



CONERGY

# SunEasy User Manual

Grid Connect Solar Power System



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## 1. Introduction

Thank you for placing confidence in Conergy and congratulations on the installation of your new Conergy SunEasy grid-connect solar power system, specifically designed for Australian conditions. Conergy SunEasy Grid-Connect solar power system kits have been designed to provide flexibility of use and ease of installation. These kits have been designed to meet the requirements of the current Australian electrical and building codes, including wind loading requirements.

Now that your system has been commissioned it should operate automatically. Should you wish to know more about your system, please read this manual and make yourself familiar with all safety requirements. Observing all safety requirements in this manual, in addition to the local safety rules, will prevent injuries.

Your Conergy Team

## 2 . How your Conergy Solar Power System Works

Solar energy is renewable and is different from conventional power generation in that:

- | You are using environment friendly energy which doesn't need big, pollution emitting power stations.
- | It can also be generated on a small scale like on your rooftop.
- | Once the solar power system is installed it costs you nothing to generate electricity.

Solar electricity generation works by converting energy from the sun, in the form of light, into electricity. Please note that only light and not heat is transformed into electrical energy. Heat from the sun will have an adverse effect on power generation as it slightly reduces the efficiency of solar cells.

Solar cells are made of semiconductors and work via what is known as the photovoltaic (PV) effect. In this process when light hits a conductor and semiconductor it transfers its energy to that conductor. Light is actually a stream of energy particles called photons. When the photons hit the silicon surface in the solar cells they generate electricity by transferring energy and freeing electrons. In this way electricity is generated. Put simply, photovoltaic cells are energy converters - converting the energy from sunlight into electricity.

Solar modules usually contain multiple number of solar cells encased in a durable casing. Toughened glass is used to cover and protect the solar cells and a antireflective coating is used to minimise light reflection from the surface. Solar modules produce DC power, usually at 12V or 24V. The inverter included in your Conergy SunEasy solar power system converts DC power to AC power and feeds it into the electricity grid, if not used in your household directly.

With this setup, if you are using less power than you are producing, your meter runs backwards. If you are using more power than you are generating your meter runs forwards. Some utilities require that you install two independent energy meters. One to measure your consumed energy and the other for metering the amount of electricity your system has returned to the grid. Your energy retailer will credit/charge you the difference between your consumed energy and your generated energy.



## 2.1 System Components

The following table shows the main components of your Conergy SunEasy Grid Connect kit:

Item	Item Description	Item	Item Description
1	PV modules	7	Array DC cables
2	Mounting frame for solar modules	8	Installation material required
3	DC to AC inverter	9	SunEasy Installation Manual
4	Circuit breaker enclosures	10	Suneasy User Manual
5	DC and AC isolating circuit breakers	11	Inverter Manual
6	A set of safety labels	12	Solar Module Data Sheet

## 2.2 System Performance

System performance will highly depend on the geographical and atmospheric conditions of the installation site. The following energy yield data show the approximate values for capital cities in Australia and New Zealand. The figures shown are based on the Conergy C175M module outputs. When using Conergy C167P modules the output values will be reduced by approximately 5%.

Daily Energy Yield (kWh)					
Kit	Sydney	Melbourne	Brisbane	Perth	Adelaide
SunEasy 1000	4.02	4.03	4.04	4.82	4.40
Sun-Easy 1500	6.02	6.05	6.06	7.22	6.59
Sun-Easy 2000	8.03	8.06	8.08	9.63	8.79

Kit	Alice Springs	Canberra	Darwin	Auckland	Wellington
SunEasy 1000	4.33	4.16	3.84	3.88	3.56
SunEasy 1500	6.50	6.24	5.75	5.81	5.33
SunEasy 2000	8.66	8.32	7.67	7.75	7.11

Annual Energy Yield (kWh)					
Kit	Sydney	Melbourne	Brisbane	Perth	Adelaide
SunEasy 1000	1466	1471	1475	1757	1604
SunEasy 1500	2199	2207	2213	2636	2406
SunEasy 2000	2932	2942	2950	3514	3208

Kit	Alice Springs	Canberra	Darwin	Auckland	Wellington
SunEasy 1000	1580	1518	1370	1415	1297
SunEasy 1500	2370	2276	2055	2123	1946
SunEasy 2000	3160	3035	2740	2830	2594

## 2.3 Safety

The following safety instructions are important for your personal safety and for the optimum performance of your solar power system. Please take the time to go through the following checklist with your installation team. The safety instructions must NOT be ignored.

- | The service and maintenance of your newly installed solar power system must be carried out by a licensed electrical contractor in strict compliance with the Australian building and electrical safety rules.
- | If you are not a licensed electrical contractor or a qualified person **do not** attempt to do any modification and/or maintenance work on the solar power system. Doing so may put you in danger and may also void component warranties.
- | Never pour cold water on solar module surfaces when the sun is shining and they are hot. Doing so can shatter the solar module glass. This type of damage will not be covered by the solar module warranty. This activity could also expose you to the danger of electrocution.
- | Never walk on the surface of the solar modules. Doing so will damage the solar module and will not be covered by warranty.
- | Avoid working in the vicinity of the installed solar module area when raining or when the area is still wet.
- | The installed solar power system generates electricity when exposed to the sun. The generated voltage is dangerous and can be fatal. The whole surface must be covered by black sheets prior to working on the system, in order to ensure that no electricity is being generated.
- | Observe all safety signs installed as part of your system.
- | Please note that DC voltages will be present on the solar module side of the inverter even if the isolating circuit breakers are completely switched off.



Your solar system is an electric power generation system and, as a result, contains current-carrying components. **Contact with electric current can be FATAL!**  
Never ignore safety hazards

### Opening system components

Beware of the risk of death from touching electrical components! Do not open any of the components of your solar power system unless you are a qualified licensed electrical contractor.

### Repairs or modifications

Any work on the electrical components, such as repairs or modifications, must be carried out by a licensed electrical contractor.

### Guarantee and warranty claims

The guarantee and warranty claims will be void if unauthorised persons open or modify components.

### Electrical work

The solar power system must be shut down before commencing any electrical work on the building.

### Operational safety

Please observe all safety signs installed and all warnings laid out in the accompanying operating instructions.

### Shut-down procedure

The following procedure must be followed to shut down the system, Please refer to the system drawings on page 13):

1. Disconnect the utility grid system to the inverter via AC Grid Disconnection Circuit Breaker labelled Q1.
2. Disconnect the DC power to the inverter at the DC side of the inverter via Grid Disconnection Circuit Breaker – labelled Q2.
3. Disconnect the DC power to the Building DC cable on the roof via the Roof Isolating Circuit Breaker (if applicable) – labelled Q3.
4. Disconnect all MC plugs between all solar modules to create lower voltage for a safe work environment.

