

The Star Performer

LG NeON™ 2

LG315/320N1C-G4

UP TO 19.5% MODULE EFFICIENCY



THE NeON™ 2 - THE PANEL OF THE FUTURE AVAILABLE TODAY

The new LG NeON™ 2 has seen many improvements, from longer warranties and higher efficiency to stronger frames and better wind loading. This panel is ideal for homes seeking a visually pleasing solar panel and for roofs where space is tight or where future system expansions are considered e.g. to incorporate battery storage or electric car charging.

The LG NeON™ modules with their double sided cells and CELLO technology absorb light from the front and the back of the module. This technology sets a new standard for innovation and was recognised with the 2015 Photovoltaic Innovation Award at the Intersolar Industry Event in Germany.



Great Visual Appearance

LG NeON™ 2 panels have been designed with appearance in mind. Their black cells, black frames and thinner wires give an aesthetically pleasing uniform black appearance. Your home deserves the LG NeON™ 2.



12 Years Product Warranty (Parts & Labour)

LG has extended the product warranty of the LG NeON™ 2 by an additional 2 years from 10 years to 12 years. This includes coverage for labour and transport.



More Power per Square Metre

LG NeON™ 2's 320W are a similar physical size to many conventional 250W panels. This means with the LG NeON™ 2 320W you get 28% more electricity per square metre than a 250W panel. So you can install more kW of solar on your roof with the LG NeON™ 2.



Improved 25 Year Performance Warranty

The initial degradation of cells has been improved from -3% to -2%, in the 1st year and the annual rate of degradation has fallen from -0.7%/year to -0.6%/ year thereafter. This brings an 83.6% warranted output after 25 years, compared to 80% for many standard panels.

ABOUT LG ELECTRONICS

LG Electronics embarked on a solar energy research programme in 1985, using our vast experience in semi-conductors, chemistry and electronics. In 2010, LG Solar successfully released its first Mono X® series, and LG Solar modules are now available in 32 countries. In 2013, 2015 and 2016 the LG NeON™ range won the acclaimed Intersolar Award in Germany, which demonstrates LG Solar's lead in innovation and commitment to the renewable energy industry. With over 300 lesser known brands panels selling in Australia, LG solar panels offer a peace of mind solution.

KEY FEATURES



Proven Field Performance

LG has been involved in a number of comparison tests of the LG panels against many other brand panels. LG NeON™ models are consistently among the best performing in these tests.



Additional Certification

LG NeON™ 2 panels have received additional certification including for, Salt Mist Corrosion to maximum severity 6. Ammonia Resistance certification and PID Resistance Tests.



Strict Quality Control Reliable for the Future

The quality control of LG world-class production processes is monitored and improved to Six Sigma quality control standards, which includes 500+ monitoring points to effectively maintain and improve our uncompromising standards.



Multi Anti-reflective Coatings Increase Output

LG is using an anti-reflective coating on the panels glass as well as on the cell surface to ensure more light is absorbed in the panel and not reflected. More absorbed light means more electricity generation.



Improved High Temperature Performance

Solar panels slowly lose ability to generate power as they get hotter. LG NeON™ 2, has an improved temperature co-efficient to our previous model, which means in high temperatures LG NeON™ 2 panels will deliver higher output.



"CELLO" Technology Increases Power

"CELLO" Multi wire busbar cell technology lowers electrical resistance and increases panel efficiency, giving more power per panel and provides a more uniform look to the panel.



Low LID

The N-type doping of the NeON™ cells results in extremely low Light Induced Degradation (LID) when compared with the standard P-type cells. This means more electricity generation over the life of the panel.



Extensive Testing Programme

LG solar panels are tested between 2 to 4 times the International Standards at our in-house testing laboratories, ensuring a very robust and longer lasting solar module.



Cyclone Wind Load Resistance

LG modules have a strong double walled frame and screwed corners. When it comes to wind forces (rear load) many competitor modules are certified to 2400 Pascals. LG modules are certified to more than double - 5400 Pascals, making them very sturdy and strong.



