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| <p>TEST REPORT IEC 61683</p> <p>Photovoltaic systems – Power conditioners – Procedure for measuring efficiency</p> | |
| <p>Report Number.: 2217 / 1094 – 4 – M2 (*)</p> <p><i>(*)This is a co- report of the report 2217 / 1094 – 4 – M1, for detailed information refer to page 8.</i></p> <p>Date of issue: 18 / 06 / 2019</p> <p>Total number of pages..... 26</p> | |
| <p>Applicant's name.....: EVOLVE ENERGY GROUP CO., LIMITED</p> <p>Address: RM 702, 7/F FU FAI COMM CTR 27 HILLIER ST SHEUNG WAN, HK</p> | |
| <p>Test specification:</p> <p>Standard: IEC 61683:1999 (First Edition)</p> <p>Test procedure: Characteristic Examination</p> <p>Non-standard test method.....: N/A</p> | |
| <p>Test Report Form No......: IEC61683A</p> <p>Test Report Form(s) Originator.....: TÜV SÜD Product Service GmbH</p> <p>Master TRF.....: Dated 2014-10</p> | |
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| | |
|--------------------------------------|---|
| Test item description : | Solar Grid-tied Inverter |
| Trade Mark : |  |
| Manufacturer | EVOLVE ENERGY GROUP CO., LIMITED |
| Model/Type reference | EVVO 6000TLG2, EVVO 5000TLG2, EVVO 4600TLG2 EVVO4000TLG2, EVVO 3600TLG2, EVVO3000TLG2 |
| Ratings | <p>EVVO 6000TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 27.3A, 6000VA</p> <p>EVVO 5000TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 22.8A, 5000VA</p> <p>EVVO 4600TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 21A, 4600VA</p> <p>EVVO 4000TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 18.2A, 4000VA</p> <p>EVVO 3600TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 16.8A, 3680VA</p> <p>EVVO 3000TLG2 DC input: 90-580V, 11/11A. AC output: 230V, 50Hz, 13.7A, 3000VA</p> <p>Serial Number: ZG1ES060H61001 ZH1ES160H9S999 for spot-check test</p> <p>Firmware version: V0.22</p> |

| | | |
|--|---|--|
| Testing procedure and testing location: | | |
| Test date from 30/10/2017 to 11/11/2017 (location 1) and 24/04/2019 and 06/05 2019 (location 2) | | |
| <input checked="" type="checkbox"/> | Testing procedure: TMP/CTF Stage 1: | Shenzhen SOFAR SOLAR Co., Ltd. |
| Testing location/ address.....: | Location 1: 5/F, Building 4, Antongda Industrial Park, No. 1 Liuxian Avenue, Xin'an Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China Location 2: 401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District, Shenzhen City, Guangdong Province, P.R. China | |
| Tested by (name + signature).....: | Roger Hu (Project Engineer) |  |
| Approved by (name + signature).....: | Jacobo Tevar (Technical Reviewer) | P.A.  |

| List of Attachments (including a total number of pages in each attachment): | | |
|--|--|----------|
| 50Hz | | |
| Attachment # | Description | Pages |
| Attachment I | Pictures of the EUT and Electrical Schemes | 12 pages |
| Attachment II | Testing Information | 5 pages |
| Summary of testing: | | |
| <p>Tests performed (name of test and test clause):</p> <p>The equipment has been tested according to the standard: IEC 61683:1999. Testing has been carried out at 50Hz.</p> <p>All applicable tests according to the above specified standard have been carried out.</p> <p>From the result of inspection and tests on the submitted sample, we conclude that it complies with the requirements of the standard.</p> <p>This report is a first issuance for a co-license based on report number 2217 / 1094 – 4– M1, See further information in page 8.</p> | <p>Testing location:</p> <p>Test date from 30/10/2017 to 11/11/2017:</p> <p>Shenzhen SOFAR SOLAR Co., Ltd. 5/F, Building 4, Antongda Industrial Park, No. 1 Liuxian Avenue, Xin'an Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China (All Clauses)</p> <p>Test date on 24/04/2019 and 06/05 2019:</p> <p>Shenzhen SOFAR SOLAR Co., Ltd. 401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District, Shenzhen City, Guangdong Province, P.R. China (Repetition of Clause 4.3)</p> | |
| Summary of compliance with National Differences | | |
| List of countries addressed | | |
| No National Differences are addressed to this test report | | |

Copy of marking plate(representative):

| EVVO Solar Grid-tied Inverter | |
|---|-----------------------|
| Model No: | EVVO 6000TLG2 |
| Max.DC Input Voltage | 600V |
| Operating MPPT Voltage Range | 90–580V |
| Max. Input Current | 2x11A |
| Max. PV Isc | 2x13.2A |
| Nominal Grid Voltage | 230V |
| Max. Output Current | 27.3A |
| Nominal Grid Frequency | 50/60Hz |
| Nominal Output Power | 6000W |
| Max. Output Power | 6000VA |
| Power Factor | 1 (adjustable +/-0.8) |
| Ingress Protection | IP65 |
| Operating Temperature Range | -25°C~ +60°C |
| Protection Class | Class I |
| Inverter Topology | Non-Isolated |
| Factory - Shenzhen China | |
| Manufacturer : EVOLVE ENERGY GROUP CO., LIMITED | |
| Address :RM 702, 7/F FU FAI COMM CTR 27 HILLIER ST | |
| SHEUNG WAN, HK | |
| Global Head Quarters | |
| 371 Sidco Industrial Estate | |
| Chennai 600098 India | |
| VDE0126-1-1, G99, EN50438, AS4777, IEC62116, IEC61727 | |
| | |

Note:

1. The above markings are the minimum requirements required by the safety standard. For the final production samples, the additional markings which do not give rise to misunderstanding may be added.
2. Label is attached on the side surface of enclosure and visible after installation
3. Labels of other models are as the same with EVVO 6000TLG2's except the parameters of rating.