### DC voltage when system is shut down

Even if the system has been disconnected from the grid via a circuit-breaker, voltage is still present in the solar panels during daylight hours.

In case of fire try and shut down the system as far as possible. All circuit breakers must remain off until the fire is extinguished.



Do not touch electric components such as wires, connection terminals, generator junction boxes or plug connectors – there is a risk of electric shock or even **death**.

### Daylight voltage in the solar modules

In daylight hours, as well as at dusk and dawn, DC voltage will be present in the connected wires and cables.

### Safe work on roofs

After shutting down your system in the order above, if persons are working on your roof, you must make them aware that there is the possibility of a small, non-lethal electrical charge being present in the base frame and module frames.

### Cleaning the solar array

Depending on the roof slope, the solar panels clean themselves during rainy weather. However, a layer of dust can form if there is a prolonged dry spell. This could reduce the amount of energy produced by the solar power system. Your system output has been calculated to take account of this dust. We do NOT recommend that you climb on the roof to clean the solar panels. Please do not use ANY high-pressure cleaner or chemical cleaning product on the surface of the solar panels – use plain water at mains pressure or less. All electric components, such as cables, connectors, generator junction boxes etc. must remain dry.

**CAUTION:** Never wash the solar panels while they are hot! Cold water on hot solar panels may cause the glass to shatter. Note that solar panels may be hot even when it is cloudy; and that the temperature of the solar panel can be up to 20°C higher than the site ambient temperature.



## Do not open the inverter!

Never open the inverter housing, even when switched off. The inverter should only be opened by a licensed electrician.

### Heat build-up

Exercise caution when touching the inverter housing. The inverter can become hot during use. Never cover the inverter's heat sinks or vents when it is in use. Please observe the distances around the inverter as laid out in the operating instructions.

### Dust formation

Do not allow excessive dust to build up around the inverter. Never touch damaged cables; report the damage to your Conergy SunEasy installer immediately.

### AC circuit breaker

Recurrent tripping of the AC circuit breaker indicates a fault. Please report this fault to your Conergy SunEasy power system installer immediately.

### Inverter display

Regularly check the inverter display and report any malfunctions or warning signals.

### Operating instructions

Please refer to the enclosed operating instructions for further safety information on your inverter and instructions for displaying your system performance data.

### Warning notices

## Safety Signs and Instructions



All safety instructions and warning signs installed with the system:

- Must be kept in a legible condition
  - Must not be damaged
  - Must not be removed
- Must not be covered, pasted or painted over

### DC disconnecting device

DC plugs must never be disconnected from the sockets of the solar modules as long as the Conergy WR unit is feeding power into the mains. Before disconnecting the DC plug you must always disconnect AC power to the inverter.

To carry out maintenance work, your installer needs to switch the system off via the AC circuit breaker Q1 and then disconnect the DC side, as per the shutdown procedure.



**DO NOT disconnect the inverter's DC side when the inverter is switched on or when solar panels are producing energy.**



### Switchboard

Always keep the switchboard door closed. Any work on the meter box or its supply cables must only be carried out by a licensed electrician or personnel authorised by your electricity supplier.

### Cables and plugs

One of the most common causes of system breakdown is damage to the solar cables. If you come across a damaged cable or any other system defect, please report it to your SunEasy Power system installer so that it can be repaired.

## 3. System Operation

Your Conergy SunEasy solar power system meets all Australian standards and regulations current at the time of installation. All necessary quality-control and safety measures have been observed to guarantee safe and trouble-free operation.







The day to day operation of your solar power system is automatic, meaning you don't have to switch it on or off or monitor it during the day.

We recommend that you check the meter and inverter once a fortnight as follows:

**Meter:** Check it during the day when there are no (or minimal) electrical appliances operating in your house. The meter should be showing energy exported.

### 3.1 To Check Systems with the Conergy WR Inverter

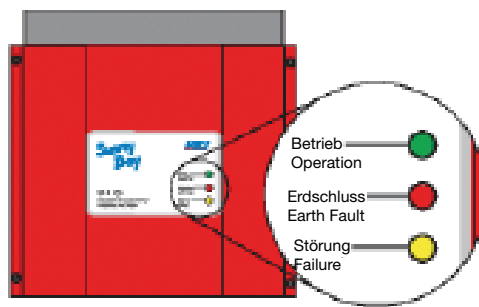
**Inverter:** Check the LED light on the front of the inverter:

LED Status	Indication
Steady Green 	<b>Solar System Operational</b> - Normal Condition.
Flashing Green 	<b>Solar System Operational – Error Message displayed</b> on the LCD Screen. (see Status Diagnosis and Repair” on page 55 of the WR Inverter Instruction Manual for the Error Message).
Steady Orange 	The inverter is in <b>automatic start-up phase</b> – Normal everyday condition after sunrise.
Flashing Orange 	<b>Warning displayed</b> on the screen or Manual shutoff of the system operation. Inverter will automatically start-up operation after sunrise.
Steady Red 	<b>General Alarm</b> - (see “Status Diagnosis and Repair” on page 55 of the WR Inverter Instruction Manual for the Error Message).
Off 	<b>No Solar Array power output.</b> This is normal during night time.

## 3.2 To Check Systems with the SMA Sunny Boy Inverter

### 3.2.1 Operating Mode Indication

The SMA inverter displays the actual operating status with three LEDs on the inverter lid.



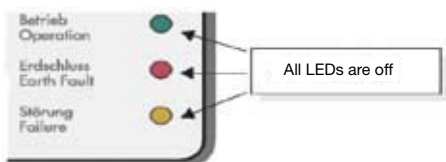
The owner/user of the solar power system should regularly inspect and take note of the inverter LED indications to make sure that the solar power system is in good condition and it is working fault free. It is even more important to carry out this LED status check during the early months after the installation, at different times of the day under different sunlight conditions. You will find a complete description of all LED signal codes in the SMA Sunny Boy Inverter Manual.

### 3.2.2 Normal Operating Mode

As long as no LED or only the green LED is blinking, the Sunny Boy is in its normal operating status. If all three LEDs are on, the inverter is in its initialization phase which is a normal operating state as well. All other signals indicate a disturbed operating state. Refer to the inverter manual for more information on the different LED signal codes.