Positive Tolerance (0/+3%)

If we sell you a 320 Watt panel then the flash test of this panel will show somewhere between 320W and 329.6W. Some competitor panels have -/+ tolerance, so you could get a flash test result below the rated Watt, meaning you pay for Watts you never get.



Anti PID Technology for Yield Security

PID (Potential Induced Degradation) affects the long term ability of panels to produce high level electricity output. LG panels have anti PID technology and have been successfully tested by leading third party laboratories regarding PID resistance.



Fully Automated Production in South Korea

All LG solar panels are manufactured in a custom designed and fully automated production line by LG in Gumi, South Korea ensuring extremely low tolerances. This means great consistency between panels.

LG NeON™ 2 – ENHANCED. MORE EFFICIENT. ADVANCED.

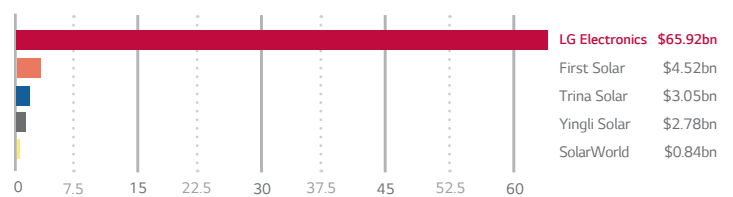
LG NeON™ 2 solar modules now offer even more performance. Featuring a classy new design and with a total of 60 cells, it can withstand a load of 6,000 pascals. LG is extending its product warranty from 10 to 12 years and improving its linear performance guarantee to at least 83.6 % of nominal output after 25 years.

LOCAL WARRANTY, GLOBAL STRENGTH

LG Solar is part of LG Electronics Inc., a global and financially strong company, with over 50 years of experience in technology.

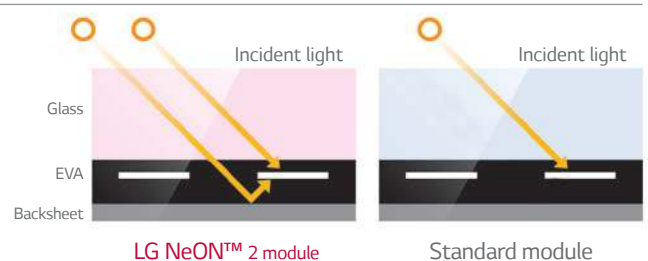
Good to know: LG Electronics Australia Pty Ltd is the warrantor in Australia and New Zealand for your solar modules. So LG support is only a local phone call away.

The warrantor's 2014 sales in billions of Aus dollars



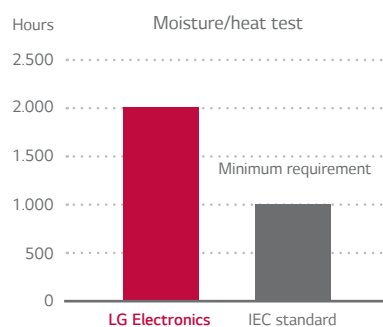
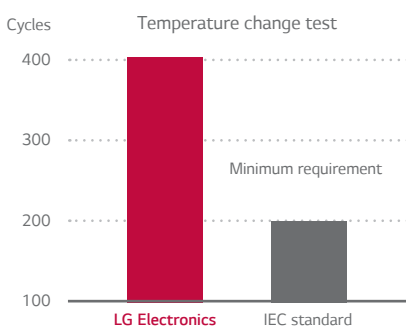
HIGHER OUTPUT, HIGHER YIELD

The NeON™ Cell produces energy from both the front and the back of the cell. This innovative approach allows the absorption of light from the back of the cell which raises the panel's efficiency.



EXCELLENT QUALITY, INDEPENDENTLY TESTED

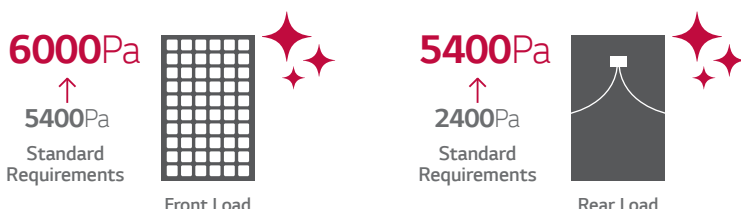
You can rely on LG. We test our products with double the intensity specified in the IEC standard.



