



High  
Performance  
Great Looks

# LG MonoX<sup>®</sup> 2 Black

LG280S1K-L4

**TOTALLY BLACK**

**280 WATTS**



## YOUR HOME DESERVES THE MonoX<sup>®</sup> 2 Black

The new LG MonoX<sup>®</sup> 2 Black has seen many improvements that really matter, from longer warranties and higher efficiency to stronger frames and better wind loading as well as an excellent uniform looking panel. This panel is ideal for homes seeking a visually pleasing solar panel as well as solid high efficient power output.

The LG MonoX<sup>®</sup> 2 Black will provide decades of clean, reliable energy. Choosing the high quality MonoX<sup>®</sup> 2 Black 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 Black panels with their black cells, black frames and black backsheet give an aesthetically pleasing uniform appearance. Standard competitor poly panels have blue cells and grey aluminium frames. Your home deserves the LG Mono X<sup>®</sup> 2 Black.



### More Power per Square Metre

LG Mono X<sup>®</sup> 2 Black's 280W panels are a similar physical size to many of the industries 250W panels. This means 12% more electricity per square metre with LG Mono X<sup>®</sup> 2 Black. So you can get more power from your roof space with LG panels.



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

LG has extended the product warranty of the LG Mono X<sup>®</sup> 2 Black for an additional 2 years from 10 years to 12 years. Most other competitor panels only give you 10 years and many only supply the panel and ask you to pay for any re-install.



### 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 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 Mono X<sup>®</sup> 2 Black models are consistently among the best performing in these tests.



### Additional Certification

LG Mono X<sup>®</sup> 2 Black 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 Black, has an improved temperature co-efficient to our previous model of 0.39%, which means in high temperatures LG Mono X<sup>®</sup> 2 Black 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 doping process of the Mono X<sup>®</sup> 2 Black 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 280 Watt panel then the flash test of this panel will show somewhere between 280W and 288W. 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 BLACK – ELEGANT DESIGN. GREAT LOOKS.

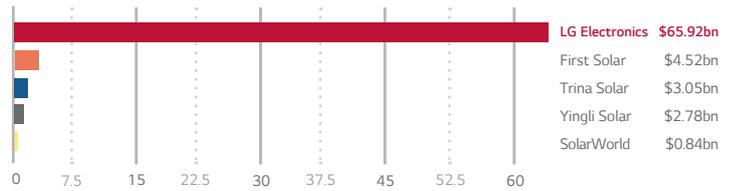
As its name suggests, the monocrystalline LG Mono X<sup>®</sup> 2 Black solar module is completely black and will look great on your roof. Featuring the new black CELLO look, it can withstand a static front load of 6,000 Pascals and a rear panel cyclone wind load of 5400 Pascals. LG is also improving 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.

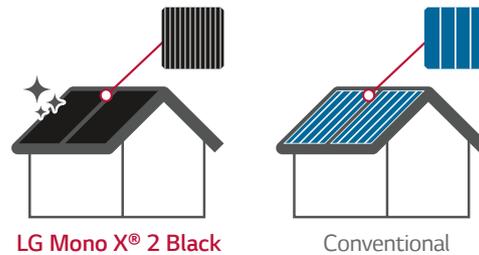
Good to know: LG Electronics Australia Pty Ltd is the warrantor in Australia and New Zealand for your solar modules. So LG support is only a local phone call away.

The warrantor's 2014 sales in billions of Aus dollars



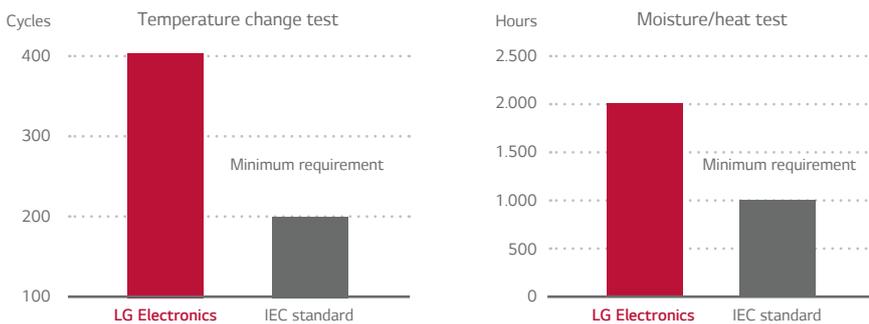
### UNDERSTATED ELEGANCE FOR BEAUTIFUL ROOFS

The LG Mono X<sup>®</sup> 2 Black solar module featuring a black anodised frame and black backing sheet looks totally black. Its elegant design much more elegant than the blue colour cells and grey/silver frames of conventional polly panels.