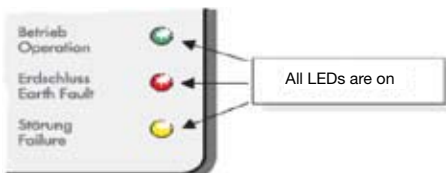
### 3.2.3 Description of Operating Mode

#### Standby at Night



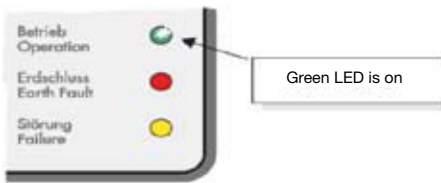
If all LEDs are off then the Sunny Boy is in standby operation mode. This state indicates that the input voltage at the inverter is too low to be fed into the utility grid.

#### Initialisation



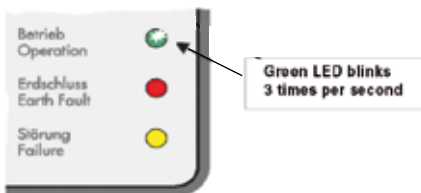
If all three LEDs are on then the on-board computer of the Sunny Boy is in the initialization phase. At least one of the string voltages on the inverter is in the acceptable range. Power is already supplied to the internal board, but is not yet sufficient to be fed into the utility grid. Data transmission is not possible at this stage.

### Feeding Operation



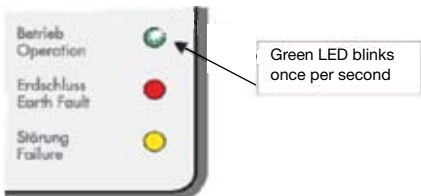
The Sunny Boy has successfully completed the self-test of its electronics components, synchronised to the utility grid and starts feeding generated power to the utility grid.

### Stop Mode



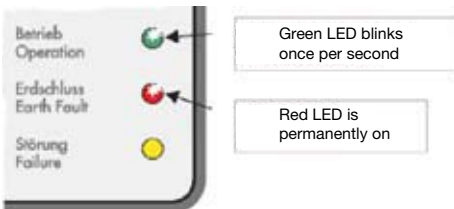
When the green LED blinks 3 times per second, the Sunny Boy is in stop mode. During this mode calibration of the measurement electronics will be carried out while the inverter itself will be put in the “Waiting” mode.

### Waiting - Grid Monitoring Mode



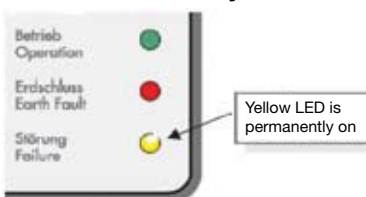
When the green LED blinks once per second, the Sunny Boy is in test mode to verify the required conditions for feeding operation are fulfilled. If all requirements are fulfilled then grid monitoring will be started.

### Insulation Failure



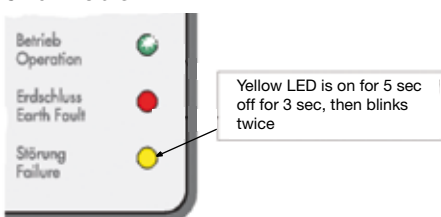
When the red LED on the Sunny Boy is on, this indicates an earth fault or one of the two thermally monitored varistors on the DC input side is defective. In this condition feeding to the utility grid is **suspended**, until the failure is rectified.

### Inverter Permanently Disabled



If the yellow LED is steady on then this is an indication that there is a failure of the grid monitoring or the independent disconnection device (MSD) within the unit. During the internal testing process, the inverter has detected a malfunction of the MSD and has stopped feeding to the grid. This is a failure which cannot be rectified on site. Please contact your installer or supplier.

### Grid Problem



With this signal the Sunny Boy indicates a grid failure which can be caused by:

- | Grid under-voltage
- | Grid over-voltage
- | Grid under-frequency
- | Grid over-frequency

First find out whether there is a general power shutdown.

**If you do not find any failure, the grid connection of the inverter must to be checked by a qualified electrician.**

## 4. System Maintenance

### 4.1 Maintenance Timetable

#### **Once a fortnight:**

Check inverter and meter as in Chapter 3 - System Operation

#### **Once every three months:**

Check the array for shading during the middle of the day, ideally between 10am and 4pm. Surrounding trees may have grown since the solar power system was installed, and may need to be trimmed.

Check your electricity bill to ensure you are being credited for energy generated by your solar power system. The easiest way to do this is to compare your current bill with the bill for the same period last year. It should show fewer kilowatt hours being consumed.

If not, check the following before calling your electricity retailer:

- | Have you bought any new appliances or made changes to your lifestyle that may mean you are using more energy than in the same period last year?
- | Your solar power system generates less energy in winter and more in summer. If it is currently winter, the solar power system may not make a significant difference to your bill.
- | If you have not had your solar power system for the full quarter, it may not have generated enough energy to make a significant difference to your bill.

If none of the above explains the difference, and you are still concerned, call your Conergy SunEasy system installer and ask for assistance to test the inverter and find out how much energy you have generated. Then, if required, contact your electricity retailer and check that their billing system includes energy generated by your solar power system.

