

<b>Prüfbericht - Nr.:</b> 19630484 001		<b>Seite 1 von 10</b>	
<i>Test Report No.:</i>		<i>Page 1 of 10</i>	
<b>Auftraggeber:</b> <i>Client:</i>	<b>Solar Idea Pvt. Ltd.</b> 8-2-277/A/7, Plot No.126, Road No.2, Banjara Hills, Hyderabad – 500034, Telangana, India		
<b>Gegenstand der Prüfung:</b> <i>Test item:</i>	Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller		
<b>Bezeichnung:</b> <i>Identification:</i>	2000VA	<b>Serien-Nr.:</b> <i>Serial No.:</i>	101510001573
<b>Wareneingangs-Nr.:</b> <i>Receipt No.:</i>	1803110293	<b>Eingangsdatum:</b> <i>Date of receipt:</i>	2015.12.22
<b>Prüfört:</b> <i>Testing location:</i>	<b>TÜV Rheinland (India) Pvt. Ltd.</b> Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India		
<b>Prüfgrundlage:</b> <i>Test specification:</i>	IEC 60068-2-30, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2 (As per MNRE / customer requirement).		
<b>Prüfergebnis:</b> <i>Test Result:</i>	Refer section " Summary of testing "		
<b>Prüflaboratorium:</b> <i>Testing Laboratory:</i>	<b>TÜV Rheinland (India) Pvt. Ltd.</b> Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India		
<b>geprüft/tested by:</b>		<b>kontrolliert/reviewed by:</b>	
 2016.01.27    Manjunath.K / Sr. Engineer		 2016.01.27    Kamalaksha C.S / Sr. Manager	
<i>Datum</i> Date	<i>Name/Stellung</i> Name/Position	<i>Unterschrift</i> Signature	<i>Datum</i> Date
	<i>Name/Stellung</i> Name/Position	<i>Unterschrift</i> Signature	<i>Name/Stellung</i> Name/Position
<b>Sonstiges/Other Aspects:</b>			
This report consists of 10 pages including the following attachments: Attachment 1: Photo Document			
<b>Abkürzungen:</b> F(ail) N/A N/T	<b>P(ass)</b> = = = =	<b>=</b> entspricht Prüfgrundlage entspricht nicht Prüfgrundlage nicht anwendbar nicht getestet	<b>Abbreviations:</b> P(ass) F(ail) N/A N/T
	<b>=</b> = = =	<b>passed</b> failed not applicable not tested	
<b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b> <i>This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>			

<b>TEST REPORT</b>	
<b>ENVIRONMENTAL TESTING</b>	
<b>Report reference No.</b> .....	19630484 001
Tested by (printed name and signature).....	(see cover page) .....
Approved by (printed name and signature).....	(see cover page) .....
Date of issue. ....	(see cover page)
<b>Testing Laboratory Name</b> .....	TÜV Rheinland (India) Pvt. Ltd.
Address .....	Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road Bangalore - 560 100, Karnataka, India
<b>Applicant's Name</b> .....	Solar Idea Pvt. Ltd.
Address .....	8-2-277/A/7, Plot No.126, Road No.2, Banjara Hills, Hyderabad – 500034, Telangana, India
<b>Test specification</b> .....	
Standard.....	IEC 60068-2-30, IEC 60068-2-14, IEC 60068-2-1, IEC 60068-2-2 (As per MNRE / customer requirement).
Test procedure .....	QMA 36.201.01
Non-standard test method.....	N/A
<b>Test Report Form No.</b> .....	TUVR_ENV_R2
TRF originator .....	TUVR
Master TRF .....	2009.08.20
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This publication may be reproduced in whole or in part for non-commercial purposes as long as the TUV is acknowledged as copyright owner and source of the material. TUV takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.	
Test item description .....	Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller
Manufacturer .....	Solar Idea Pvt. Ltd.
Model and/or type reference .....	2000VA
Serial number .....	101510001573
Rating(s).....	RATING :2kVA/2kW BATTERY :48VDC OUT PUT VOLTAGE :230VAC ± 1% FREQUENCY :50Hz AC MAINS :120 – 300VAC MPPT VOLTAGE :<80VDC CURRENT :30Amps Manufactured Month :OCT2015

