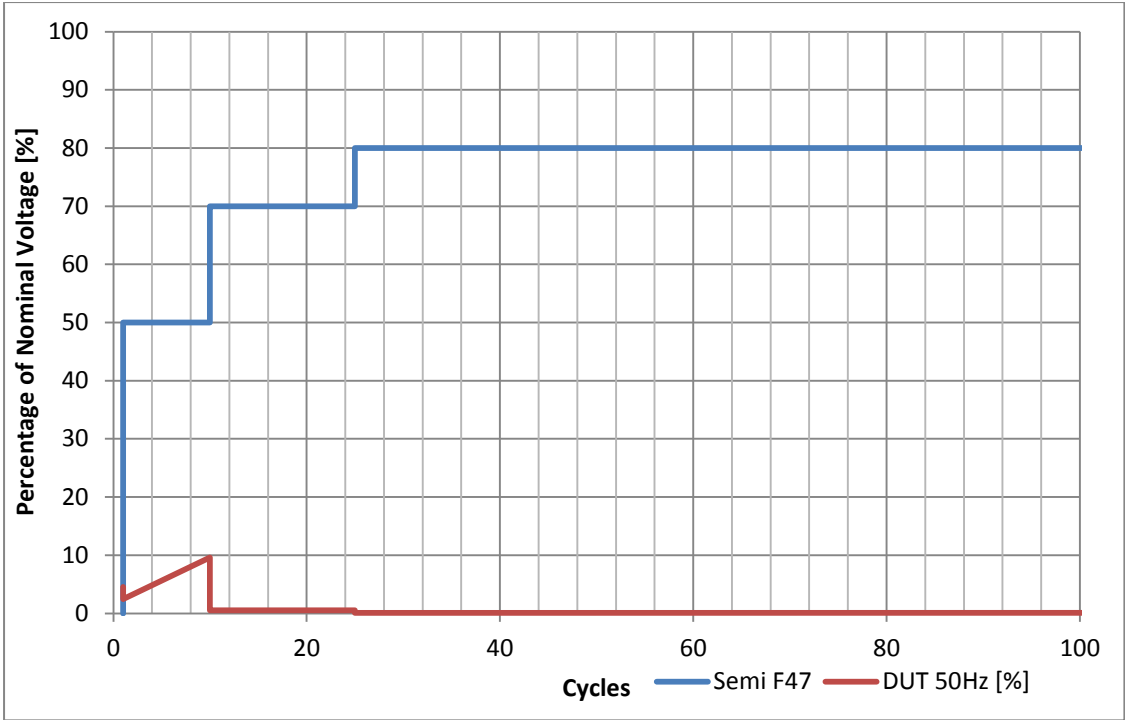


Figure 4: TBL 015-124/ 0-100 cycles

**Conclusion:**

The EUT meets classification B (Ref. SEMI F47-0706). The test results were evaluated in relation to the Customer Specification CS - XXXPSL.doc and the EUT was considered to have PASSED the tests.

**PASS**

## 2. Summary

Regulation	Class/Test Level	Result	Comments
<b>SEMI F47-0706</b>			
Semi F47 Voltage SAG Immunity			
-AC Supply (230VAC and 115VAC)	(Class B)	PASS	



# List of Equipment Used:

Description	Model No.	Manufacturer	Serial No.
EMC Analyzer	E7402A	Agilent	MY45119210
LISN 1	PMM L2-16	PMM	1230L00301
LISN 2	FCC-801-M2-50A	FCC	3035
LISN 3	NSLK 8127	Schwarzbeck	8127683
RF Current Probe	F-33-1	FCC	759
Transient Limiter	11947A	Agilent	3107A03645
Precision Power Meter	LMG95	Zimmer	10790709
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
Electronic Load	ELA 500	Zentro-Electrik	63145803
High Power Resistors	n/a	n/a	n/a
Multimeter	34405A	Agilent	TW46290007
Multimeter	34405A	Agilent	TW46290015
Multimeter	34410A	Agilent	MY47012359
Multimeter	1906	TTI	n/a
High frequency generator	CWS 500N	EM Test	V0847104427
Coupling/Decoupling Network	CDN M2/M3	EM Test	1108-34
Attenuator	ATT6/75	EM Test	1107-53
Oscilloscope	TDS1002	Tektronix	C016388
Oscilloscope	TDS2014C	Tektronix	C010602
Programmable AC Source	61604	Chroma	ABR000000672
DC power supply	SM 7020 - D	Delta electronika	014604000011
DC power supply	SM 7020 - D	Delta electronika	014604000024
Pulse Generator	33220A	AGILENT	MY44044002
Biconical Antenna	BicoLOG 30100 X	AARONIA	79479
<b>Cables</b>	<b>Type</b>	<b>Length</b>	<b>Comments</b>
Mains Supply Cable	3-wire	1m	Unshielded
Mains Supply Cable	3-wire	1.5m	Unshielded
DC Lines Cable	2-wire	1m	Unshielded
DC Lines Cable	2-wire	1.5m	Unshielded