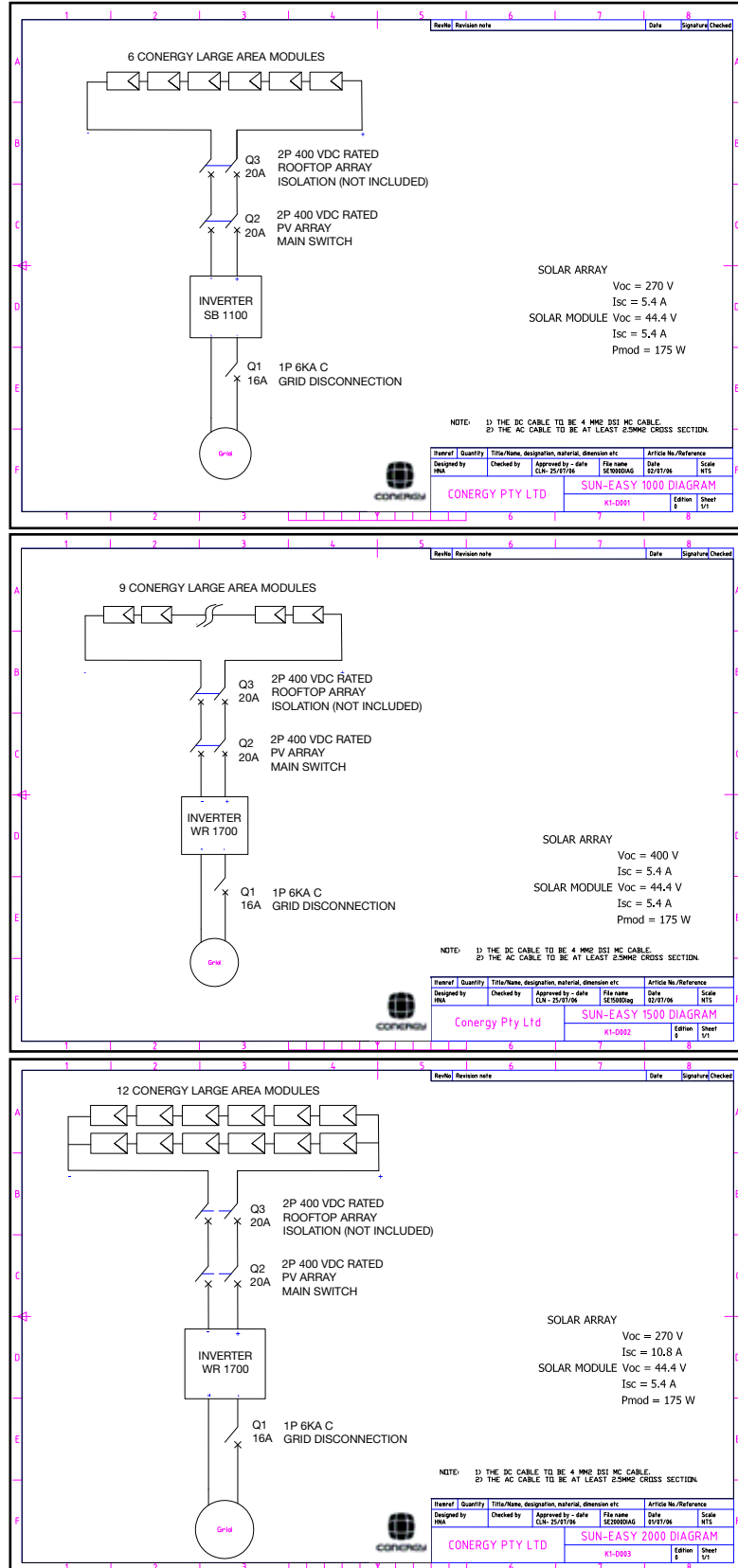
#### **Once a year:**

The installer of your Conergy SunEasy solar power system or a qualified electrician should carry out an annual maintenance check, as outlined on page 16.

### 4.2 Trouble Shooting

The inverter is considered to be the “heart” of the solar system as it controls every aspect of the power generation within the system and provides system status indication. To trouble shoot your system please refer to the inverter manual included with the System Installation Manual. This manual contains all information to enable the user to identify problems caused. Please note again that problem rectification once identified can only be carried out by your system installer or a licensed electrical contractor.

## 5. System Drawings



## 6. Safe Operating Induction Certificate

The system operator has been thoroughly informed of relevant safety regulations and operating instructions for a solar power system, especially potential risks, handling and maintenance works on the system or its components. Before carrying out any work on the solar power system or in its vicinity, the installer named below must be contacted for professional advice:

**System installer:** \_\_\_\_\_ **Telephone:** \_\_\_\_\_

**Note:** Failure to contact the installer may void the warranties for the system and/or its components.

### Exclusion from liability:

Conergy Pty Ltd and its employees, agents, licensees, contractors and sub-contractors shall not be liable in any way (except to the extent such liability is incapable of being excluded or limited under any federal or state laws of Australia) for any damages, costs, claims, demands, actions, or other liability in respect of or arising from any injury, death or from any loss of or damage to any property, whether or not involving negligence or any other cause of action whatsoever, caused or arising out of or incidental to or connected in any way with any matter or thing done or omitted to be done by Conergy Pty Ltd or any of its employees, agents, licensees, contractors or subcontractors.

The **Safety and Operational Induction** was carried out

in person Place and date of safety briefing: \_\_\_\_\_

in writing Explanation: \_\_\_\_\_

\_\_\_\_\_  
System Owner signature

\_\_\_\_\_  
System Installer signature

\_\_\_\_\_  
Date and printed name

\_\_\_\_\_  
Date and printed name

## 7. Where to get help

Make sure to keep the distributor and installer's contact details for future reference if required. In addition please keep your original invoice as proof of purchase should you wish to claim against the manufacturer warranty.

<b>Installer</b>	Name:	
	License No.:	
	Contact Phone No.:	
	Fax No.:	
	Email Address:	
	Street Address:	
<b>Supplier</b>	Name:	
	Contact Phone No.:	
	Fax No.:	
	Email Address:	
	Street Address:	
<b>Conergy</b>	Contact Phone No.:	1300 551 303
	Fax No.:	(02) 8507 2220
	Email Address:	support@conergy.com.au
	Street Address:	Unit 6, 44-48 O'Dea Avenue, Waterloo, NSW 2017

**8. Maintenance Checklist** (We have provided 3 checklists. Please photocopy blanks for following years)



**Shut down the solar power system  
before starting work**

Date: \_\_\_\_\_

Maintenance by: \_\_\_\_\_

**Solar panels and array:**

- Panels are clean and free of dust and fungus
- No visual defects such as fractures, browning, moisture penetration or frame corrosion are present
- Junction boxes inspected for tightness of connections, water penetration, seal integrity, cable gland integrity, conduit sealing and clamps
- Bypass diodes verified
- Array frame securely fixed to roof
- Array clamps and fastenings tight and secure
- No corrosion on mounting frame or roof
- Roof penetrations weatherproof

**Inverter and electrical:**

- Cabling secure
- Conduit or other mechanical protection OK
- Surge arresters tested for degradation
- Earthing connections tight and free of corrosion
- Data logger (if installed) tested – no faults present
- Electrical connections secure
- Voc and Isc readings consistent with time of day and weather
- All Voc readings within 5% of each other
- Verify integrity of fuses, circuit breakers, residual current devices
- Inverter start-up checked

Meter reading: \_\_\_\_\_

Previous meter reading: \_\_\_\_\_

Annual production: \_\_\_\_\_ kWh **Is the annual production consistent with the predicted output?** Yes / No

**If no, what advice and explanation have been given to the system operator?** \_\_\_\_\_





## Shut down the solar power system before starting work

Date: \_\_\_\_\_

Maintenance by: \_\_\_\_\_

### Solar panels and array:

- |  |   |
|--|---|
| <input type="checkbox"/> Panels are clean and free of dust and fungus  | <input type="checkbox"/> Bypass diodes verified                       |
| <input type="checkbox"/> No visual defects such as fractures, browning, moisture penetration or frame corrosion are present  | <input type="checkbox"/> Array frame securely fixed to roof           |
| <input type="checkbox"/> Junction boxes inspected for tightness of connections, water penetration, seal integrity, cable gland integrity, conduit sealing and clamps | <input type="checkbox"/> Array clamps and fastenings tight and secure |
|  | <input type="checkbox"/> No corrosion on mounting frame or roof       |
|  | <input type="checkbox"/> Roof penetrations weatherproof               |