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| Test item particulars : Single Phase Inverter | |
| Classification of installation and use : Fixed(permanent connection) | |
| Supply Connection : DC; PV | |
| : AC; Grid connection | |
| Possible test case verdicts: | |
| - 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) | |
| Testing : CTF Stage 1 procedure | |
| Date of receipt of test item : N/A | |
| Date (s) of performance of tests : From 30/10/2017 to 11/11/2017, 24/04/2019 and 06/05 2019 | |
| General remarks: | |
| <p>"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.</p> <p>This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at www.sgs.com/terms_and_conditions.htm and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at www.sgs.com/terms_e-document.htm. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.</p> <p>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</p> | |
| Manufacturer's Declaration per sub-clause 4.2.5 of IECCE 02: | |
| 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 <input checked="" type="checkbox"/> Not applicable |
| When differences exist; they shall be identified in the General product information section. | |
| Name and address of factory (ies) : Dongguan SOFAR SOLAR Co., Ltd. | |
| 1F - 6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City, Guangdong Province,P.R. China. | |

General product information:

Product covered by this report is grid-connected PV inverter for indoor or outdoor installation. The connection to the DC input and AC output are through connectors. The structure of the unit complied with the IP 65 requirement.

The inverters intended to operate at ambient temperature -25°C - $+60^{\circ}\text{C}$, which will be specified in the user manual, however, the inverters will output full power when operated at 45°C , if operated at higher than 45°C temperature, the output power would be derate.

The Solar inverter converts DC voltage into AC voltage.

The input and output are protected by varistors to Earth. The unit is providing EMC filtering at the output toward mains. The unit does not provide galvanic separation from input to output (transformerless). The output is switched off redundant by the high power switching bridge and a two relays. This assures that the opening of the output circuit can operate in case of one error.

Equipment Under Testing:

- EVVO 6000TLG2
- EVVO 5000TLG2
- EVVO 4600TLG2
- EVVO 4000TLG2
- EVVO 3600TLG2
- EVVO 3000TLG2

| Product Model | EVVO 3000TL G2 | EVVO 3600TL G2 | EVVO 4000TL G2 | EVVO 4600TL G2 | EVVO 5000TL G2 | EVVO 6000TL G2 |
|-----------------------------|--------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Input (DC) | | | | | | |
| Max.DC Input Power | 3500W | 4000W | 4400W | 5000W | 5500W | 6600W |
| Max.DC Voltage | 600V | | | | | |
| Power Turn on | 80V | | | | | |
| Start-up input voltage | 120V | | | | | |
| Rated input voltage | 360V | | | | | |
| MPPT Voltage Range | 90-580V | | | | | |
| Full load DC voltage range | 160- 520V | 180- 520V | 200- 520V | 230- 520V | 250- 520V | 300- 520V |
| MAX input current per MPPT | 11A/11A | | | | | |
| Number of DC inputs | 2/2 | | | | | |
| Output(AC) | | | | | | |
| Max AC Output power | 3000VA | 3680VA | 4000VA | 4600VA | 5000VA | 6000VA |
| Max AC Output power (PF=1) | 3000W | 3680W | 4000W | 4600W | 5000W | 6000W |
| Max AC Output Current | 13.7A | 16.8A | 18.2A | 21A | 22.8A | 27.3A |
| Nominal Grid Voltage | 230Vac(Single phase) | | | | | |
| Nominal Frequency | 50Hz | | | | | |
| Power factor | 1(adjustable+/-0.9) | | | | | |
| Topology | Transformerless | | | | | |
| Operating temperature range | $-25-60^{\circ}\text{C}$ | | | | | |
| Degree of protection | IP65 | | | | | |

The variants models have been included in this test report without tests because the following features don't change regarding to the tested model:

- Same connection system and hardware topology
- Same control algorithm.
- Output power within 2.5 and 2/3 of the EUT or Modular inverters
- Same Firmware Version

The report nº 2217 / 1094 – 4 – M1 was modified based on Report No. 2217 / 1094 – 4 with following points:

1. Modified the Applicant address from:

5/F, Building 4, Antongda Industrial Park, No. 1 Liuxian Avenue, Xin'an Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

to

401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District, Shenzhen City, Guangdong Province, P.R. China

2. Modified the Factory name and address from:

Shenzhen SOFARSOLAR Co., Ltd.

5/F, Building 4, Antongda Industrial Park, No. 1 Liuxian Avenue, Xin'an Street, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

to

Dongguan SOFAR SOLAR Co., Ltd.

1F - 6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town, Dongguan City, Guangdong Province, P.R. China.

3. Add spot-check test for SOFAR 6KTLM-G2 Efficiency TEST b) The inverter's nominal voltage condition in page 14.

The report nº 2217 / 1094 – 4 – M2 is a co-report based on Report No. 2217 / 1094 – 4 – M1.

