



Great  
Performance  
with the  
new Mono X<sup>®</sup> 2

# LG Mono X<sup>®</sup> 2

LG280/285S1C-L4

LONG LASTING PANELS

STRONG WARRANTIES



## YOUR HOME DESERVES THE Mono X<sup>®</sup> 2

The latest Mono X<sup>®</sup> 2 benefits from years of LG research. The fourth generation LG Mono X<sup>®</sup> 2 has seen many improvements that really matter, from longer warranties and higher efficiency to stronger framing and increased wind loading.

The LG Mono X<sup>®</sup> 2 will provide decades of clean, reliable energy. Choosing the high quality Mono X<sup>®</sup> 2 is an investment in superior standards of design, manufacture, back up support and warranties. The high quality is the result of our strong commitment to developing a module that delivers reliable, high output for decades for a peace of mind solar solution.



### Great Visual Appearance

LG Mono X<sup>®</sup> 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 Mono X<sup>®</sup> 2.



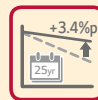
### 12 Years Product Warranty (Parts & Labour)

LG has extended the product warranty of the LG Mono X<sup>®</sup> 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 Mono X<sup>®</sup> 2's 285W panels are a similar physical size to many conventional 250W panels. This means with the LG Mono X<sup>®</sup> 2's 285W you get 14% more electricity per square metre than a 250W panel. So you can install more kW of solar on your roof with the LG Mono X<sup>®</sup> 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<sup>®</sup> series, and LG Solar modules are now available in 32 countries. In 2015 LG solar panels range won the acclaimed Top Brand PV Award in Europe, 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 Mono X<sup>®</sup> models are consistently among the best performing in these tests.



### Additional Certification

LG Mono X<sup>®</sup> 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 Mono X<sup>®</sup> 2, has an improved temperature co-efficient to our previous model, which means in high temperatures LG Mono X<sup>®</sup> 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.



### Reduced LID

The Mono X<sup>®</sup> 2 has reduced the initial degradation of solar cells by applying LG new LiLy (LID-improvement for Lifetime Yield) Technology, which controls the reaction of Boron and Oxygen, a key factor of LID (Light Induced Degradation).



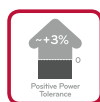
### Extensive Testing Programme

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 285 Watt panel then the flash test of this panel will show somewhere between 285W and 293.5W. 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 Mono X<sup>®</sup> 2 – GREAT PERFORMANCE

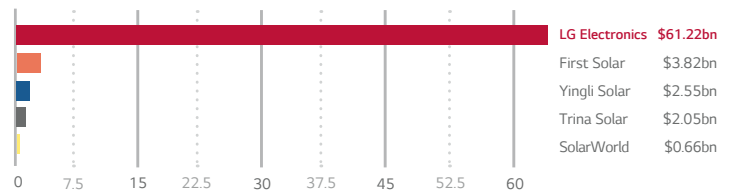
The next generation Mono X<sup>®</sup> 2 by LG combines everything a solar module needs: long service life and ease of installation as well as an elegant exterior and high efficiency.

### 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.

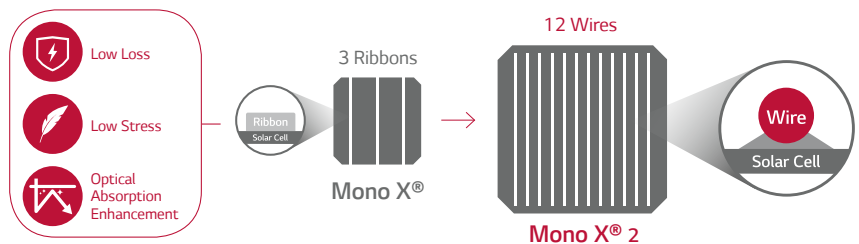
Good to know: LG Electronics Australia Pty Ltd is the warrantor in Australia and New Zealand for your solar modules. So LG support is only a local phone call away.

The warrantor's 2013 sales in billions of Aus dollars



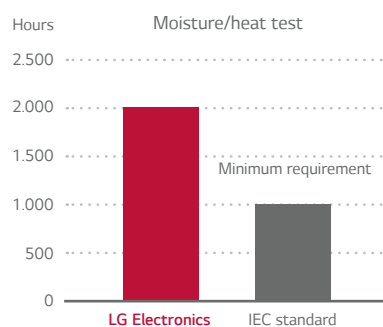
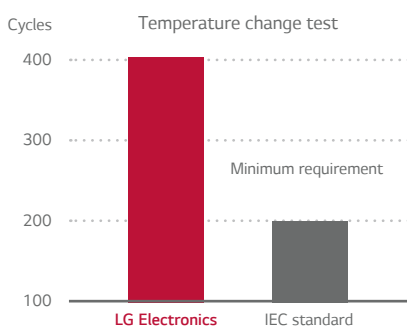
### CELLO TECHNOLOGY, AN LG ADVANTAGE

- Cell Connection
- Electrically
- Low Loss
- Low Stress
- Optical Absorption Enhancement



### EXCELLENT QUALITY, INDEPENDENTLY TESTED

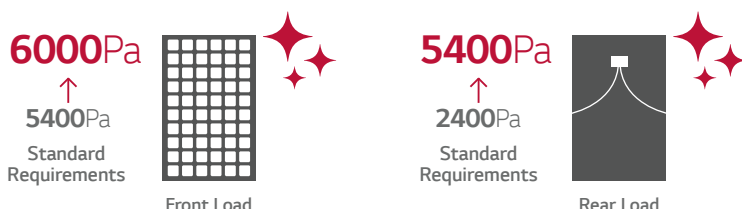
You can rely on LG. We test our products with double the intensity specified in the IEC standard.