### Inverter and electrical:

- |  |  |
|--|--|
| <input type="checkbox"/> Cabling secure  | <input type="checkbox"/> Electrical connections secure   |
| <input type="checkbox"/> Conduit or other mechanical protection OK             | <input type="checkbox"/> Voc and Isc readings consistent with time of day and weather          |
| <input type="checkbox"/> Surge arresters tested for degradation                | <input type="checkbox"/> All Voc readings within 5% of each other                              |
| <input type="checkbox"/> Earthing connections tight and free of corrosion      | <input type="checkbox"/> Verify integrity of fuses, circuit breakers, residual current devices |
| <input type="checkbox"/> Data logger (if installed) tested – no faults present | <input type="checkbox"/> Inverter start-up checked   |

Meter reading: \_\_\_\_\_

Previous meter reading: \_\_\_\_\_

Annual production: \_\_\_\_\_ kWh Is the annual production consistent with the predicted output? Yes / No

If no, what advice and explanation have been given to the system operator? \_\_\_\_\_



## Shut down the solar power system before starting work

Date: \_\_\_\_\_

Maintenance by: \_\_\_\_\_

### Solar panels and array:

- |  |   |
|--|---|
| <input type="checkbox"/> Panels are clean and free of dust and fungus  | <input type="checkbox"/> Bypass diodes verified                       |
| <input type="checkbox"/> No visual defects such as fractures, browning, moisture penetration or frame corrosion are present  | <input type="checkbox"/> Array frame securely fixed to roof           |
| <input type="checkbox"/> Junction boxes inspected for tightness of connections, water penetration, seal integrity, cable gland integrity, conduit sealing and clamps | <input type="checkbox"/> Array clamps and fastenings tight and secure |
|  | <input type="checkbox"/> No corrosion on mounting frame or roof       |
|  | <input type="checkbox"/> Roof penetrations weatherproof               |

### Inverter and electrical:

- |  |  |
|--|--|
| <input type="checkbox"/> Cabling secure  | <input type="checkbox"/> Electrical connections secure   |
| <input type="checkbox"/> Conduit or other mechanical protection OK             | <input type="checkbox"/> Voc and Isc readings consistent with time of day and weather          |
| <input type="checkbox"/> Surge arresters tested for degradation                | <input type="checkbox"/> All Voc readings within 5% of each other                              |
| <input type="checkbox"/> Earthing connections tight and free of corrosion      | <input type="checkbox"/> Verify integrity of fuses, circuit breakers, residual current devices |
| <input type="checkbox"/> Data logger (if installed) tested – no faults present | <input type="checkbox"/> Inverter start-up checked   |

Meter reading: \_\_\_\_\_

Previous meter reading: \_\_\_\_\_

Annual production: \_\_\_\_\_ kWh Is the annual production consistent with the predicted output? Yes / No

If no, what advice and explanation have been given to the system operator? \_\_\_\_\_

# CONERGY PTY LTD - GENERAL TERMS AND CONDITIONS FOR TRADE



## 1. Validity of General Terms and Conditions

- 1.1 Until Conergy Pty Ltd ABN 57 112 387 569 ("Conergy") notifies a customer of replacement Terms and Conditions, these Terms and Conditions will apply to all sales of products ("Products") and supplies of services ("Services") by Conergy and will form part of any contract resulting from any customer ("Purchaser") placing an order with Conergy except as varied by written agreement by Conergy and the Purchaser ("Order").
- 1.2 In the event of any inconsistencies between any Order or other documentation of the Purchaser and these Terms and Conditions, these Terms and Conditions will prevail.

## 2. Offer and Conclusion of a Contract

- 2.1 A quotation is not an offer by Conergy to sell or supply and may be withdrawn or varied at any time prior to Conergy's acceptance of an Order, and is void after thirty (30) days unless extended in writing by Conergy. In addition, prices are subject to variation in accordance with clause 3. Conergy reserves the right to correct typographical and clerical errors. Any and all declarations of acceptance and Orders need to be confirmed by Conergy in writing or by fax to become legally effective. Conergy's issue of an Order acknowledgement is not and does not imply acceptance of any terms or conditions in any Order form or other documentation of the Purchaser.
- 2.2 Conergy's employees are not authorised to make any oral collateral agreements or oral confirmations which go beyond the content of the written contract and the Purchaser will not rely on any such oral collateral agreements or oral confirmations.
- 2.3 In the event that Conergy cannot perform an accepted Order for whatever reason, Conergy will immediately inform the Purchaser that the performance is not available and the Purchaser's counter-performance relating to the specific accepted Order will be immediately reimbursed.
- 2.4 Only properties which are set out in the technical product description of an Order are considered to be agreed as quality of the Products. Public statements, recommendations or advertising of the manufacturer are not considered contractual qualities of the Products.
- 2.5 Any and all drawings, illustrations, measures, weights or other performance data related to a quotation or an offer to a Purchaser will only be binding if they are explicitly agreed in writing by Conergy.
- 2.6 Quotations may only be accepted as a whole; component parts of a quotation are not open to be accepted separately. Subsequent Orders are subject to further quotation.

## 3. Prices and Terms of Payment

- 3.1 The terms of payment are net cash before dispatch, unless the Purchaser has a current credit account with Conergy. The terms of payment for a Purchaser with a current credit account are net cash, free of exchange, thirty (30) days from the end of the month in which the Products are delivered, or are ready for delivery, or the Services are supplied. Conergy reserves the right to invoice for partial deliveries or supplies, or deliveries or supplies delayed at the Purchaser's request.
- 3.2 Prices quoted or accepted:
  - 3.2.1 do not include taxes, imposts or duties. Conergy may recover from the Purchaser, and the Purchaser must pay the amount of any sales tax, customs tax, use tax, consumption tax, goods and services tax, value-added tax or any similar tax, impost or duty levied on any supplies made by Conergy to the Purchaser under or in connection with these Terms and Conditions; and
  - 3.2.2 are "ex works" and all costs of freight and delivery from Conergy's works will be to the Purchaser's account.
- 3.3 Conergy reserves the right to modify its prices accordingly if there is any change in the costs of labour, materials, transport, essential services, tariffs, duties, exchange, and other costs and statutory obligations, between the date of quotation and the date of invoice. Conergy will provide proof of such cost changes at the Purchaser's request.
- 3.4 Conergy must agree to any reduction of cash discounts separately in writing.
- 3.5 The Purchaser must pay interest on any amounts in arrears. Interest will be calculated from the due date for payment until Conergy receives payment.