## Environmental Testing

## Copy of marking plate:



Model	:	Classic Solar PCU with Inbuilt MPPT charge controller
SL No	:	101510001573
RATING	:	210VA/210W
BATTERY	:	48VDC
OUT PUT VOLTAGE	:	230VAC $\pm$ 1%
FREQUENCY	:	50Hz
AC MAINS	:	120 - 300VAC
MPPT VOLTAGE	:	<80VDC
CURRENT	:	30Amps
Manufactured Month	:	Oct 2015

## General product information:

EUT is a Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller.

## Summary of testing:

This report covers Environmental Tests undertaken as per customer's specifications with reference to the listed standards.

EUT continues to work after each test and no physical damages were observed.

## Environmental Testing

**Particulars: test item vs. test requirements**

Equipment orientation .....: Stationary

Operating condition .....: OFF during testing

Condition of the equipment at the time of receipt.....: Good

**Test case verdicts**

Test case does not apply to the test object ...: N/A

Test item does meet the requirement .....: P(Pass)

Test item does not meet the requirement .....: F(Fail)

**Testing**

Date of receipt of test item .....: 2015.12.22

Date(s) of performance of test .....: 2016.01.06 to 2016.01.11

**General remarks**

The test result presented in this report relate only to the object(s) tested.

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"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

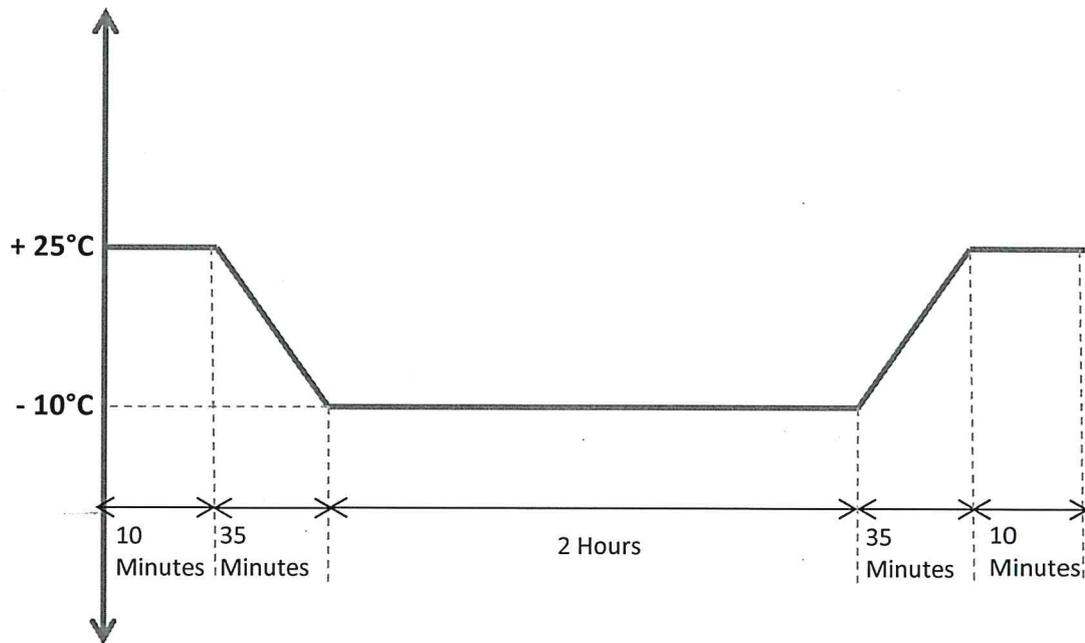
**Attachments:**

Attachment 1: Photo Document

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

<b>1</b>	<b>Cold Test as per IEC 60068-2-1</b>		<b>P</b>
1.1	Pre-checks		P
1.1.1	Examination before environmental conditioning.		P
1.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
1.1.1.2	EUT working condition	EUT was working fine before the cold test.	P
1.2	Cold Test specification		