Our panels have also won a string of International awards.

### POWERFUL DESIGN, GUARANTEED ROBUST

With reinforced frame design, LG Mono X<sup>®</sup> 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 / P-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 (Male: PV-KST4) (Female: PV-KBT4)
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

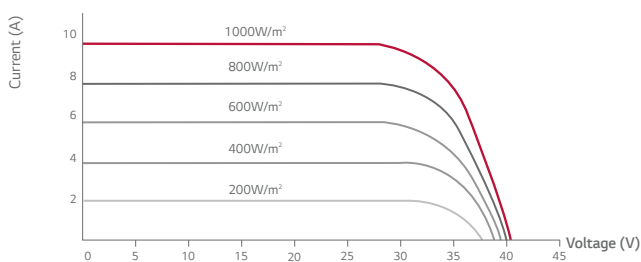
Certifications	ISO 9001
	IEC 61215, IEC 61730-1/-2
	IEC 62716 (Ammonia Test)
	IEC 61701 (Salt Mist Corrosion Test)
Module Fire Rating	Class C
Product Warranty	12 Years
Output Warranty of Pmax (Measurement Tolerance ± 3%)	Linear Warranty <sup>1</sup>

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

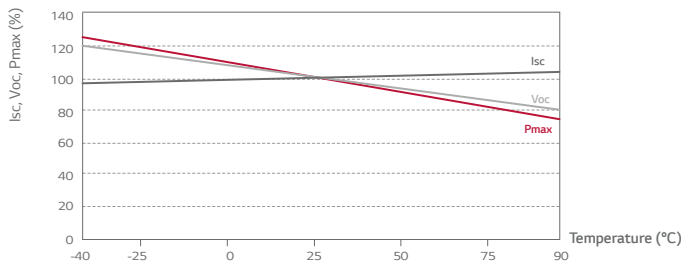
### Temperature Characteristics

NOCT	46 ± 3 °C
Pmax	-0.39 %/°C
Voc	-0.30 %/°C
Isc	0.05 %/°C

### Current – Voltage characteristics at various irradiance levels



### Current – Voltage characteristics at various cell temperatures



### Electrical Properties (STC<sup>2</sup>)

Module Type	280 W	285 W
MPP Voltage Vmpp (V)	31.5	31.7
MPP Current Imp (A)	8.90	9.00
Open Circuit Voltage Voc (V)	38.6	38.8
Short Circuit Current Isc (A)	9.39	9.50
Module Efficiency (%)	17.1	17.4
Operating Temperature (°C)	-40 ~ +90	
Maximum System Voltage (V)	1000	
Maximum Series Fuse Rating (A)	20	
Power Tolerance (%)	0 ~ +3	

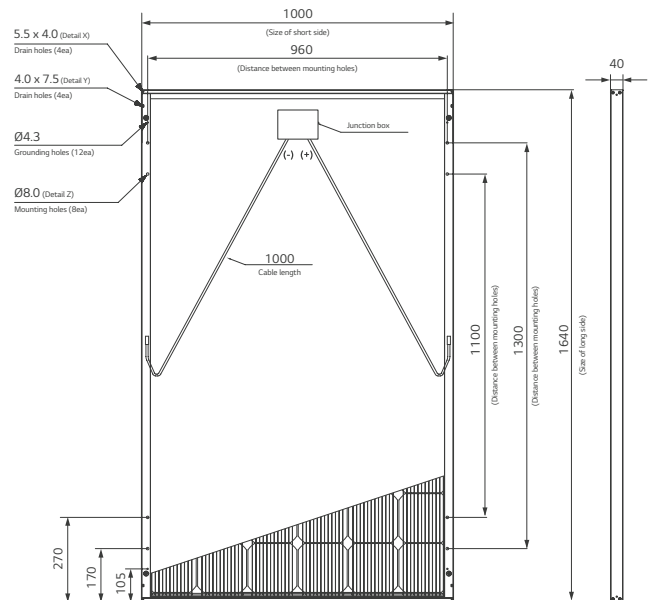
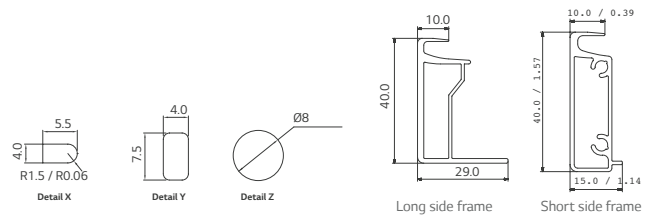
<sup>2</sup> STC (Standard Test Condition): Irradiance 1000 W/m<sup>2</sup>, module temperature 25 °C, AM 1.5. The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion. The typical change in module efficiency at 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> is -4.5%.

### Electrical Properties (NOCT<sup>3</sup>)

Module Type	280 W	285 W
Maximum Power Pmax (W)	204	207
MPP Voltage Vmpp (V)	28.8	28.9
MPP Current Imp (A)	7.08	7.17
Open Circuit Voltage Voc (V)	35.5	35.7
Short Circuit Current Isc (A)	7.56	7.65

<sup>3</sup> NOCT (Nominal Operating Cell Temperature): Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, wind speed 1 m/s

### Dimensions (mm)



The distance between the center of the mounting/grounding holes