- 3.6 Conergy may use payments to satisfy older debts, even if otherwise stated in the Purchaser's terms and conditions. Conergy will inform the Purchaser about any such set-off. In the event that the Purchaser has already incurred costs and interest, Conergy will be entitled to set-off the payment, first with costs, then with any applicable interest and finally with the principal performance.
- 3.7 The Purchaser will not cancel or amend any Order accepted by Conergy without Conergy's written approval.

## 4. Period of Delivery and Performance

- 4.1 Delivery will be deemed to occur when Conergy informs the Purchaser that the Products are ready for collection at Conergy's works.
- 4.2 Dates and periods of delivery of which Conergy will advise the Purchaser in writing only, will be regarded as best estimates, but will not be guaranteed and may be subject to extension to cover delays caused by Government priorities, strikes, lockouts, breakdowns, delays in transport, fines, late delivery of raw materials or components, or other causes beyond Conergy's control, and Conergy will accept no responsibility or liability for the consequence of any delays. In this event, Conergy will be entitled to postpone the delivery and the performance by the period of the complication plus an appropriate restarting time, or to cancel the acceptance of an Order in full or in part with respect to the part not yet fulfilled.
- 4.3 If a complication referred to in clause 4.2 lasts more than three months, following the setting of an appropriate additional period of time, the Purchaser may cancel that part of the Order which has not already been performed by Conergy. In the event that the period of delivery or performance is extended or in the event that Conergy is released from its obligations, the Purchaser will not be entitled to any claim for damages.
- 4.4 If Conergy accepts in writing responsibility for non-compliance with bindingly agreed dates and periods of delivery or performance the Purchaser shall be entitled to compensation for delay amounting to a half percent for every full week of delay, totalling a maximum of five percent of the invoice value of the Products and Services Order affected by the delay. Any and all further claims will be excluded, unless the delay is caused by Conergy's gross negligence.
- 4.5 Conergy may carry out partial deliveries and partial performances at any time within the period advised by it for delivery or performance.
- 4.6 Any delivery and performance obligations arising in relation to these Terms and Conditions will not apply to Conergy until timely satisfaction of all the Purchaser's corresponding duties. Time for payment will be of the essence of the contract.
- 4.7 If the Purchaser requests Conergy to delay delivery or performance, or fails to give Conergy adequate instructions for delivery or performance, or is in delay of acceptance of delivery or performance for any other reason, Conergy may claim the damage or cost caused by such delay, including the cost of storage of Products. Upon the beginning of the delay in acceptance, the risk of accidental deterioration or accidental loss of Products passes to the Purchaser.

## 5. Passing of Risk

All Products will be at the Purchaser's risk from the point of delivery as defined in clause 4. Insurance cover is the responsibility of the Purchaser, and Conergy will not be responsible for any loss or damage occurring after the point of delivery and will only arrange insurance upon written instructions from the Purchaser, and at the Purchaser's cost.

## 6. Liability for Defects or Shortfall

- 6.1 If there is any shortfall in the number of Products, or if the Products are damaged during delivery, the Purchaser will inform Conergy within three (3) days from the date of delivery. If the Purchaser does not, then Conergy will not be responsible for any loss or damage suffered by the Purchaser as a result of the shortfall or damage.
- 6.2 If there is a shortfall in the number of Products or if the Products are damaged during delivery, Conergy's liability will in any case be limited to the price of the Products not delivered or damaged.
- 6.3 No returns may be made, or will be accepted by Conergy, unless the returned Products are defective or damaged in transit. In either case, the Purchaser must first give notice under clause 6.1 before it can return the Products.

- 6.4 If within the warranty period applicable to a Product, as set out in Conergy's product catalogue any new Product sold by Conergy is found to be defective in materials or workmanship, or does not conform to any applicable drawings and specifications approved by Conergy, then Conergy will, at its option, either repair or provide a replacement part or Product provided that:
- 6.4.1 the Purchaser has given written notice to Conergy of any alleged defect immediately and in any case not later than three (3) days from the date of discovery of the defect;
  - 6.4.2 the Purchaser has provided Conergy a reasonable opportunity to perform all appropriate tests on the Product; and
  - 6.4.3 the defective part or Product is promptly returned to a designated Conergy service centre.
- Any defective part or Product replaced will become Conergy property and the repaired or new part or Product will be delivered free to the Purchaser's site.
- 6.5 No separate warranty will apply to repaired Products as a whole or to parts not repaired or replaced by Conergy.
- 6.6 The warranties given by Conergy in clauses 6.2, 6.4 and 6.5 above do not cover:
- (a) fair "wear and tear" and failures or damage not reported to Conergy within the warranty period;
  - (b) failures or damage due to misapplication, abuse, improper installation or abnormal conditions of operation;
  - (c) failures or damage due to operation, either intentional or otherwise, above or below rated capacities or in an otherwise improper manner;
  - (d) failures or damage resulting from Products which have been in any way tampered with or altered by anyone other than an authorised representative of Conergy;
  - (e) Products damaged in shipment or without the fault of Conergy; and
  - (f) failures or damage resulting from the incorporation of, or failure of, non-Conergy manufactured or supplied parts in the Products.
- 6.7 Conergy does not warrant any equipment of other manufacturers which is designated by the Purchaser or purchased by Conergy for resale to the Purchaser either separately or as a part of equipment manufactured by Conergy. For such equipment, the warranty established by the manufacturer of the equipment will apply.
- 6.8 When Conergy supplies Services to the Purchaser, Conergy will exercise its best skill, competence and experience to undertake the Services.
- 6.9 Conergy's liability under clauses 6.2, 6.4 or 6.5 will in no event exceed the cost of replacing or repairing the Products sold or supplying the Services again.
- 6.10 The benefits conferred by the warranties in clauses 6.2, 6.4 or 6.5 are in addition to all other rights and remedies in relation to the Products and the Services supplied or performed by Conergy which the Purchaser has under the Trade Practices Act and similar state and territory laws, and the exceptions and limitations in clauses 6.2, 6.4 or 6.5 do not apply to such statutory rights and remedies.
- 6.11 Where the Trade Practices Act or similar state or territory legislation implies into these Terms and Conditions any term, condition or warranty, and that legislation avoids or prohibits provisions in a contract excluding or modifying them, then the term, condition or warranty shall be deemed to be included in these conditions of sale provided that Conergy's liability for a breach of any such term, condition or warranty, including any consequential loss which the Purchaser may sustain, will be limited, at the option of Conergy, to either replacing or repairing the Products or, in the case of Services, to supplying the Services again.
- 6.12 Except as expressly set out in these Terms and Conditions, and subject to clause 6.11:
- 6.12.1 all conditions, warranties, terms, undertakings, representations and obligations, whether expressed or implied, and whether arising under statute, common law, equity, custom, trade usage or otherwise (including any implied condition, warranty, term or representation as to the use of the Products, their weight, dimensions, capacities, colours or the correspondence of the Products with any contract description or as to merchantable quality, fitness for any purpose or safety of the