Graph:



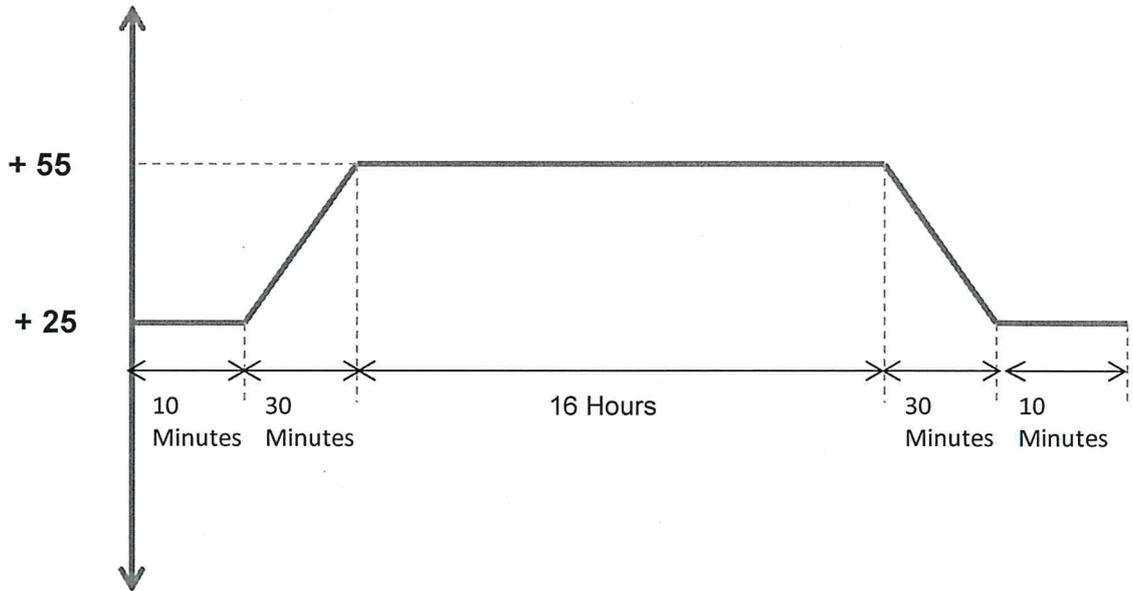
	EUT Operating Condition	Powered OFF	-
	Test Temperature	- 10°C	-
	Dwell Time	2 Hours	-
	No. of cycles	1 Cycle	-

1.3	Post check: Examination after environmental conditioning		P
1.3.1	Physical damages	No physical damages were observed	P
1.3.2	EUT working condition	EUT was working fine after the cold test	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

<b>2</b>	<b>Dry Heat Test as per IEC 60068-2-2</b>		<b>P</b>
2.1	Pre-checks		P
2.1.1	Examination before environmental conditioning.		P
2.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
2.1.1.2	EUT working condition	EUT was working fine before the dry heat test.	P
2.2	Dry Heat Test Specification		

Graph:



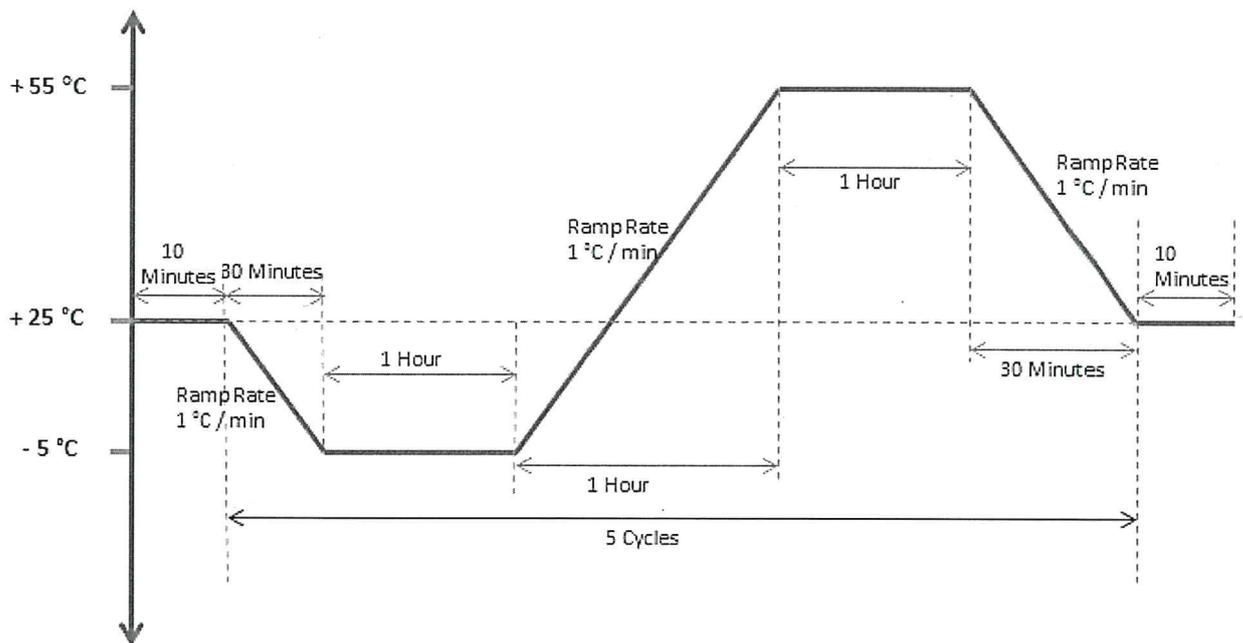
	EUT Operating Condition	Powered OFF	-
	Test Temperature	+55°C	-
	Dwell Time	16 Hours	-
	No. Of cycles	1 Cycle	-

2.3	Post check: Examination after environmental conditioning		P
2.3.1	Physical damages	No physical damages were observed.	P
2.3.2	EUT working condition	EUT was working fine after the dry heat test	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

<b>3</b>	<b>Change of Temperature as per IEC 60068-2-14</b>		<b>P</b>
3.1	Pre-checks		P
3.1.1	Examination before environmental conditioning.		P
3.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
3.1.1.2	EUT working condition	EUT was working fine before the change of temperature test.	P
3.2	Change Of Temperature Test Specification		

Graph:



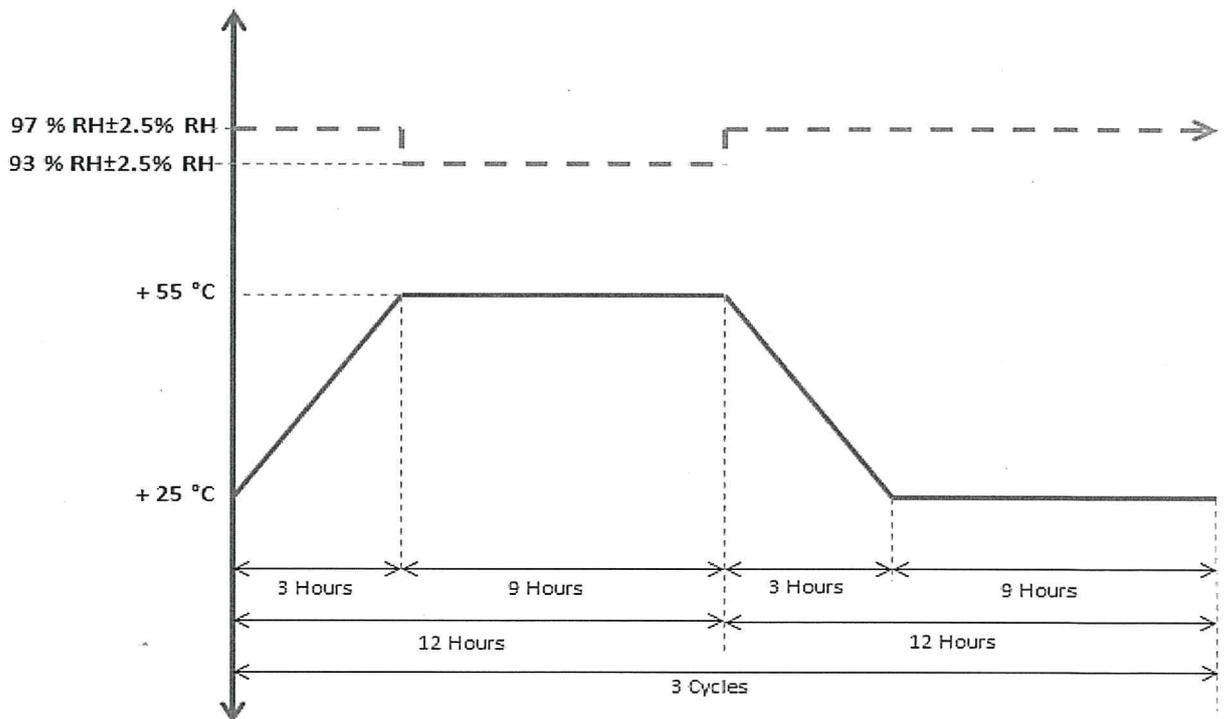
	EUT Operating Condition	Powered OFF	-
	Test Temperature	Upper: +55° C Lower: -5°C	-
	Rate of change of temperature	1°C/min	-
	Dwell Time	1 Hour at each temperature	-
	No. of cycles	5 Cycle's	-

3.3	Post check: Examination after environmental conditioning		P
3.3.1	Physical damages	No physical damages were observed	P
3.3.2	EUT working condition	EUT was working fine after the change of temperature test.	P

Environmental Testing			
Clause	Requirement + Test	Result - Remark	Verdict

<b>4</b>	<b>Damp Heat cyclic as per IEC 60068-2-30</b>		<b>P</b>
4.1	Pre-checks		P
4.1.1	Examination before environmental conditioning.		P
4.1.1.1	Physical damages	EUT in good condition at the beginning of the test	P
4.1.1.2	EUT working condition	EUT was working fine before the damp heat cyclic test	P
4.2	Damp Heat Cyclic Test Specification		

Graph:



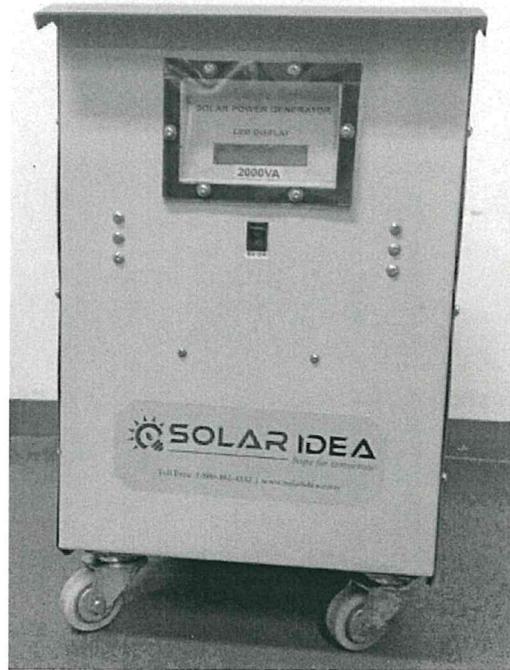
	EUT Operating Condition	Powered OFF	-
	Ramp -up / -down time	3 Hours	-
	One Cycle duration	12 Hours +12 Hours	-
	No. of cycles	3 Cycle's	-
	Total Test Duration	72 Hours	-

