

# THE ESTHETE ON THE ROOF

LG Mono **X**<sup>®</sup> 2 Black

HIGHLIGHT 2016

UP TO 280 WATTS

FULL BLACK

LG CELLO DESIGN



## LG MonoX<sup>®</sup> 2 Black – ENERGY AT ITS BEST.

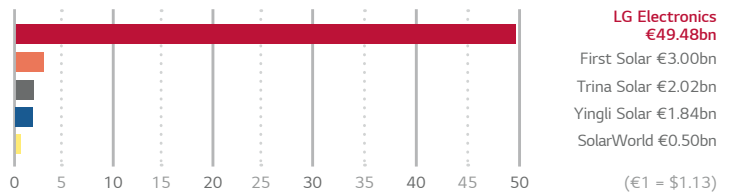
As its name suggests, the monocrystalline LG MonoX<sup>®</sup> 2 Black solar module is completely black. Its grand design means it can easily be integrated into any house roof. And the new LG CELLO technology delivers a reliable output of 280 Wp and a very homogeneous and elegant optical appearance.

### LOCAL GUARANTOR, GLOBAL SECURITY

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

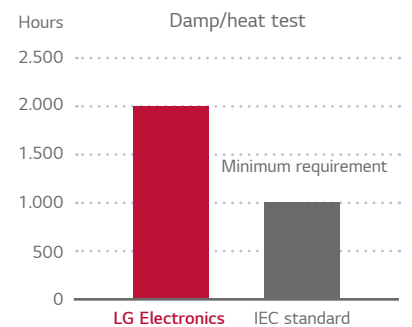
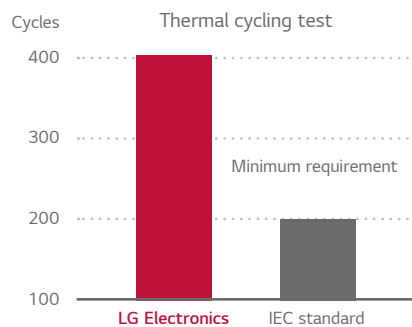
**Good to know:** LG Electronics is the warrantor for your solar modules. LG Electronics has been present in Europe with many local subsidiaries for decades.

The warrantor's 2014 sales in billions of euros



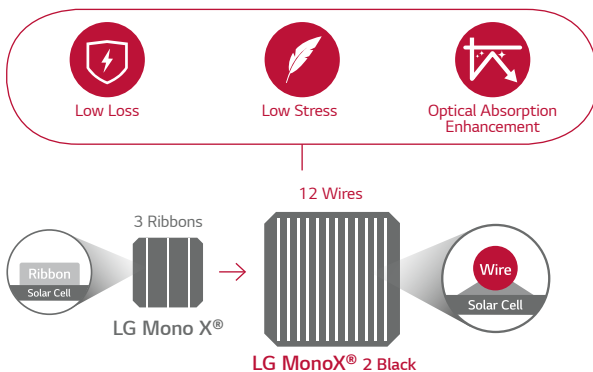
### EXCELLENT QUALITY, INDEPENDENTLY TESTED

You can rely on LG. We test our products with double the intensity specified in the IEC standards. This quality is valued by installers across Europe, which is why they have awarded our LG solar modules the Top Brand PV stamp of quality for the highest recommendation rates for the third time in a row. Moreover, they have already received the prestigious Intersolar Award in 2013 and 2015 as well as the Plus X Award.



### CELLO TECHNOLOGY

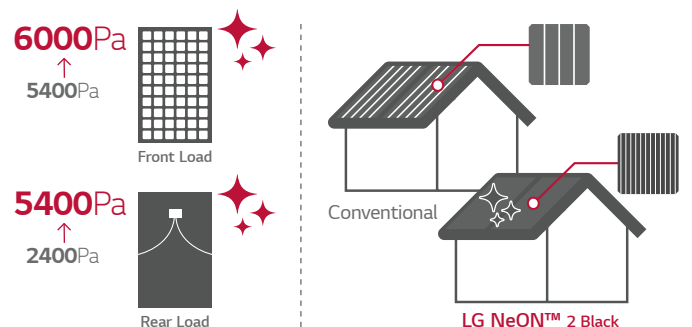
- Cell Connection
- Electrically
- Low Loss
- Low Stress
- Optical Absorption Enhancement



### UNIQUE ELEGANCE FOR YOUR ROOF

The totally black solar module LG MonoX<sup>®</sup> 2 Black can endure a static front load up to 6000 Pa, and a static rear load up to 5400 Pa.