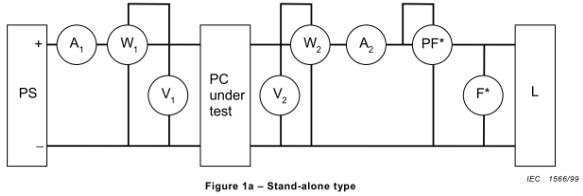
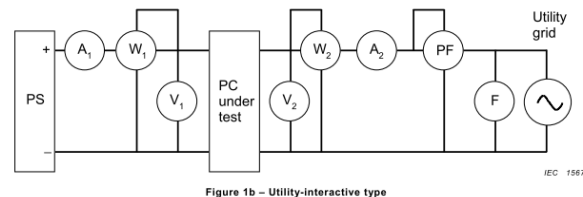
The report is issued including the co-license for EVOLVE ENERGY GROUP CO., LIMITED.

Models are the same as appearing in the base reports with different denomination and trademark.

Editorial changes have been included to change the applicant and trademark references.

| IEC 61683: 1999 | | | |
|-----------------|---|---|---------|
| Clause | Requirement – Test | Measuring result – Remark | Verdict |
| 4 | Efficiency measurement conditions | | P |
| | Efficiency is measured under the conditions in the following clauses. | | P |
| | Specific conditions may be excluded by mutual agreement when those conditions are outside the manufacturer's allowable operating range. | | P |
| 4.1 | DC power source for testing | | P |
| | For power conditioners operating with fixed input voltage, the d.c. power source is a storage battery or constant voltage power source to maintain the input voltage. | | N/A |
| | For power conditioners that employ maximum power point tracking (MPPT) and shunt-type power conditioners, either a photovoltaic array or a photovoltaic array simulator is utilized. | | P |
| 4.2 | Temperature | | P |
| | All measurements are to be made at an ambient temperature of $25\text{ }^{\circ}\text{C} \pm 2\text{ }^{\circ}\text{C}$. | | N/A |
| | Other ambient temperatures may be allowed by mutual agreement. However, the temperature used must be clearly stated in all documentation. | By mutual agreement all measurements at 50 Hz have been carried out at $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ | P |
| 4.3 | Output voltage and frequency | | P |
| | The output voltage and frequency are maintained at the manufacturer's stated nominal values. | 230Vac, 50Hz | P |
| 4.4 | Input voltage | | P |
| | Measurements performed in each of the following tests are repeated at three power conditioner input voltages: a) manufacturer's minimum rated input voltage; b) the inverter's nominal voltage or the average of its rated input range; c) 90 % of the inverter's maximum input voltage. | | P |
| | In the case where a power conditioner is to be connected with a battery at its input terminals, only the nominal or rated input voltage may be applied. | | N/A |
| 4.5 | Ripple and distortion | | P |
| | Record input voltage and current ripple for each measurement. Also record output voltage and current distortion (if a.c.) or ripple (if d.c.). Ensure that these measurements remain within the manufacturer's specified values. | | P |
| 4.6 | Resistive loads/utility grid | | P |

| IEC 61683: 1999 | | | |
|-----------------|--|---------------------------|---------|
| Clause | Requirement – Test | Measuring result – Remark | Verdict |
| | At unity power factor, or at the intrinsic power factor of grid-connected inverters without power factor adjustment, measure the efficiency for power levels of 10 %, 25 %, 50 %, 75 %, 100 % and 120 % of the inverter's rating. | | P |
| | Stand-alone inverters are also measured at a power level of 5 % of rated. The power conditioner test is conducted with a specified resistive and reactive grid impedance. | | N/A |
| 4.7 | Reactive loads | | N/A |
| | For stand-alone inverters, measure the efficiency with a load which provides a power factor equal to the manufacturer's specified minimum level (or 0,25, whichever is greater) and at power levels of 25 %, 50 % and 100 % of rated VA. | | N/A |
| | Repeat for power factors of 0,5 and 0,75 (do not go below the manufacturer's specified minimum PF) and power levels of 25 %, 50 %, and 100 % of rated VA. | | N/A |
| 4.8 | Resistive plus non-linear loads | | N/A |
| | For stand-alone inverters, measure the efficiency with a fixed non-linear load (total harmonic distortion (THD) = $(80 \pm 5) \%$) equal to $(25 \pm 5) \%$ of the inverter's rated VA plus sufficient resistive load in parallel to achieve a total load of 25 %, 50 % and 100 % of rated VA. | | N/A |
| | Repeat the measurements with a fixed non-linear load equivalent to $(50 \pm 5) \%$ of the inverter's rated VA plus sufficient resistive load in parallel to achieve a total load of 50% and 100% of rated VA. | | N/A |
| | The type of non-linear load must be clearly stated in all documentation. | | N/A |
| 4.9 | Complex loads | | N/A |
| | When a non-linear plus a sufficient reactive load condition is specified for stand-alone inverters, measure the efficiency with a fixed non-linear load (THD = $(80 \pm 5) \%$) equal to $(50 \pm 5) \%$ of the inverter's rated VA plus a sufficient reactive load (PF = 0,5) in parallel to achieve a total load of 50 % and 100 % of rated VA. | | N/A |
| | The type of complex load is clearly stated in all documentation. | | N/A |
| 5 | Efficiency calculations | | P |
| 5.1 | Rated output efficiency | | P |