Products, or operating performance where such performance is conditional on empirical factors or on the whole installation or on the individual or overall operation or on the skills of an operator), whether made known or not and any liability of Conergy to compensate or indemnify any person or persons in respect of the foregoing, are expressly negated and excluded; and

- 6.12.2 in no event will Conergy be liable for any:
    - 6.12.2.1 expenses incurred by the Purchaser in an attempt to repair or rework any allegedly defective Product or Service;
    - 6.12.2.2 losses, costs, expenses, liabilities and damages (including loss of profits, liabilities of the Purchaser to its customers or third persons, and any other consequential damages), whether direct or indirect and whether or not resulting from or contributed to by the default or negligence of Conergy, its agents, employees and sub-contractors, which might be claimed as the result of the use or failure of the Product sold or the Services supplied.
- 6.13 In the event that Conergy provides the Purchaser defective assembly instructions preventing the orderly assembly of a Product, Conergy will provide the Purchaser with effective assembly instruction and Conergy expressly excludes all other liability in relation to such an occurrence.
- 7. Indemnity**
- 7.1 Subject to clause 14, the Purchaser indemnifies and holds Conergy harmless from and against all liabilities, losses, damages, costs or expenses incurred or suffered by Conergy and from and against all actions, proceedings, claims or demands made against Conergy, arising in either case as a result of:
- 7.1.1 the Purchaser's failure to comply with any laws, rules, standards or regulations applicable in relation to the Products or the use of the Products;
  - 7.1.2 any use of the Products contrary to any instructions or warnings given by Conergy;
  - 7.1.3 any other negligence or any breach of duty by the Purchaser;
  - 7.1.4 any compliance or adherence by Conergy with any instructions by the Purchaser in relation to the Products or their manner of preparation; or
  - 7.1.5 any failures resulting from the incorporation of, or failure of, non-Conergy manufactured or supplied parts in the Products.

**8. Intellectual Property Rights**

Conergy is the owner of certain patents and registered designs as well as other intellectual property rights, including copyright, and other technical, business or similar information (including all designs, documents and other materials relating to the Products) created by Conergy (together the "Intellectual Property Rights"). The Purchaser must not directly or indirectly manufacture or purchase from any third party the subject matter of the Intellectual Property Rights or in any way infringe the Intellectual Property Rights. The Intellectual Property Rights remain at all times the exclusive property of Conergy.

**9. Confidentiality**

The Purchaser must keep these Terms and Conditions confidential and must not disclose details of them to any third party without Conergy's prior written consent. The Purchaser agrees not to copy or disclose to any third party any drawings, price details, any other technical papers or any documents marked or identified as "confidential" supplied by Conergy under these Terms and Conditions.

**10. Drawings and Specifications**

All drawings and specifications, descriptions and other documents attached to any quotation are for tendering purposes only, and will not form the basis nor be part of any contract between Conergy and the Purchaser. Conergy retains ownership of the copyright and all other intellectual and industrial property rights in all drawings, specifications, manuals and other documentation provided to the Purchaser, and all such documents must be returned to Conergy on demand.

## 11. Reservation of Title

- 11.1 The Products remain the sole and absolute property of Conergy as legal and equitable owner, and the property in and title to the Products will not pass from Conergy to the Purchaser until the Purchaser has paid Conergy in full for the Products and for all other Products and Services supplied by Conergy.
- 11.2 Until title in the Products has passed pursuant to clause 11.1 the Purchaser holds the Products as bailee in the capacity of a fiduciary for Conergy. The Purchaser must keep the Products supplied to it by Conergy in its possession and take good care of them and store them and mark them in a manner that identifies the Products supplied and clearly shows that they belong to Conergy. In particular, the Purchaser must sufficiently insure the Products at their new value and at the Purchaser's own expense against fire and water damage and theft. If maintenance and inspection work is necessary, the Purchaser must carry out that work at the Purchaser's own expense.
- 11.3 If the Products in any way become attached to or a part of another object before the Purchaser has paid Conergy in full for the Products and for all other Products supplied by Conergy, property in so much of the object as is comprised by the Product will remain with Conergy and will not pass from Conergy to the Purchaser until the Products and all other goods supplied, or Services performed, by Conergy have been paid for in full. Until Conergy is paid in full for the Products and all other goods supplied, or Services performed, by Conergy the Purchaser holds any objects to which the Products are attached or of which the Products form a constituent part as bailee in the capacity of a fiduciary for Conergy and must store such objects separately so as to be readily identifiable.
- 11.4 If the Products (or any objects to which the Products are attached or of which the Products form a constituent part) are on sold by the Purchaser to a third party prior to payment by the Purchaser in full for the Products and all other goods supplied or Services performed, by Conergy, the Purchaser does so as agent for Conergy and the Purchaser unconditionally agrees to keep the proceeds of such onsale in a separate bank account on trust for Conergy and, at Conergy's request, to assign to Conergy any debt owed to the Purchaser in relation to the onsale, until Conergy has been paid in full for the Products and for all other goods supplied by Conergy. Notwithstanding this clause, the Purchaser must not represent to any third parties that it is in any way acting for Conergy and Conergy will not be bound by any contracts with third parties to which the Purchaser is a party.
- 11.5 If any payment by the Purchaser to Conergy is overdue, in whole or in part, or the Purchaser is otherwise in default under any contract with Conergy, or the Purchaser becomes bankrupt or commits any act of bankruptcy or compounds with its creditors or have judgment entered against it in any court or, being a company, has a provisional liquidator, receiver or manager appointed or otherwise suffers some form of insolvency administration, all sums then owing by the Purchaser to Conergy in relation to the Products or in relation to other goods supplied, or Services performed, by Conergy will become immediately due and payable and Conergy may (without prejudice to any of its other rights) recover and resell the Products and any other goods supplied by Conergy and may, for that purpose, enter upon the Purchaser's premises by its servants or agents, and Conergy is irrevocably authorised to effect such entry, including the use of such reasonable force as is necessary to effect such entry, and to use the name of the Purchaser and to act on behalf of the Purchaser, if necessary, to recover possession of the Products and any other goods supplied by Conergy and to detach the Products and any such other goods from any other object to which they have been attached or of which they form a constituent part. The Purchaser must provide Conergy all information and documents necessary, and otherwise assist Conergy to recover possession of the Products.
- 11.6 If Conergy recovers the Products or any other goods, it may resell the Products or any other goods recovered. If the proceeds of sale are more than the amount due to Conergy from the Purchaser, Conergy may use the balance to pay the costs of taking possession and selling the Products or any other goods. If on resale the proceeds of sale are less than the amount due to Conergy, Conergy may recover the shortfall from the Purchaser.
- 11.7 If a third party seizes Products, the Purchaser must immediately inform Conergy in writing.