Its high-quality design blends harmoniously into the appearance of your home.



Extended Product Warranty

# 12 yrs

Linear Warranty: 25yrs\*

\* 1) 1st year: min. 98%  
 2) After 2nd year: max. 0.6%p annual degradation  
 3) min. 83.6% for 25 years

# LG MonoX<sup>®</sup> 2 Black

LG280S1K-L4 | LG275S1K-L4

## 60 cell

LG's new module, LG MonoX<sup>®</sup> 2 Black, adopts LG's CELLO technology. CELLO technology replaces 3 busbars with 12 thin wires to enhance power output and reliability. LG MonoX<sup>®</sup> 2 Black demonstrates LG's efforts to increase customer value beyond efficiency. It features enhanced warranty, durability, performance under real environmental conditions, and aesthetic design suitable for roofs.

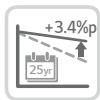


MW 564573 BS EN 61215 Photovoltaic Modules



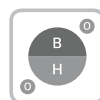
→ CELLO technology

## KEY FEATURES



### Advanced 25-year performance guarantee

LG MonoX<sup>®</sup> 2 Black has an enhanced linear performance warranty with a max. annual degradation of max.-0,6 %. Thus, LG guarantees a min. of 83,6 % of the nominal power even after 25 years of operation.



### Reduced LID

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



### Aesthetic Roof

LG MonoX<sup>®</sup> 2 Black has been designed with aesthetics in mind; thinner wires that appear all black at a distance. The product can increase the value of a property with its modern design.



### Outstanding Durability

With its newly reinforced frame design, the LG MonoX<sup>®</sup> 2 Black can endure a front load up to 6000 Pa (represents snow height of normal snow of more than 1.8 meters) and a rear load up to 5400 Pa (represents wind speed of up to 93 m/s, compare max. wind speed of Hurricane Katrina 2005 of max. 75 m/s).



### High Power Output

Compared with previous models, the LG MonoX<sup>®</sup> 2 Black has been designed to significantly enhance its output efficiency to produce maximum power even in limited space.



### Light and Convenient

LG MonoX<sup>®</sup> 2 Black has been carefully designed, it weighs just 17kg and has better grips that allow for quick installation.

## About LG Electronics

LG Electronics is a global big player, committed to expanding its operations with the solar market. The company first embarked on a solar energy source research program in 1985, supported by LG Group's vast experience in the semi-conductor, LCD, chemistry and materials industries. In 2010, LG Solar successfully released its first MonoX<sup>®</sup> series to the market, which is now available in 32 countries. The NeON™ (previous MonoX<sup>®</sup> NeON) and The NeON™2 won the "Intersolar AWARD" in 2013 and 2015, which demonstrates LG Solar's lead, innovation and commitment to the industry.

## Mechanical Properties

Cells	6 x 10
Cell Vendor	LG
Cell Type	Monocrystalline / P-type
Cell Dimensions	156.75 x 156.75 mm / 6 inches
# 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	MC4
Junction Box	IP67 with 3 Bypass Diodes
Length of Cables	1000 mm x 2 ea
Glass	High Transmission Tempered Glass
Frame	Anodized Aluminium