| IEC 61683: 1999 | | | |
|-----------------|--|---------------------------|---------|
| Clause | Requirement – Test | Measuring result – Remark | Verdict |
| 5.2 | Partial output efficiency | | P |
| 5.3 | Energy efficiency | | P |
| 5.4 | Efficiency tolerances | | P |
| 6 | Conditions of loading for output ports | | P |
| 6.1 | Test circuit | | P |
| | Figure 1a is applied to standard-alone power conditioners | | N/A |
| |  <p>Figure 1a – Stand-alone type IEC 1566/99</p> | | N/A |
| | Figure 1b is applied to utility-interactive power conditioners | | P |
| |  <p>Figure 1b – Utility-interactive type IEC 1567/99</p> <p>PC power conditioner PS variable voltage-current d.c. power supply A₁ DC ammeter A₂ AC or d.c. ammeter W₁ DC wattmeter W₂ AC or d.c. wattmeter L load F frequency meter V₁ DC voltmeter V₂ AC or d.c. voltmeter PF power factor meter</p> | | P |
| 6.2 | Measurement procedure | | P |
| 7 | Loss measurement | | P |
| 7.1 | No-load loss | | P |
| 7.2 | Standby loss | | P |
| Annex A | Power conditioner description | | P |
| Annex B | Power efficiency and conversion factor | | P |
| Annex C | Weighted-average energy efficiency | | P |
| Annex D | Derivation of efficiency tolerance in table 2 | | P |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|--------|--------|--------|--------|---------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 6000TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:300V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 6000W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 301.0 | 303.5 | 300.4 | 300.1 | 300.4 | / | / | / |
| Input voltage ripple (V) | / | 0.9 | 1.9 | 3.7 | 5.5 | 7.2 | / | / | / |
| Input current (A) | / | 2.1 | 5.1 | 10.4 | 15.6 | 20.1 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.5 | 0.8 | 1.2 | 1.6 | / | / | / |
| Input power (Pi) (kW) | / | 0.629 | 1.553 | 3.115 | 4.657 | 6.243 | / | / | / |
| Output power (Po) (kW) | / | 0.601 | 1.500 | 3.016 | 4.503 | 6.017 | / | / | / |
| Output efficiency(%) | / | 95.55 | 96.59 | 96.82 | 96.69 | 96.38 | / | / | / |
| Input energy (Wi) (Wh) | / | 10.468 | 25.907 | 51.886 | 77.599 | 104.054 | / | / | / |
| Output energy (Wo) (Wh) | / | 9.969 | 25.044 | 50.261 | 75.029 | 100.306 | / | / | / |
| Energy efficiency(%) | / | 95.23 | 96.67 | 96.87 | 96.69 | 96.40 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 358.1 | 357.5 | 357.6 | 357.0 | 364.6 | / | / | / |
| Input voltage ripple (V) | / | 1.2 | 2.4 | 4.8 | 7.0 | 8.3 | / | / | / |

| | | | | | | | | | |
|--|--|--------|--------|--------|--------|---------|-------|---|---|
| Input current (A) | / | 1.7 | 4.3 | 8.7 | 13.0 | 17.0 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.6 | 1.1 | 1.6 | 1.9 | / | / | / |
| Input power (Pi) (kW) | / | 0.622 | 1.544 | 3.090 | 4.626 | 6.179 | / | / | / |
| Output power (Po) (kW) | / | 0.597 | 1.507 | 3.010 | 4.510 | 6.006 | / | / | / |
| Output efficiency(%) | / | 95.98 | 97.60 | 97.41 | 97.49 | 97.20 | / | / | / |
| Input energy (Wi) (Wh) | / | 10.352 | 25.719 | 51.509 | 77.083 | 103.035 | / | / | / |
| Output energy (Wo) (Wh) | / | 9.959 | 25.088 | 50.296 | 75.131 | 100.169 | / | / | / |
| Energy efficiency(%) | / | 96.20 | 97.55 | 97.65 | 97.47 | 97.22 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 464.5 | 466.1 | 468.2 | 468.1 | 464.6 | / | / | / |
| Input voltage ripple (V) | | 1.0 | 1.9 | 4.0 | 5.4 | 7.2 | / | / | / |
| Input current (A) | / | 1.4 | 3.3 | 6.6 | 9.9 | 13.4 | / | / | / |
| Input current ripple (A) | | 0.2 | 0.5 | 0.9 | 1.4 | 1.8 | / | / | / |
| Input power (Pi) (kW) | / | 0.627 | 1.544 | 3.090 | 4.638 | 6.185 | / | / | / |
| Output power (Po) (kW) | / | 0.601 | 1.498 | 3.011 | 4.515 | 5.995 | / | / | / |
| Output efficiency(%) | / | 95.85 | 97.02 | 97.44 | 97.35 | 96.93 | / | / | / |
| Input energy (Wi) (Wh) | / | 10.439 | 25.739 | 51.495 | 77.298 | 103.107 | / | / | / |
| Output energy (Wo) (Wh) | / | 10.009 | 25.030 | 50.192 | 75.232 | 100.089 | / | / | / |
| Energy efficiency(%) | / | 95.88 | 97.25 | 97.47 | 97.33 | 97.07 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | Spot-check test for Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|--------|--------|--------|--------|---------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 6000TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:300V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 6000W | | | | | | | | |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 361.1 | 358.6 | 359.6 | 360.5 | 359.1 | / | / | / |
| Input voltage ripple (V) | / | 1.6 | 2.1 | 5.2 | 7.8 | 9.8 | / | / | / |
| Input current (A) | / | 1.8 | 4.4 | 8.7 | 13.0 | 17.3 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.3 | 0.3 | 0.4 | 0.7 | / | / | / |
| Input power (Pi) (kW) | / | 0.634 | 1.571 | 3.125 | 4.668 | 6.199 | / | / | / |
| Output power (Po) (kW) | / | 0.616 | 1.541 | 3.063 | 4.567 | 6.041 | / | / | / |
| Output efficiency(%) | / | 97.19 | 98.02 | 98.01 | 97.78 | 97.49 | / | / | / |
| Input energy (Wi) (Wh) | / | 10.384 | 25.735 | 51.209 | 76.501 | 101.590 | / | / | / |
| Output energy (Wo) (Wh) | / | 10.093 | 25.224 | 50.187 | 74.807 | 99.043 | / | / | / |
| Energy efficiency(%) | / | 97.20 | 98.01 | 98.00 | 97.79 | 97.49 | / | / | / |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|-------|--------|--------|--------|--------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 5000TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:250V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 5000W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 249.3 | 248.4 | 250.5 | 250.3 | 247.2 | / | / | / |
| Input voltage ripple (V) | / | 0.9 | 1.5 | 2.7 | 3.8 | 5.2 | / | / | / |
| Input current (A) | / | 2.1 | 5.2 | 10.4 | 15.6 | 21.1 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.3 | 0.6 | 0.9 | 1.2 | / | / | / |
| Input power (Pi) (kW) | / | 0.532 | 1.302 | 2.593 | 3.888 | 5.207 | / | / | / |
| Output power (Po) (kW) | / | 0.501 | 1.252 | 2.503 | 3.753 | 5.011 | / | / | / |
| Output efficiency(%) | / | 94.17 | 96.16 | 96.53 | 96.53 | 96.24 | / | / | / |
| Input energy (Wi) (Wh) | / | 8.851 | 21.695 | 43.212 | 64.816 | 86.747 | / | / | / |
| Output energy (Wo) (Wh) | / | 8.367 | 20.873 | 41.734 | 62.527 | 83.469 | / | / | / |
| Energy efficiency(%) | / | 94.53 | 96.21 | 96.58 | 96.47 | 96.22 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 362.3 | 359.1 | 359.1 | 358.4 | 359.0 | / | / | / |
| Input voltage ripple (V) | / | 1.4 | 2.1 | 3.8 | 5.8 | 7.8 | / | / | / |