Our panels have also won a string of International awards.

POWERFUL DESIGN, GUARANTEED ROBUST

With reinforced frame design, LG NeON™ 2 can endure a front load up to 6000 Pa and a rear load up to 5400 Pa.



Extended Product Warranty

10yrs + 2yrs

LG has also extended the product warranty for parts and labour from an industry average 10 years to an impressive 12 years.

Mechanical Properties

Cells	6 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / N-type
Cell Dimensions	156.75 x 156.75 mm
# of Busbar	12 (Multi Wire Busbar)
Dimensions (L x W x H)	1640 x 1000 x 40 mm
Front Load	6000 Pa
Rear Load	5400 Pa
Weight	17.0 ± 0.5 kg
Connector Type	Genuine MC4, IP67
Junction Box	IP67 with 3 bypass diodes
Length of Cables	2 x 1000 mm
Front cover	High transmission tempered glass
Frame	Anodised aluminum with protective black coating

Certifications and Warranty

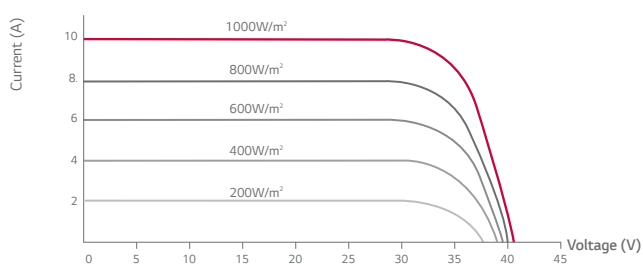
Certifications	ISO 9001
	IEC 61215, IEC 61730-1/-2
	62716 (Ammonia Test)
	IEC 61701 (Salt Mist Corrosion Test)
Module Fire Rating	Class C
Product Warranty	12 Years
Output Warranty of Pmax (Measurement Tolerance ± 3%)	Linear Warranty ¹

¹ 1) 1st year: 98%, 2) After 2nd year: 0.6%p annual degradation, 3) 83.6% for 25 years

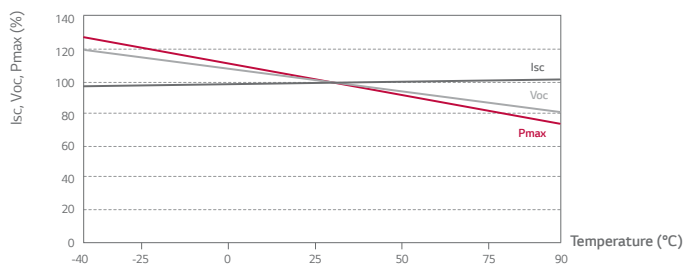
Temperature Characteristics

NOCT	45 ± 3 °C
Pmax	-0.38 %/°C
Voc	-0.28 %/°C
Isc	0.03 %/°C

Current – Voltage characteristics at various irradiance levels



Current – Voltage characteristics at various cell temperatures



Electrical Properties (STC²)

Module Type	315 W	320 W
Maximum Power Pmax (W)	315	320
MPP Voltage Vmpp (V)	33.2	33.6
MPP Current Imp (A)	9.50	9.53
Open Circuit Voltage Voc (V)	40.6	40.9
Short Circuit Current Isc (A)	10.02	10.05
Module Efficiency (%)	19.2	19.5
Operating Temperature (°C)	-40 ~ +90	
Maximum System Voltage (V)	1000	
Maximum Series Fuse Rating (A)	20	
Power Tolerance (%)	0 ~ +3	