### 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 Black 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 (IEC)
Rear Load	5400 Pa (IEC)
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

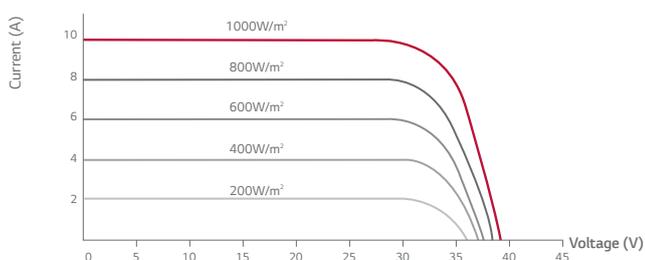
Certifications	ISO 9001
	IEC 61215, IEC 61730-1/-2
	IEC 62716 (Ammonia Corrosion Test)
	IEC 61701 (Salt Mist Corrosion Test)
Module Fire Rating	Class C
Product Warranty	12 Years
Output Warranty of Pmax (Measurement Tolerance ± 3%)	Linear Warranty <sup>1</sup>

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

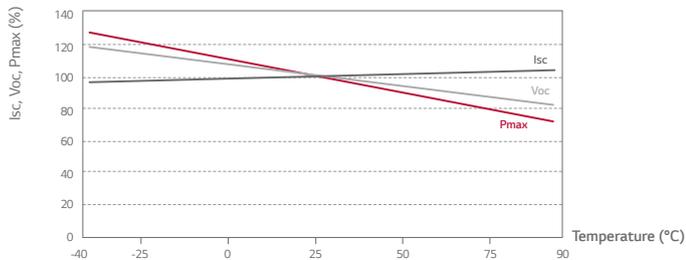
## Temperature Characteristics

NOCT	45 ± 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
Maximum Power Pmax (W)	280
MPP Voltage Vmpp (V)	31.5
MPP Current Impp (A)	8.9
Open Circuit Voltage Voc (V)	38.6
Short Circuit Current Isc (A)	9.39
Module Efficiency (%)	17.1
Operating Temperature (°C)	-40 ~ +90
Maximum System Voltage (V)	1000
Maximum Series Fuse Rating (A)	15
Power Tolerance (%)	0 ~ +3

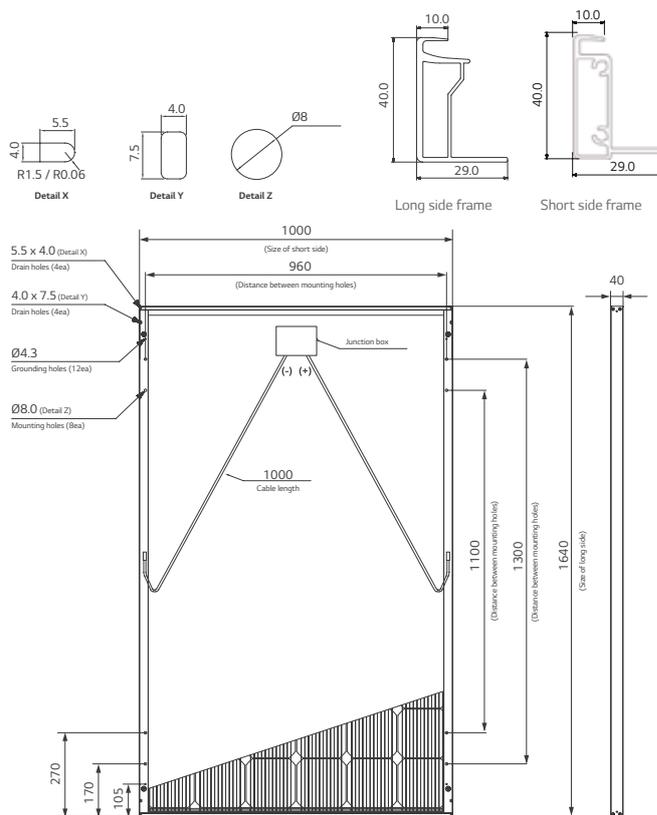
<sup>2</sup> STC (Standard Test Condition): Irradiance 1000 W/m<sup>2</sup>, Module Temperature 25 °C, AM 1.5. The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion. The typical change in module efficiency at 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> is -3.0%.

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

Module Type	280 W
MPP Voltage Vmpp (V)	28.9
MPP Current Impp (A)	7.19
Open Circuit Voltage Voc (V)	36
Short Circuit Current Isc (A)	7.58

<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.



LG Electronics Australia Pty Ltd  
Solar Business Group  
2 Wonderland Drive, Eastern Creek, NSW 2766  
Ph: (02) 88054038  
E-Mail: solar.sales@lge.com.au  
Web: lgenergy.com.au

LG Electronics Inc.  
Solar Business Division  
Seoul Square 416, Hangang-daero,  
Jung-gu, Seoul 100-714, Korea  
www.lg-solar.com

Product specifications are subject to change without prior notice.  
Date: 09/2016

Copyright © 2016 LG Electronics.  
All rights reserved.

