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|---|--|--|--|
| <b>Prüfbericht - Nr.:</b> 19630483 001<br><i>Test Report No.:</i>   |  | <b>Seite 1 von 6</b><br><i>Page 1 of 6</i>   |  |
| <b>Auftraggeber:</b><br><i>Client:</i>  | <b>Solar Idea Pvt. Ltd.</b><br>8-2-277/A/7, Plot No.126, Road No.2, Banjara Hills,<br>Hyderabad – 500034, Telangana, India                           |  |  |
| <b>Gegenstand der Prüfung:</b><br><i>Test item:</i>   | Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller  |  |  |
| <b>Bezeichnung:</b><br><i>Identification:</i>   | 5000VA   | <b>Serien-Nr.:</b><br><i>Serial No.:</i>   | 121506001813                                 |
| <b>Wareneingangs-Nr.:</b><br><i>Receipt No.:</i>  | 1803110293   | <b>Eingangsdatum:</b><br><i>Date of receipt:</i>   | 2015.12.22                                   |
| <b>Prüfört:</b><br><i>Testing location:</i>   | <b>TÜV Rheinland (India) Pvt. Ltd.</b><br>Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road<br>Bangalore - 560 100, Karnataka, India |  |  |
| <b>Prüfgrundlage:</b><br><i>Test specification:</i>   | Rated Output Efficiency measurement with Resistive load as per table 1 of IEC 61683:1999 as per customer's requirement.                              |  |  |
| <b>Prüfergebnis:</b><br><i>Test Result:</i>   | Refer section " Summary of testing"  |  |  |
| <b>Prüflaboratorium:</b><br><i>Testing Laboratory:</i>  | <b>TÜV Rheinland (India) Pvt. Ltd.</b><br>Plot No.17B, Electronic City Phase II Industrial Area, Hosur Road<br>Bangalore - 560 100, Karnataka, India |  |  |
| <b>geprüft/tested by:</b>   |  | <b>kontrolliert/reviewed by:</b>   |  |
| <p>2016.01.27      <br/>Manjunath.K / Sr. Engineer</p>   |  | <p>2016.01.27      <br/>Kamalaksha CS / Sr. Manager</p> |  |
| <b>Datum</b><br><i>Date</i>   | <b>Name/Stellung</b><br><i>Name/Position</i>   | <b>Unterschrift</b><br><i>Signature</i>  | <b>Datum</b><br><i>Date</i>                  |
|   |  |  | <b>Name/Stellung</b><br><i>Name/Position</i> |
|   |  |  | <b>Unterschrift</b><br><i>Signature</i>      |
| <b>Sonstiges/Other Aspects:</b>   |  |  |  |
| According to the customer's requirement, the rated output efficiency measurement test conducted with resistive load.  |  |  |  |
| This report consists of 6 pages including the following attachments:<br>Attachment 1: Photo Document  |  |  |  |
| <b>Abkürzungen:</b>   | <i>P(ass) = entspricht Prüfgrundlage</i>   | <b>Abbreviations:</b>  | <i>P(ass) = passed</i>                       |
| <i>F(ail) = entspricht nicht Prüfgrundlage</i>  |  | <i>F(ail) = failed</i>   |  |
| <i>N/A = nicht anwendbar</i>  |  | <i>N/A = not applicable</i>  |  |
| <i>N/T = nicht getestet</i>   |  | <i>N/T = not tested</i>  |  |
| <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> |  |  |  |

**TEST REPORT**  
**EFFICIENCY TESTING**

|  |  |               |
|--|--|---------------|
| <b>Report reference No</b> .....   | 19630483 001   |               |
| Tested by<br>(printed name and signature).....   | (see cover page) .....   |               |
| Approved by<br>(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<br>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,<br>Hyderabad – 500034, Telangana, India                |               |
| <b>Test specification</b> .....  |  |               |
| Standard .....   | IEC 61683:1999 as per customer's requirement.  |               |
| Test procedure.....  | QMA 37.501.03  |               |
| Non-standard test method .....   | N/A  |               |
| <b>Test Report Form No.</b> .....  | TUVR_EFF_R1  |               |
| TRF originator .....   | TUVR   |               |
| Master TRF .....   | 2009.08.20   |               |
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| Test item description.....   | Classic Solar Power Conditioning Unit with inbuilt MPPT charge Controller                                  |               |
| Manufacturer.....  | Solar Idea Pvt. Ltd.   |               |
| Model and/or type reference.....   | 5000VA   |               |
| Serial number.....   | 121506001813   |               |
| Rating(s) .....  | RATING   | :5kVA/5kW     |
|  | BATTERY  | :96VDC        |
|  | OUT PUT VOLTAGE  | :230VAC ± 1%  |
|  | FREQUENCY  | :50Hz         |
|  | AC MAINS   | :160 – 300VAC |
|  | MPPT VOLTAGE   | :<160VDC      |
|  | CURRENT  | :30Amps       |
|  | Manufactured Month   | :OCT2015      |