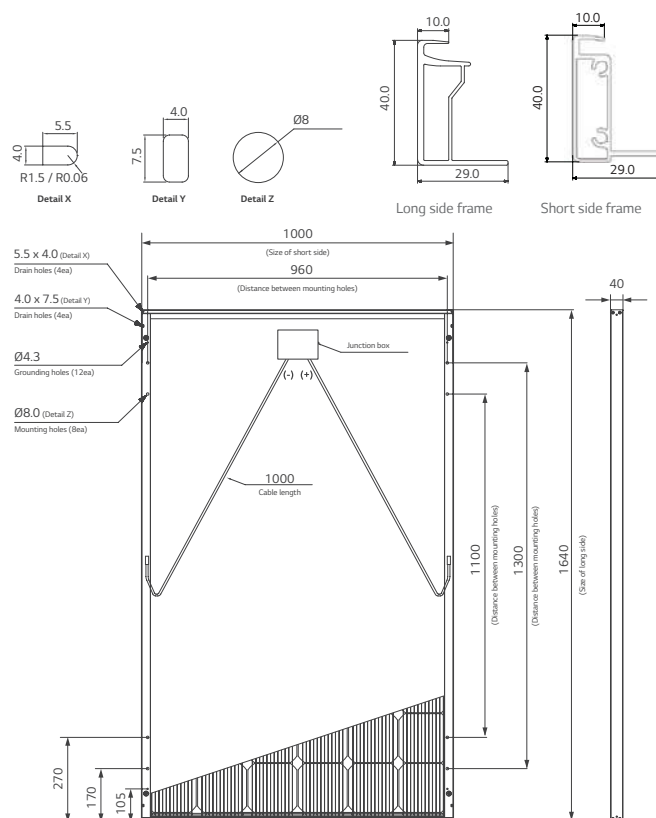
² STC (Standard Test Condition): Irradiance 1000 W/m², Module Temperature 25 °C, AM 1.5.
The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion.
The typical change in module efficiency at 200 W/m² in relation to 1000 W/m² is -2.0%.

Electrical Properties (NOCT³)

Module Type	315 W	320 W
Maximum Power Pmax (W)	233	236
MPP Voltage Vmpp (V)	30.7	31.1
MPP Current Imp (A)	7.57	7.59
Open Circuit Voltage Voc (V)	37.7	38.0
Short Circuit Current Isc (A)	8.06	8.09

³ NOCT (Nominal Operating Cell Temperature): Irradiance 800 W/m², ambient temperature 20 °C, wind speed 1 m/s

Dimensions (mm)



The distance between the center of the mounting/grounding holes.





Manufacturer's Warranty



LG Mono~~X~~[®]Plus LG NeON[®]2 LG NeON[®]2Black LG NeON[®]2BiFacial LG NeON[®]R

LG Solar - The Difference is in the Detail ○

We recommend you register your solar system warranty for Australia and NZ on the LG energy website. (See below).

By supplying your panels installation address and the serial numbers of your LG solar panels you will ensure your details are registered with LG for many years. In years to come your paperwork might be misplaced and by having registered we have your product details ready to retrieve. Please click on the warranty registration icon on the front page of the website. Even if you do not register your warranty is covered by LG.

Your LG solar team.

Dear LG solar system buyer,
You have made an excellent choice in purchasing high quality solar panels.

"If a single defect is found among a hundred units, then the remaining 99 units will be considered defective by our customers. Selling large quantities for the sake of sales is not the best solution. Every product we assemble must be of excellent quality. Building customer trust by providing superior product is our key aim." In Hwoi Koo, founder of LG.

This quote defines the philosophy of LG that is still the driving force behind the business today. LG modules have been manufactured with great care and have undergone extensive testing to stand the test of time. Our input materials and manufacturing processes undergo strict quality control and our product testing laboratory has been certified by all four of the world's leading testing facilities, TUV Rheinland of Germany Underwriters Laboratories, USA, VDE and Intertek, a first in the solar industry.



The warranty for LG Solar panels in Australia and NZ is held by LG Electronics Australia Pty Ltd, based in Western Sydney and LG New Zealand based in East Tamaki, Auckland. LG Electronics has been manufacturing electronic equipment since 1958 and has been in Australia as an entity since May 1997 and in NZ since June 2007.

The LG Solar manufacturer's warranty applies in addition to your rights under the Australian Consumer Law, and provides for the replacement or repair of your LG panel, including both parts and labour. Should your LG panel fail, LG will cover parts, transport, removal and installation costs (although, and subject to your rights under the Australian Consumer Law, some travel costs may apply in remote areas).