## Certifications and Warranty

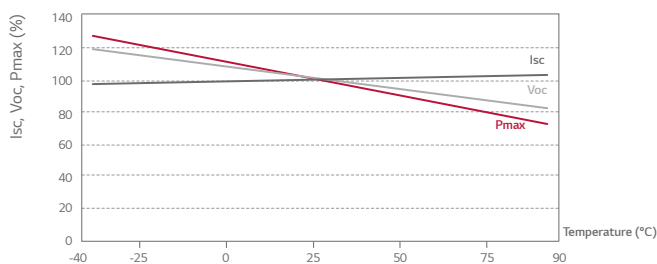
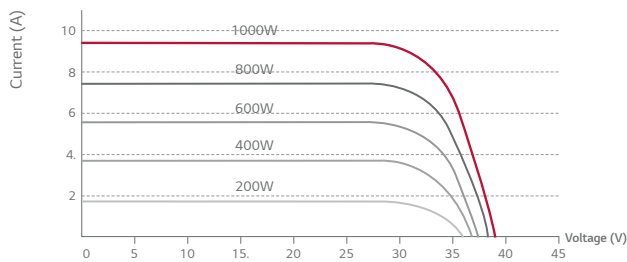
Certifications	IEC 61215, IEC 61730-1/-2
	IEC 62716 (Ammonia corrosion test)
	IEC 61701 (Salt mist corrosion test)
	ISO 9001
Fire Rating	Class C
Product Warranty	12 Years
Output Warranty of Pmax	25 years linear warranty <sup>1</sup>

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

## Temperature Characteristics

NOCT	[ °C ]	45 ± 3
Pmax	[%/°C]	-0.39
Voc	[%/°C]	-0.30
Isc	[%/°C]	0.05

## Characteristic Curves



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

		280 W	275 W
MPP Voltage (Vmpp)	[V]	31.5	31.3
MPP Current (Impp)	[A]	8.90	8.80
Open Circuit Voltage (Voc)	[V]	38.6	38.4
Short Circuit Current (Isc)	[A]	9.39	9.28
Module Efficiency	[%]	17.1	16.8
Operating Temperature	[°C]	-40 ~ +90	
Maximum System Voltage	[V]	1000 (IEC)	
Maximum Series Fuse Rating	[A]	15	
Power Tolerance (%)	[%]	0 ~ +3	

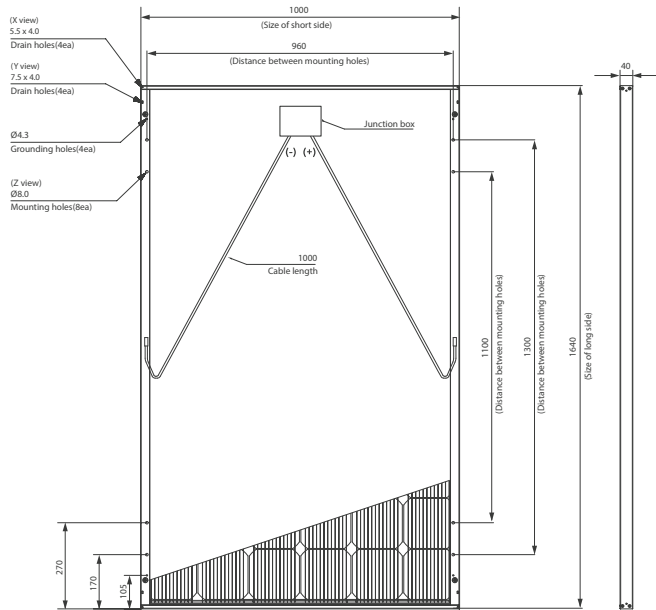
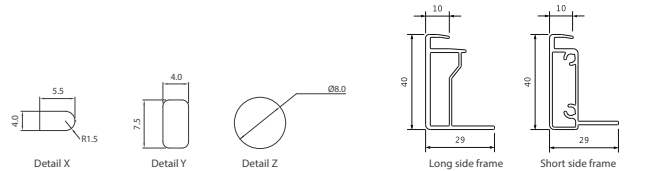
<sup>2</sup>) STC (Standard Test Condition): Irradiance 1000 W/m<sup>2</sup>, Module Temperature 25 °C, AM 1.5.  
<sup>3</sup>) The typical change in module efficiency at 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> is -3.0%.  
<sup>4</sup>) Application Class: A, Safety Class: II  
<sup>4</sup>) The nameplate power output is measured and determined by LG Electronics at its sole and absolute discretion.

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

		280 W	275 W
Maximum Power (Pmax)	[W]	208	204
MPP Voltage (Vmpp)	[V]	28.9	28.7
MPP Current (Impp)	[A]	7.19	7.11
Open Circuit Voltage (Voc)	[V]	36.0	35.8
Short Circuit Current (Isc)	[A]	7.58	7.49

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

## Dimensions (mm)



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