## 12. Construction Modifications

Conergy reserves the right to modify the construction of Products at any time, however, Conergy is not obliged to carry out such modifications to Products already delivered.

## 13. Confidentiality

If not otherwise explicitly agreed, any and all information provided to Conergy in connection with Orders shall not be considered confidential.

## 14. General

- 14.1 If any of these Terms and Conditions or a provision of any other agreement is held by any competent authority to be unlawful, invalid or unenforceable in whole or in part then the validity of the other provisions of these Terms and Conditions and the remainder of the provisions in question will not be affected and will continue to be valid and enforceable to the fullest extent permitted by law.
- 14.2 The law of New South Wales governs these Terms and Conditions and the Vienna Convention of Sales of Goods does not apply. The Purchaser agrees to submit to the jurisdiction of the appropriate Court of New South Wales nominated by Conergy.
- 14.3 The Purchaser must not transfer, assign or sub-contract its obligations under these Terms and Conditions without Conergy's prior written consent.
- 14.4 Failure or neglect by Conergy to enforce at any time any of these Terms and Conditions will not be a waiver of Conergy's rights and will not affect the validity of the whole or any part of these Terms and Conditions or prejudice Conergy's right to take subsequent action.
- 14.5 Any notice required under these Terms and Conditions must be in writing addressed to the other party at its registered office or principal place of business or any other address notified by the receiving party to the party giving the notice.

# LIMITED PRODUCT AND POWER OUTPUT WARRANTY FOR SOLAR MODULES

Conergy Pty Ltd, ACN 57 112 387 569; ("Conergy") has the highest quality standards for its products. They are manufactured according to stringent quality regulations. This allows us to offer the warranties below to customers purchasing the following solar modules:

1. Conergy C 123 P
2. Conergy C 175 M
3. Conergy C 125 PI
4. Conergy C 167 P
5. Conergy S 170 M
6. Conergy S 175 M

## 1. Limited Product Warranty

Conergy warrants the module to be free from defects in workmanship and materials under normal application, use and installation, and service conditions for two (2) years from the date of sale to the original user / purchaser. If the module malfunctions or becomes inoperable due to a defect in workmanship or material during the two year period of this warranty, Conergy will, at its option, either repair or replace the module. This warranty transfers from the original user / purchaser to subsequent user / purchaser, but is void if the module is moved from its originally installed location.

## 2. Limited Warranty on Power Output

- a) Conergy warrants that any module provides not less than 90% of the minimum performance (referred to as the lower tolerance value) for a duration of ten (10) years as of shipment from the plant and not less than 80% of the lower tolerance value for a duration of twenty-five (25) years as of delivery from the plant. The performance warranty shall only apply if the modules concerned show no further defects other than the loss of performance and if the loss of performance lies within the sphere of responsibility of Conergy.
- b) The power output must have been assessed at Standard Test Conditions (irradiance 1,000 W/m<sup>2</sup>, air mass 1.5 AM and cell temperature of 25 °C) in an authorised testing process conducted by a testing body authorised by Conergy.
- c) The aforementioned solar modules are supplied with a performance tolerance of +/- 5 %.

## 3. Exclusion and limitation of liability

- a) If in Conergy's sole judgment, the module has been subject to misuse, neglect, or accident or has been damaged through abuse, alteration, improper installation or application, or negligence in use, transportation, handling or storage, or repaired by anyone other than an authorised representative of Conergy, this warranty will be considered void.
- b) The warranty does not include any transportation cost for returns of modules or for costs associated with removal, installation or reinstallation of repaired or replaced modules.
- c) The warranty does neither include material flaws, processing and production errors or functional disturbances or other damage to connection cables.
- d) The warranty does not include indirect damage, in particular no secondary or resulting damages including damage to persons or property, lost profit, damage to reputation, loss of data, advertising or manufacturing costs, overhead costs and loss of customers as well as costs resulting from business interruption, removal and / or re-installation or purchasing of new items.
- e) The prerequisite for the specified services being granted is that the module concerned has been used correctly. This is only the case where it has been used in a stationary application on the mainland. The guarantee does not cover maritime or mobile uses in particular.
- f) No warrantee services will be performed, if the module is modified from its delivery condition as a result of neglect, improper operation, installation, use, storage, transport, handling or by failure to observe the warnings in the data sheet or similar documents, the base on which the module is secured, connections to modules by other manufacturers, and events which could not have been prevented with the technology available at the time of purchase, or in any other way, even by repair. No warrantee service will be performed if the module is modified / damaged as a result of force majeure (storm, hail, fire, power failure, lightning strike, flooding, infestation with insects and pests, exhaust fumes etc.) and as a result of vandalism or comparable causes resulting from the actions of third parties. Warrantee services are also excluded if a module has been damaged through misuse, accident or conversion or has been repaired by a third party dealer/engineer not authorised by Conergy. Establishment of the existence of the above-mentioned prerequisites lies within the discretion of Conergy.
- g) If the originally supplied module type is no longer produced, Conergy will supply the current nearest equivalent module type as replacement.
- h) Conergy's liability will in no event exceed the purchase price of the modules.
- i) Conergy provides no explicit or implied warranties apart from those expressly made herein.

## 4. General information

- a) The warranty does not extend to supplying new or as-new products. Conergy retains the right to use new, overhauled or specially manufactured parts or products. Each module replaced becomes the property of Conergy.
- b) Claims granted on the warranty cause neither a new warranty period to be started nor the warranty to be extended.
- c) Should these terms of warranty differ from the information supplied in the data sheet, these terms of warranty shall prevail.

## 5. Warranty claim Procedure

- a) Claims under this warranty will be considered if submitted in writing to Conergy Pty Ltd, PO Box 909, Strawberry Hills NSW 2012 within 14 days following the discovery of any defect covered by this warranty, with specific details, and provided Conergy or its agents are permitted a commercially reasonable opportunity to examine and analyze the material or workmanship claimed to be defective. An authorised representative of Conergy must approve any claim in writing.
- b) For a claim to be made, the original dealer invoice and this warranty certificate should be sent to Conergy or the dealer with details of the module type, the module serial number, the date of delivery and the defects which have arisen.
- c) The customer is entitled to return modules only with prior permission from Conergy.

**Notes:**

**For more information,  
please contact us:**

1300 551 303 (cost of local call)

Conergy Pty Ltd  
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44-48 O'Dea Avenue  
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