For your 'peace of mind' the warranty claim, should there ever be one, is handled by LG directly. The decisions and solutions therefore can be implemented speedily.



How does a warranty claim work:



Should your solar system not work, please contact the company that installed the solar system or one of our other local authorised LG solar dealers.

Please check LGenergy.com.au or LGenergy.co.nz to locate the closest LG authorised solar dealer.

The local authorised LG solar dealer will inspect the system to identify the reason for the fault. If it is a panel related issue and the manufacturer warranty or Australian Consumer Law applies, the dealer will contact LG to arrange for the issue to be addressed.

If it is an inverter related or other issue then the LG authorised dealer will communicate with you what needs to happen to get your solar system working again.

Please note that if the system's failure is not due to a manufacturing defect with the panel then LG's involvement in fixing the issue will cease. Also, in this case the dealer might charge a fee for visiting your home and analysing the issue.



40 kW LG NeON system, carwash, Bathurst

LG's Manufacturer's Warranty



1a. 12 Year Product Warranty for Mono X Plus and NeON 2 Module(s)

Subject to the terms in this document, LG will for a period of twelve (12) years from date of original purchase authorise a free of charge repair or replacement (at LG's discretion) of the module, if in LG's opinion, it needs repair or replacement because of a manufacturing or materials defect appearing within, and notified to LG in accordance with this warranty. This warranty is only applicable to modules under normal applications, installations, use and service conditions.

1b. 25 Year Product Warranty for NeON R Module(s)

Subject to the terms in this document, LG will for a period of twenty five (25) years from date of original purchase authorise a free of charge repair or replacement (at LG's discretion) of the module, if in LG's opinion, it needs repair or replacement because of a manufacturing or materials defect appearing within, and notified to LG in accordance with this warranty. This warranty is only applicable to modules under normal applications, installations, use and service conditions.

2a. 25 Years Limited Warranty for Power Output (Mono X Plus, NeON 2 and NeON 2 BiFacial models only)

LG guarantees that for a period of one (1) year from date of original purchase the actual power output of the module, as measured under LG's standard test conditions (LG's STC),* will be no less than 98% of the nameplate power output. From the second year, the actual power output will decline by no more than 0.55 percentage points per year for each of the remaining 24 years of this limited warranty, so that by the end of the 25th year, the module will produce an actual output of at least 84.8% of its nameplate power output.

2b. 25 Years Limited Warranty for Power Output (NeON R models only)

LG guarantees that for a period of five (5) years from date of original purchase the actual power output of the module, as measured under LG's standard test conditions (LG's STC),* will be no less than 95% of the nameplate power output. From the end of the fifth year, the actual power output will decline by no more than 0.4 percentage points per year for each of the remaining 20 years of this limited warranty, so that by the end of the 25th year, the module will produce an actual output of at least 87% of its nameplate power output.

Please note that the availability of this limited output warranty past the period of the product warranty described in the preceding clause 2a and 2b, is subject to the module being in working order. If the module does not produce at least the warranted power output when measured by LG or a previously agreed independent measuring institute under LG's STC (IEC61215) taking into account a $\pm 3\%$ tolerance range for the measuring equipment, LG will, at its sole and absolute discretion, either (i) repair the module(s); (ii) supplement the power deficiency by either: (a) providing additional module(s) to the Customer; or (b) replacing the module; or (iii) refund the difference between the Warranted Power Output and the Actual Power Output (measured under LG's STC and expressed as percentages of the module's nameplate power output) multiplied by the market price of the module or a comparable model at the time of the Customer's claim.



3. Warranty Transfer

The Warranties provided in this Manufacturer's Warranty are transferable when the module remains installed in its original location. This means, when a customer sells their home with LG modules installed, the new owners of the property will continue to enjoy the LG solar module warranty protection. The warranty period runs from the original date of purchase.

4. General

This LG Manufacturer's Warranty only applies within Australia and New Zealand to units purchased within Australia and New Zealand. No LG employee or authorised distributor has the authority to vary the terms of this warranty.