4.3	Post check: Examination after environmental conditioning		P
4.3.1	Physical damages	No physical damages were observed.	P
4.3.2	EUT working condition	EUT was working fine after the damp heat cyclic test.	P

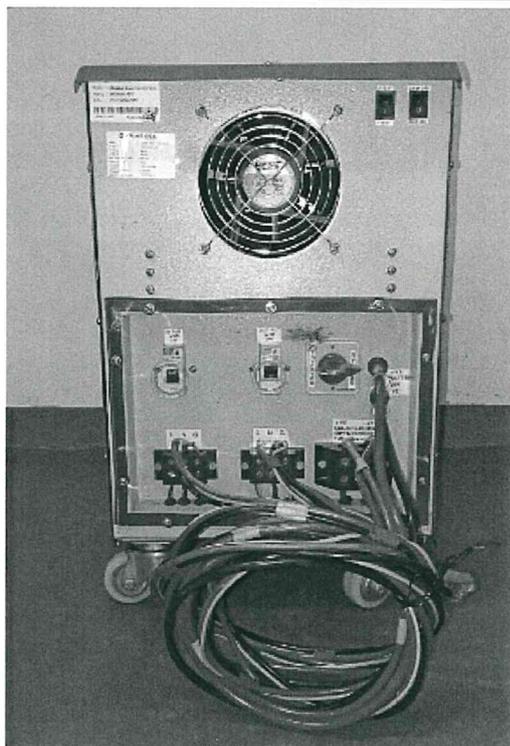