| | | | | | | | | | |
|--|--|-------|--------|--------|--------|--------|-------|---|---|
| Input current (A) | / | 1.4 | 3.6 | 7.2 | 10.8 | 14.4 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.5 | 0.9 | 1.3 | 1.8 | / | / | / |
| Input power (Pi) (kW) | / | 0.519 | 1.289 | 2.569 | 3.850 | 5.148 | / | / | / |
| Output power (Po) (kW) | / | 0.495 | 1.262 | 2.508 | 3.757 | 5.018 | / | / | / |
| Output efficiency(%) | / | 95.38 | 97.91 | 97.63 | 97.58 | 97.48 | / | / | / |
| Input energy (Wi) (Wh) | / | 8.658 | 21.472 | 42.810 | 64.144 | 85.790 | / | / | / |
| Output energy (Wo) (Wh) | / | 8.315 | 20.920 | 41.804 | 62.563 | 83.498 | / | / | / |
| Energy efficiency(%) | / | 96.04 | 97.43 | 97.65 | 97.54 | 97.33 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 465.7 | 465.6 | 465.8 | 467.2 | 468.3 | / | / | / |
| Input voltage ripple (V) | / | 0.8 | 1.7 | 3.0 | 4.6 | 5.9 | / | / | / |
| Input current (A) | / | 1.1 | 2.8 | 5.5 | 8.3 | 11.0 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.4 | 0.8 | 1.1 | 1.5 | / | / | / |
| Input power (Pi) (kW) | / | 0.523 | 1.297 | 2.571 | 3.851 | 5.154 | / | / | / |
| Output power (Po) (kW) | / | 0.497 | 1.262 | 2.503 | 3.750 | 5.016 | / | / | / |
| Output efficiency(%) | / | 95.03 | 97.30 | 97.36 | 97.38 | 97.32 | / | / | / |
| Input energy (Wi) (Wh) | / | 8.720 | 21.614 | 42.845 | 64.170 | 85.887 | / | / | / |
| Output energy (Wo) (Wh) | / | 8.318 | 20.987 | 41.757 | 62.506 | 83.511 | / | / | / |
| Energy efficiency(%) | / | 95.39 | 97.10 | 97.46 | 97.41 | 97.23 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|-------|--------|--------|--------|--------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 4600TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:230V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 4600W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 228.6 | 228.9 | 231.1 | 229.5 | 240.0 | / | / | / |
| Input voltage ripple (V) | / | 0.7 | 1.1 | 2.3 | 3.3 | 4.5 | / | / | / |
| Input current (A) | / | 2.2 | 5.3 | 10.4 | 15.6 | 20.8 | / | / | / |
| Input current ripple (A) | / | 0.1 | 0.3 | 0.5 | 0.7 | 1.0 | / | / | / |
| Input power (Pi) (kW) | / | 0.491 | 1.208 | 2.392 | 3.581 | 4.786 | / | / | / |
| Output power (Po) (kW) | / | 0.460 | 1.160 | 2.309 | 3.453 | 4.604 | / | / | / |
| Output efficiency(%) | / | 93.69 | 96.03 | 96.53 | 96.43 | 96.20 | / | / | / |
| Input energy (Wi) (Wh) | / | 8.157 | 20.115 | 39.867 | 59.657 | 79.790 | / | / | / |
| Output energy (Wo) (Wh) | / | 7.671 | 19.309 | 38.459 | 57.516 | 76.77 | / | / | / |
| Energy efficiency(%) | / | 94.04 | 95.99 | 96.47 | 96.41 | 96.22 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 360.0 | 360.3 | 360.8 | 361.9 | 360.0 | / | / | / |
| Input voltage ripple (V) | / | 0.9 | 1.9 | 3.5 | 5.7 | 7.1 | / | / | / |