5. How this Limited Warranty applies

Modules presented for repair or replacement may be replaced by new or refurbished modules of the same type rather than being repaired. Refurbished parts may be used to repair the modules. The replaced module(s) or parts will become LG property should LG wishes to retain these modules. In the event the module(s) is no longer available, LG reserves the right, at its sole option, to deliver new or remanufactured module(s) that may differ in size, colour, shape, model number, and/or power level. Any repaired or replaced modules will be technically compatible with the existing solar system.

6. Place of Service

The Limited 12 year Manufacturer's Warranty covers the transportation cost for reshipment of any repaired or replaced module(s) to the Customer site. Repairs or replacements of modules within metropolitan areas and areas immediately surrounding metropolitan areas (the "Service Area") will be conducted at the customer's premises free of charge. If customers reside outside the Service Areas, LG or its Authorised Service Centre may charge a travel fee to attend the premises. Service calls will be made during normal business hours, Monday to Friday. LG's Authorised solar installation services may charge a fee for service calls made outside these hours or if the system failure is not related to a panel failure. If a module(s) returned to LG is found not to be defective or this Limited Warranty has expired, the Customer is responsible to pay for call out fees and repairs.

7. This LG Manufacturers Warranty does not cover:

- a) Modules sold and/or installed outside Australia and New Zealand;
- b) Fair wear and tear;
- c) Modules where the serial number has been removed or made illegible;
- d) Modules which have been subject to misuse, abuse, neglect or accident;
- e) Alterations, improper installation or reinstallation;
- f) Damage and/or failure caused by improper wiring;
- g) Damage and or failure caused by other parts of the solar system;
- h) Modules which have been installed on mobile units such as caravans and motor homes;
- i) Modules installed in extreme corrosive environments e.g. boats (Please note: Panels installed in residential or industrial areas near the coast are covered);
- j) Incorrect system configuration and damaging installation environments, e.g. installation of mutually incompatible modules, inadequate system design, permanent installations under constantly moving harsh shadows eg palm tree leaves;
- k) Modules which have been installed by someone other than a qualified or licensed technician in the solar or electrical business field e.g. Clean Energy Council accredited installer;
- l) Non-observance of LG's installation and maintenance instructions as outlined in the LG installation manual;
- m) Repair or modifications to the module not approved by LG or undertaken by someone other than a qualified solar installer approved by LG;
- n) Power failure, surges, lightning, flood, fire, accidental breakage, acid rain, vandalism, acts of war, natural disasters like tornados or other events outside LG's control;
- o) In addition, the warranties do not apply in relation to any cosmetic change of the module in appearance over time, if and to the extent such change does not result in an impairment of the functioning of the product;
- p) External marking on the modules such as mould and lichen e.g. transferring from nearby roof tiles, and which occur after delivery to the customer shall not qualify as a defect hereunder.

*LG's standard test conditions are: (a) light spectrum of AM 1.5; (b) irradiation of 1000 W per m², and; (c) cell temperature of 25 degrees centigrade at right angle irradiation.

LG's Manufacturer's Warranty Exclusions ○

8. Other Rights

The benefits given by this LG Manufacturer's warranty are additional to other rights and remedies that you may have under law. For Australian Consumers, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

9. How to Claim

To make a claim against this warranty, you must contact LG or an LG Authorised dealer within 30 days of noticing the alleged defect within the applicable warranty period. LG Authorised dealers are listed on our website lgenergy.com.au in Australia and lgenergy.co.nz in New Zealand. LG can also be contacted via these websites, through the contact tab. Any claims must be accompanied by a copy of the original sales receipt as the proof of purchase and time of purchase of LG Module(s). The customer will need to also be able to show the original purchase receipt, should LG request such a document.

10. Batch Defect Process

If any manufacturing defect is detected in any batch of LG Solar modules, the following process will apply.

1. The batch numbers will be identified via LG's pallet and serial number records.
2. LG will notify all channel partners / customers that have been supplied with product from the identified batch.
3. Depending on the nature of the defect, the required action (such as repair or replacement of the panel/s) will be arranged.
4. LG will co-operate with any lawful directions of any consumer authorities and the Clean Energy Corporation in undertaking any such actions.