Environmental Testing

Attachment-1

Photo Document



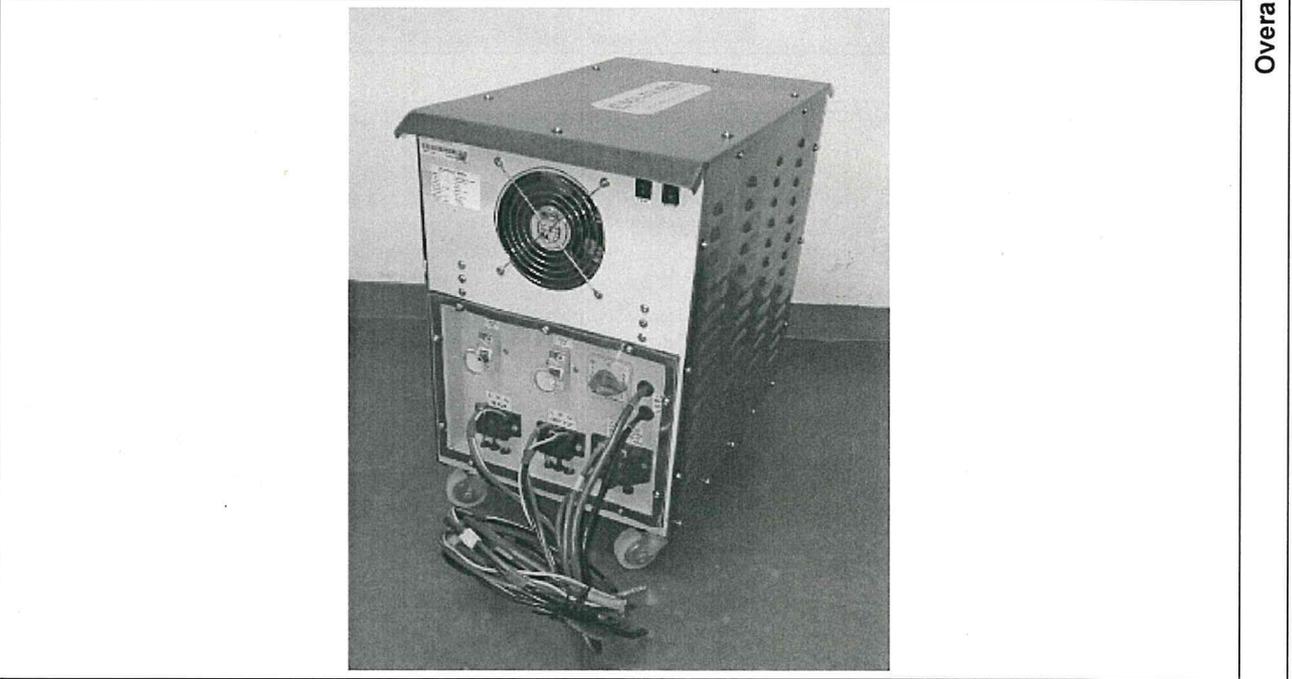
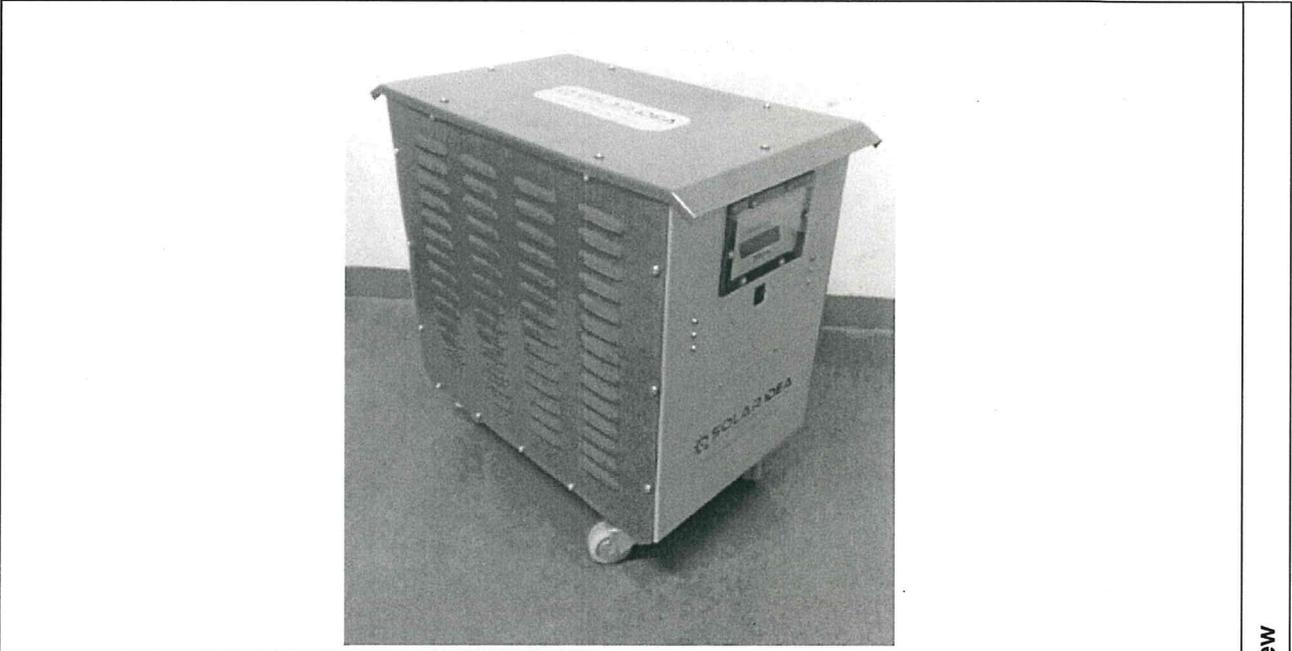
Front view



Rear view

Environmental Testing

Attachment-1



Overall View

\*\*\* End of Test Report \*\*\*