## Efficiency Testing

## Copy of marking plate:



Model : Classic Solar PCU with Inbuilt MPPT charge controller  
 SL.No : 121506001813  
 RATING : 5KVA/5KW  
 BATTERY : 96VDC  
 OUT PUT VOLTAGE : 230VAC  $\pm$  1%  
 FREQUENCY : 50Hz  
 AC MAINS : 160 - 300VAC  
 MPPT VOLTAGE :  $\pm$ 160VDC  
 CURRENT : 30Amps  
 Manufactured Month : Dec 2015

## General product information:

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

## Particulars: test item vs. test requirements

Operating condition ..... : Input: High current DC Power supply (0-120V/120A)  
Output: 230VAC/50Hz with resistive load.

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 ..... : 2016.01.05

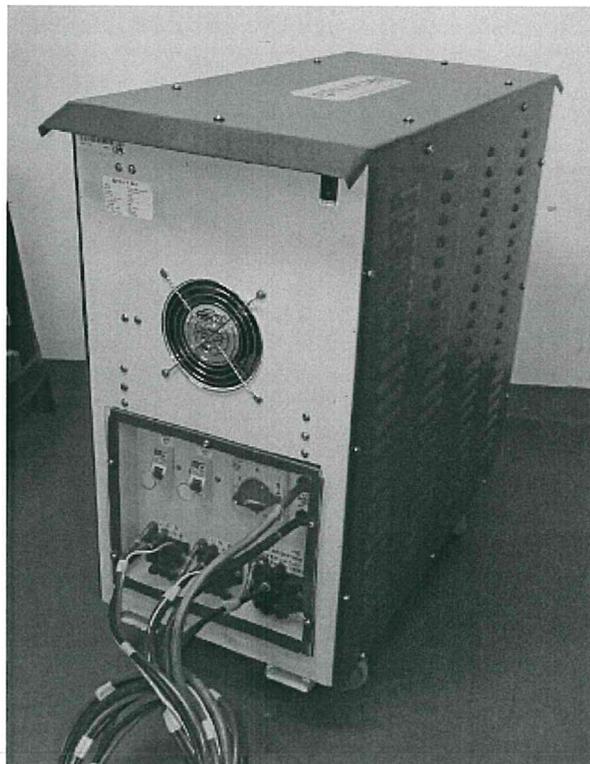
## Efficiency Testing

## Summary of testing:

| Table 1                                |  |        |         |         |         |         |         |         |
|--|--|--------|---------|---------|---------|---------|---------|---------|
| Model/Type                             | 5000VA   |        |         |         |         |         |         |         |
| Sl. No.:                               | 121506001813   |        |         |         |         |         |         |         |
| Load type:                             | Resistive load   |        |         |         |         |         |         |         |
| Load (%)                               | 5  | 10     | 25      | 50      | 75      | 100     | 120     |         |
| Actual load (%)                        | N/A  | 10.13  | 24.98   | 50.12   | 75.02   | 100.14  | 121.68  |         |
| DC Input Voltage (V)                   | 96.20  | 96.2   | 96.1    | 96.00   | 96.00   | 96.00   | 96.20   |         |
| DC Input Current (A)                   | 3.80   | 6.75   | 14.7    | 29.80   | 45.00   | 60.80   | 74.10   |         |