| | | | | | | | | | |
|--|--|-------|--------|--------|--------|--------|-------|---|---|
| Input current (A) | / | 1.3 | 3.3 | 6.6 | 9.8 | 13.2 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.5 | 0.9 | 1.3 | 1.6 | / | / | / |
| Input power (Pi) (kW) | / | 0.489 | 1.189 | 2.363 | 3.538 | 4.725 | / | / | / |
| Output power (Po) (kW) | / | 0.458 | 1.157 | 2.307 | 3.453 | 4.603 | / | / | / |
| Output efficiency(%) | / | 93.66 | 97.31 | 97.63 | 97.60 | 97.42 | / | / | / |
| Input energy (Wi) (Wh) | / | 7.994 | 19.806 | 39.384 | 59.006 | 78.713 | / | / | / |
| Output energy (Wo) (Wh) | / | 7.658 | 19.283 | 38.458 | 57.573 | 76.668 | / | / | / |
| Energy efficiency(%) | / | 95.80 | 97.36 | 97.65 | 97.57 | 97.40 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 464.1 | 469.0 | 468.0 | 469.3 | 466.9 | / | / | / |
| Input voltage ripple (V) | / | 0.8 | 1.5 | 2.8 | 4.0 | 5.5 | / | / | / |
| Input current (A) | / | 1.0 | 2.5 | 5.1 | 7.6 | 10.2 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.4 | 0.7 | 1.1 | 1.4 | / | / | / |
| Input power (Pi) (kW) | / | 0.480 | 1.191 | 2.368 | 3.545 | 4.739 | / | / | / |
| Output power (Po) (kW) | / | 0.457 | 1.152 | 2.318 | 3.456 | 4.620 | / | / | / |
| Output efficiency(%) | / | 95.21 | 96.73 | 97.89 | 97.49 | 97.49 | / | / | / |
| Input energy (Wi) (Wh) | / | 8.010 | 19.855 | 39.447 | 59.081 | 78.943 | / | / | / |
| Output energy (Wo) (Wh) | / | 7.620 | 19.259 | 38.438 | 57.565 | 76.814 | / | / | / |
| Energy efficiency(%) | / | 95.13 | 97.00 | 97.44 | 97.43 | 97.30 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|-------|--------|--------|--------|--------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 4000TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:200V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 4000W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 201.3 | 201.7 | 201.2 | 198.4 | 199.7 | / | / | / |
| Input voltage ripple (V) | / | 0.8 | 1.2 | 2.4 | 3.5 | 4.6 | / | / | / |
| Input current (A) | / | 2.1 | 5.2 | 10.4 | 15.8 | 21.0 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.3 | 0.5 | 0.7 | 1.1 | / | / | / |
| Input power (Pi) (kW) | / | 0.424 | 1.046 | 2.089 | 3.126 | 4.180 | / | / | / |
| Output power (Po) (kW) | / | 0.400 | 1.005 | 2.014 | 3.006 | 4.011 | / | / | / |
| Output efficiency(%) | / | 94.34 | 96.08 | 96.41 | 96.16 | 95.96 | / | / | / |
| Input energy (Wi) (Wh) | / | 7.054 | 17.433 | 34.84 | 52.065 | 69.688 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.651 | 16.741 | 33.561 | 50.070 | 66.818 | / | / | / |
| Energy efficiency(%) | / | 94.29 | 96.03 | 96.33 | 96.17 | 95.88 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 360.3 | 360.5 | 360.3 | 359.3 | 360.5 | / | / | / |
| Input voltage ripple (V) | / | 1.1 | 1.9 | 3.9 | 5.8 | 7.9 | / | / | / |