11. Warranty claim complaints handling process

Customers or installers not satisfied with any determination of any warranty claim by LG Electronics may write to LG Electronics Australia, Solar Unit, 2 Wonderland Drive, Eastern Creek NSW 2766 or email: solar.sales@lge.com.au, stating:

- details of the relevant warranty claim and panels (including serial numbers);
- detailed reasons why they are not satisfied with the determination, and
- provide any supporting documentation they consider relevant.

Within a reasonable time of receiving any such complaints, LG Electronics will review the original decision and advise the complainant in writing of the outcome of that review.



Warranty contact details:



AUSTRALIA
By Telephone:
(02) 8805 4000
By Post:
LG Warranty Claims, Solar Unit
PO Box 212, HORSLEY PARK NSW
2175
By Email:
solar.sales@lge.com.au

NEW ZEALAND
By Telephone:
0800 LG CARE (0800 542 273)

By Email:
solar.sales@lge.com.au

12. Validity

This warranty applies to modules in Australia and New Zealand as per type and power class outlined in the table below. The table below contains all current types of module to which this Limited Warranty applies. Please note: XXX in the left column represents the relevant power classes. The power classes are listed in the right hand column. Module types not contained in this table are not subject to this Manufacturer's Warranty.

TYPE OF MODULE	POWER CLASSES (XXX)
LGXXXS1C-G4, LGXXXS1C-L4, LGS1K-L4, LGXXXS1C-A5, LGXXXS1W-A5	280, 285, 290, 295, 300, 305, 310, 315
LGXXXN1C-G4, LGXXXN1K-G4, LGXXXN1C-A5, LGXXXN1K-A5, LGXXXN1W-A5	300, 305, 310, 315, 320, 325, 330, 335
LGXXXN1T-A4, LGXXXN1T-A5	290, 295, 300, 305, 310, 315, 320, 325, 330
LGXXXN2W-G4, LGXXXN2W-A5	360, 365, 370, 375, 380, 385, 390, 395, 400, 405, 410
LGXXXQ1C-A5, LGXXXQ1K-A5	340, 345, 350, 355, 360, 365, 370, 375
LGXXXS2W-A5, LGXXXS2C-A5	345, 350, 355, 360, 365, 370, 375
LGXXXN2T-A5	365, 370, 375, 380, 385, 390, 395, 400

LG holds the right to amend the provisions, clauses or applications of this Limited Warranty from time to time without notice.



The LG advantages



- LG offers one of the most efficient panels with our high efficient NeON range;
- We give you a 12 year manufacturer's warranty and a 25 year output warranty;
- LG's precise production standards & quality control ensure an excellent built panel;
- LG is a diversified company and does not rely only on solar for our income stream, so the ups and downs of the solar industry are less likely to affect our annual balance sheet;
- We provide local warranty support with LG Electronics Australia and LG Electronics NZ. You or your installer will be able to contact the local LG Electronics solar unit directly;
- The LG Solar manufacturer's warranty provides for the replacement or repair of your LG panel, including parts, labour, and transport costs (although, and subject to your rights under the Australian Consumer Law, some travel costs may apply in remote areas);
- The LG Manufacturers Warranty is a transferable warranty. When you sell your premises, the original warranty continues for the new owners;
- At the date of publication, 1 March 2017 only 2 out of more than 370,000 LG panels distributed in Australia and NZ had been returned through a warranty claim.

LG Solar Installer Details:

HEAD OFFICE

2 Wonderland Drive, Eastern Creek, NSW 2766

CONTACT

Email: solar.sales@lge.com.au Enquiries: +612 8805 4038 (Australia)

STATE OFFICES

Queensland

23 Terrace Place, Murarrie, QLD 4172

South Australia

162 Richmond Rd, Marleston, SA 5033

Victoria

3 John Deere Court, Derrimut, VIC 3030

Western Australia

18 Baile Road, Canning Vale, WA 6155

New Zealand

60 Highbrook Drive, Highbrook Business Park, East Tamaki, AKL 2013