| DC Input Power (W)                     | 365.56   | 649.35 | 1412.67 | 2860.80 | 4320.00 | 5836.80 | 7128.42 |         |
| Output                                 | Frequency(Hz)  | 49.93  | 49.93   | 49.94   | 49.94   | 49.94   | 49.94   | 49.94   |
|  | Voltage (V)  | 229.91 | 229.78  | 230.42  | 230.76  | 230.65  | 230.65  | 231.10  |
|  | Current (A)  | 1.09   | 2.20    | 5.42    | 10.86   | 16.26   | 21.70   | 26.32   |
|  | Power Factor   | 1.00   | 1.000   | 1.000   | 1.000   | 1.000   | 1.000   | 1.00    |
|  | THD (V in %)   | 3.65   | 4.27    | 4.46    | 4.37    | 4.07    | 3.64    | 3.86    |
|  | THD (I in %)   | 3.03   | 3.95    | 4.21    | 4.24    | 4.00    | 3.58    | 3.82    |
|  | Power (W)  | 250.46 | 506.50  | 1249.00 | 2506.10 | 3751.20 | 5006.80 | 6084.00 |
|  | Power (VA)   | 250.48 | 506.50  | 1249.00 | 2506.10 | 3751.20 | 5006.80 | 6084.00 |
| Rated Output Efficiency (%)            | 68.51  | 78.00  | 88.41   | 87.60   | 86.83   | 85.78   | 85.35   |         |
| Overall Efficiency (%) (25 -100% Load) | 87.15  |        |         |         |         |         |         |         |
| No-Load loss                           | 96.11V 1.18A= 113.4W   |        |         |         |         |         |         |         |
| Standby loss                           | 96.08V 0.0829mA=7.96W  |        |         |         |         |         |         |         |
| Note:                                  | The above readings are taken at an ambient temperature of 25°C ± 2°C |        |         |         |         |         |         |         |

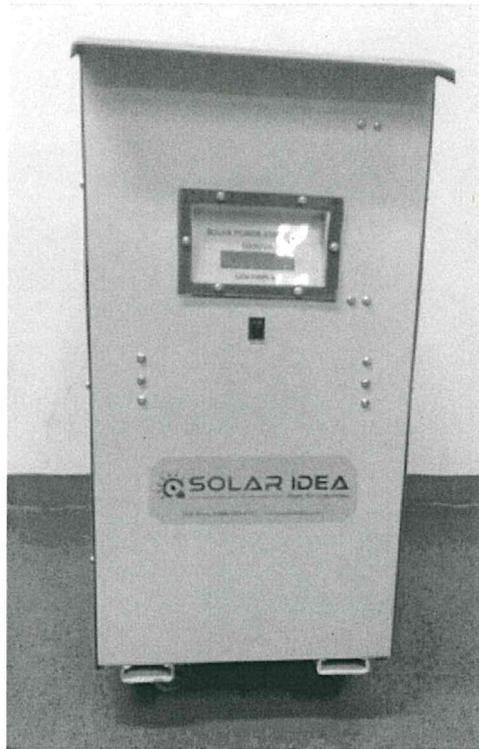
Efficiency Testing

Attachment-1: Photo Document

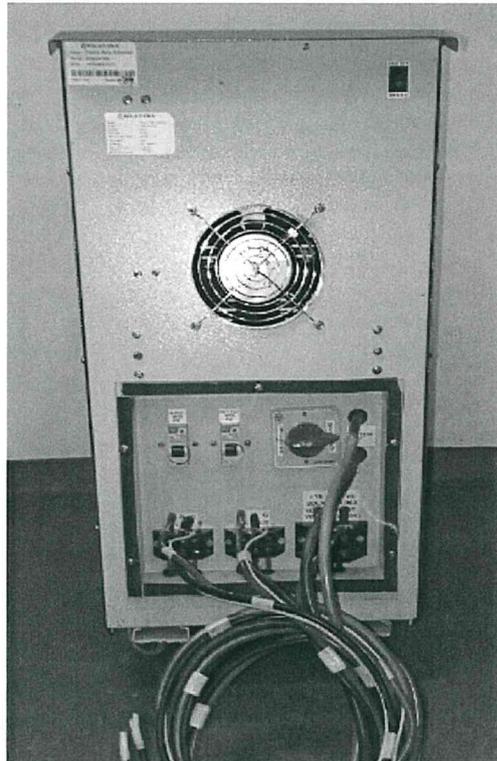


Overall View

Efficiency Testing



Front View



Rear View

\* End of Report \*