| | | | | | | | | | |
|--|--|-------|--------|--------|--------|--------|-------|---|---|
| Input current (A) | / | 1.2 | 2.9 | 5.7 | 8.6 | 11.5 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.6 | 1.0 | 1.4 | 1.8 | / | / | / |
| Input power (Pi) (kW) | / | 0.416 | 1.031 | 2.051 | 3.077 | 4.104 | / | / | / |
| Output power (Po) (kW) | / | 0.400 | 1.005 | 2.006 | 3.006 | 4.001 | / | / | / |
| Output efficiency(%) | / | 96.15 | 97.48 | 97.81 | 97.69 | 97.49 | / | / | / |
| Input energy (Wi) (Wh) | / | 6.927 | 17.176 | 34.177 | 51.269 | 68.435 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.677 | 16.767 | 33.421 | 50.070 | 66.706 | / | / | / |
| Energy efficiency(%) | / | 96.39 | 97.62 | 97.79 | 97.66 | 97.47 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 467.6 | 467.2 | 468.7 | 468.8 | 469.1 | / | / | / |
| Input voltage ripple (V) | / | 1.1 | 1.5 | 3.0 | 4.4 | 6.0 | / | / | / |
| Input current (A) | / | 0.9 | 2.2 | 4.4 | 6.6 | 8.8 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.5 | 0.8 | 1.1 | 1.5 | / | / | / |
| Input power (Pi) (kW) | / | 0.416 | 1.037 | 2.055 | 3.081 | 4.119 | / | / | / |
| Output power (Po) (kW) | / | 0.399 | 1.010 | 2.005 | 3.004 | 4.011 | / | / | / |
| Output efficiency(%) | / | 95.91 | 97.40 | 97.57 | 97.50 | 97.38 | / | / | / |
| Input energy (Wi) (Wh) | / | 6.940 | 17.276 | 34.259 | 51.341 | 68.651 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.647 | 16.815 | 33.439 | 50.083 | 66.854 | / | / | / |
| Energy efficiency(%) | / | 95.78 | 97.33 | 97.61 | 97.55 | 97.38 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|-------|--------|--------|--------|--------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 3600TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:180V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 3680W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 181.1 | 179.2 | 181.4 | 180.9 | 180.4 | / | / | / |
| Input voltage ripple (V) | / | 0.8 | 1.1 | 2.0 | 2.9 | 3.8 | / | / | / |
| Input current (A) | / | 2.2 | 5.4 | 10.6 | 15.9 | 21.4 | / | / | / |
| Input current ripple (A) | / | 0.1 | 0.2 | 0.2 | 0.6 | 0.8 | / | / | / |
| Input power (Pi) (kW) | / | 0.393 | 0.964 | 1.921 | 2.877 | 3.846 | / | / | / |
| Output power (Po) (kW) | / | 0.369 | 0.923 | 1.848 | 2.762 | 3.683 | / | / | / |
| Output efficiency(%) | / | 93.89 | 95.75 | 96.20 | 96.00 | 95.76 | / | / | / |
| Input energy (Wi) (Wh) | / | 6.554 | 16.054 | 32.052 | 47.995 | 64.159 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.154 | 15.379 | 30.820 | 46.077 | 61.397 | / | / | / |
| Energy efficiency(%) | / | 93.90 | 95.80 | 96.16 | 96.00 | 95.70 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 357.6 | 358.7 | 362.7 | 359.9 | 357.6 | / | / | / |
| Input voltage ripple (V) | / | 1.1 | 1.7 | 3.5 | 5.5 | 7.2 | / | / | / |

| | | | | | | | | | |
|--|--|-------|--------|--------|--------|--------|-------|---|---|
| Input current (A) | / | 1.1 | 2.7 | 5.3 | 7.9 | 10.6 | / | / | / |
| Input current ripple (A) | / | 0.3 | 0.5 | 0.9 | 1.3 | 1.7 | / | / | / |
| Input power (Pi) (kW) | / | 0.388 | 0.959 | 1.901 | 2.826 | 3.784 | / | / | / |
| Output power (Po) (kW) | / | 0.370 | 0.929 | 1.847 | 2.760 | 3.692 | / | / | / |
| Output efficiency(%) | / | 95.36 | 96.87 | 97.16 | 97.67 | 97.57 | / | / | / |
| Input energy (Wi) (Wh) | / | 6.453 | 15.958 | 31.694 | 47.091 | 63.054 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.127 | 15.440 | 30.787 | 46.009 | 61.497 | / | / | / |
| Energy efficiency(%) | / | 94.95 | 96.75 | 97.14 | 97.70 | 97.53 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 466.8 | 468.4 | 467.9 | 467.4 | 469.5 | / | / | / |
| Input voltage ripple (V) | / | 0.8 | 1.6 | 2.3 | 4.0 | 5.5 | / | / | / |
| Input current (A) | / | 0.8 | 2.0 | 4.1 | 6.1 | 8.1 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.4 | 0.6 | 1.1 | 1.4 | / | / | / |
| Input power (Pi) (kW) | / | 0.385 | 0.955 | 1.890 | 2.834 | 3.781 | / | / | / |
| Output power (Po) (kW) | / | 0.365 | 0.931 | 1.841 | 2.765 | 3.685 | / | / | / |
| Output efficiency(%) | / | 94.81 | 97.49 | 97.41 | 97.57 | 97.46 | / | / | / |
| Input energy (Wi) (Wh) | / | 6.412 | 15.895 | 31.515 | 47.229 | 63.024 | / | / | / |
| Output energy (Wo) (Wh) | / | 6.132 | 15.469 | 30.769 | 46.095 | 61.419 | / | / | / |
| Energy efficiency(%) | / | 95.63 | 97.32 | 97.63 | 97.60 | 97.45 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | Efficiency recording and efficient calculation sheet | | | | | | | | |
|---|--|-------|--------|--------|--------|--------|-------|---|---|
| power conditioner type | Grid-connected | | | | | | | | |
| Model: | EVVO 3000TLG2 | | | | | | | | |
| Parameters of power conditioner | Minimum rated input voltage:160V Nominal voltage:360V Maximum input voltage:520V Rated output voltage:230V Rated output frequency:50Hz Rated output power: 3000W | | | | | | | | |
| PV input voltage | a) Manufacturer's minimum rated input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 160.5 | 160.3 | 161.6 | 161.0 | 160.5 | / | / | / |
| Input voltage ripple (V) | / | 1.0 | 0.9 | 1.5 | 2.1 | 2.7 | / | / | / |
| Input current (A) | / | 2.0 | 5.0 | 9.7 | 14.6 | 19.6 | / | / | / |
| Input current ripple (A) | / | 0.1 | 0.2 | 0.4 | 0.5 | 0.7 | / | / | / |
| Input power (Pi) (kW) | / | 0.327 | 0.796 | 1.568 | 2.354 | 3.139 | / | / | / |
| Output power (Po) (kW) | / | 0.304 | 0.759 | 1.506 | 2.257 | 3.006 | / | / | / |
| Output efficiency(%) | / | 92.97 | 95.35 | 96.05 | 95.88 | 95.76 | / | / | / |
| Input energy (Wi) (Wh) | / | 5.439 | 13.256 | 26.158 | 39.252 | 52.347 | / | / | / |
| Output energy (Wo) (Wh) | / | 5.055 | 12.639 | 25.099 | 37.644 | 50.089 | / | / | / |
| Energy efficiency(%) | / | 92.94 | 95.35 | 95.95 | 95.90 | 95.69 | / | / | / |
| PV input voltage | b) The inverter's nominal voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 357.2 | 360.0 | 359.5 | 360.1 | 360.4 | / | / | / |
| Input voltage ripple (V) | / | 1.1 | 1.6 | 2.9 | 4.6 | 5.8 | / | / | / |

| | | | | | | | | | |
|--|--|-------|--------|--------|--------|--------|-------|---|---|
| Input current (A) | / | 0.9 | 2.2 | 4.3 | 6.4 | 8.6 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.4 | 0.8 | 1.1 | 1.4 | / | / | / |
| Input power (Pi) (kW) | / | 0.323 | 0.782 | 1.540 | 2.307 | 3.076 | / | / | / |
| Output power (Po) (kW) | / | 0.305 | 0.753 | 1.506 | 2.256 | 3.005 | / | / | / |
| Output efficiency(%) | / | 94.43 | 96.29 | 97.79 | 97.79 | 97.69 | / | / | / |
| Input energy (Wi) (Wh) | / | 5.348 | 13.019 | 25.655 | 38.436 | 51.265 | / | / | / |
| Output energy (Wo) (Wh) | / | 5.041 | 12.567 | 25.085 | 37.586 | 50.078 | / | / | / |
| Energy efficiency(%) | / | 94.26 | 96.53 | 97.78 | 97.79 | 97.69 | / | / | / |
| | | | | | | | | | |
| PV input voltage | c) 90% of the inverter's maximum input voltage | | | | | | | | |
| Temperature (°C) | 25°C ± 5°C | | | | | | | | |
| Operating period for energy measurement (min) | 1 | | | | | | | | |
| Percentage of rated output VA | / | 10% | 25% | 50% | 75% | 100% | 120%* | / | / |
| Input voltage (V) | / | 468.0 | 468.4 | 467.9 | 467.9 | 470.0 | / | / | / |
| Input voltage ripple (V) | / | 0.9 | 1.2 | 2.1 | 3.2 | 4.5 | / | / | / |
| Input current (A) | / | 0.7 | 1.7 | 3.3 | 5.0 | 6.6 | / | / | / |
| Input current ripple (A) | / | 0.2 | 0.3 | 0.6 | 0.9 | 1.2 | / | / | / |
| Input power (Pi) (kW) | / | 0.319 | 0.782 | 1.542 | 2.310 | 3.082 | / | / | / |
| Output power (Po) (kW) | / | 0.302 | 0.758 | 1.504 | 2.253 | 3.006 | / | / | / |
| Output efficiency(%) | / | 94.67 | 96.93 | 97.54 | 97.53 | 97.53 | / | / | / |
| Input energy (Wi) (Wh) | / | 5.311 | 13.023 | 25.689 | 38.505 | 51.384 | / | / | / |
| Output energy (Wo) (Wh) | / | 5.044 | 12.639 | 25.072 | 37.597 | 50.131 | / | / | / |
| Energy efficiency(%) | / | 94.97 | 97.05 | 97.60 | 97.64 | 97.56 | / | / | / |
| Remark: | | | | | | | | | |
| *If limited by design, inverter is not capable to operate with the 120% of rated output load, test under this condition is waived; | | | | | | | | | |

| TABLE | No load loss | P |
|---|---------------------|---|
| power conditioner type | Utility-interactive | |
| EVVO 6000TLG2 | | |
| Measure input voltage (V) | 360.0 | |
| Measured input power(W) | 6.522 | |
| EVVO 5000TLG2 | | |
| Measure input voltage (V) | 360.1 | |
| Measured input power(W) | 6.159 | |
| EVVO4600TLG2 | | |
| Measure input voltage (V) | 360.1 | |
| Measured input power(W) | 6.125 | |
| EVVO 4000TLG2 | | |
| Measure input voltage (V) | 360.1 | |
| Measured input power(W) | 6.098 | |
| EVVO 3600TLG2 | | |
| Measure input voltage (V) | 360.1 | |
| Measured input power(W) | 5.613 | |
| EVVO 3000TLG2 | | |
| Measure input voltage (V) | 360.1 | |
| Measured input power(W) | 5.639 | |
| Remark: No load loss is measured when the power conditioner works at rated input voltage and it's load is disconnected. | | |

| TABLE | Standby loss | P |
|---|---------------------|---|
| power conditioner type | Utility-interactive | |
| EVVO 6000TLG2 | | |
| Measure input voltage (V) | 230.1 | |
| Measured input power(W) | 0.151 | |
| EVVO 5000TLG2 | | |
| Measure input voltage (V) | 230.0 | |
| Measured input power(W) | 0.149 | |
| EVVO 4600TLG2 | | |
| Measure input voltage (V) | 230.0 | |
| Measured input power(W) | 0.139 | |
| EVVO 4000TLG2 | | |
| Measure input voltage (V) | 230.0 | |
| Measured input power(W) | 0.234 | |
| EVVO3600TLG2 | | |
| Measure input voltage (V) | 230.0 | |
| Measured input power(W) | 0.226 | |
| EVVO 3000TLG2 | | |
| Measure input voltage (V) | 230.0 | |
| Measured input power(W) | 0.224 | |
| Remark: Standby loss is measured when the power conditioner works at rated input voltage and in standby mode. | | |

--- End of test report---