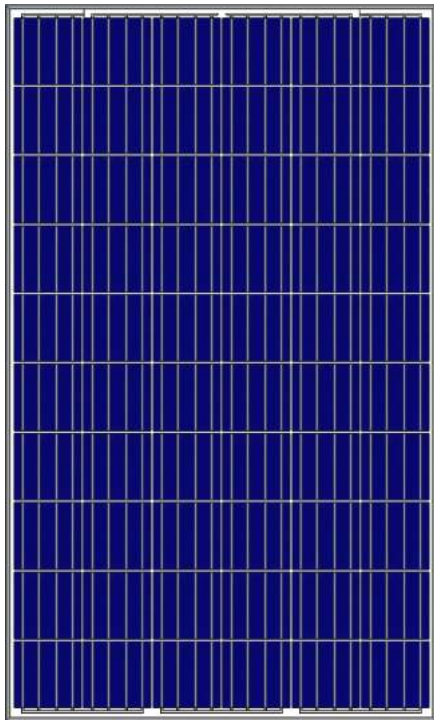




AS-6P30

POLYCRYSTALLINE MODULE



ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 17.52% by using high efficient solar cells and advanced manufacturing technology.
- Low degradation and excellent performance under high temperature and low light conditions.
- Robust aluminum frame ensures the modules to withstand wind loads up to 2400Pa and snow loads up to 5400Pa.
- High reliability against extreme environmental conditions (passing salt mist, ammonia and hail tests).
- Potential induced degradation (PID) resistance.
- Positive power tolerance of 0 ~ +3 %.

CERTIFICATIONS

- IEC61215, IEC61730, IEC62716, IEC61701, CE, CQC, CGC, ETL(USA), JET(Japan), J-PEC(Japan), Kemco(South Korea), KS(South Korea), MCS(UK), CEC(Australia), FSEC(FL-USA), CSI Eligible(CA-USA), Israel Electric(Israel), InMetro(Brazil), TSE(Turkey)
- ISO9001:2008: Quality management system
- ISO14001:2004: Environmental management system
- OHSAS18001:2007: Occupational health and safety management system

SPECIAL WARRANTY

- 12 years limited product warranty.
- Limited linear power warranty: 12 years 91.2% of the nominal power output, 30 years 80.6% of the nominal power output.



Passionately
committed to
delivering innovative
energy solution



ELECTRICAL CHARACTERISTICS AT STC

Nominal Power (P_{max})	250W	255W	260W	265W	270W	275W	280W	285W
Open Circuit Voltage (V_{oc})	38.0V	38.1V	38.2V	38.3V	38.4V	38.5V	38.6V	38.7V
Short Circuit Current (I_{sc})	8.75A	8.83A	8.90A	8.98A	9.09A	9.20A	9.31A	9.42A
Voltage at Nominal Power (V_{mp})	30.3V	30.5V	30.7V	30.9V	31.1V	31.3V	31.5V	31.7V
Current at Nominal Power (I_{mp})	8.26A	8.37A	8.47A	8.58A	8.69A	8.79A	8.89A	9.00A
Module Efficiency (%)	15.37	15.67	15.98	16.29	16.60	16.90	17.21	17.52
Operating Temperature	-40°C to +85°C							
Maximum System Voltage	1000V DC							
Fire Resistance Rating	Type 1(in accordance with UL1703)/Class C(IEC61730)							
Maximum Series Fuse Rating	15A							

STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5

ELECTRICAL CHARACTERISTICS AT NOCT

Nominal Power (P_{max})	184W	188W	191W	195W	199W	202W	206W	210W
Open Circuit Voltage (V_{oc})	35.0V	35.1V	35.2V	35.3V	35.4V	35.5V	35.6V	35.7V
Short Circuit Current (I_{sc})	7.09A	7.15A	7.21A	7.27A	7.36A	7.45A	7.54A	7.63A
Voltage at Nominal Power (V_{mp})	27.6V	27.8V	27.9V	28.1V	28.3V	28.5V	28.7V	28.9V
Current at Nominal Power (I_{mp})	6.67A	6.77A	6.85A	6.94A	7.04A	7.09A	7.18A	7.27A

NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind Speed 1 m/s

MECHANICAL CHARACTERISTICS

Cell type	Polycrystalline 156x156mm (6x6inches)
Number of cells	60 (6x10)
Module dimensions	1640x992x40mm (64.57x39.06x1.57inches)
Weight	18.5kg (40.8lbs)
Front cover	3.2mm (0.13inches) tempered glass with AR coating
Frame	Anodized aluminum alloy
Junction box	IP67, 3 diodes
Cable	4mm ² (0.006inches ²), 900mm (35.43inches)
Connector	MC4 or MC4 compatible

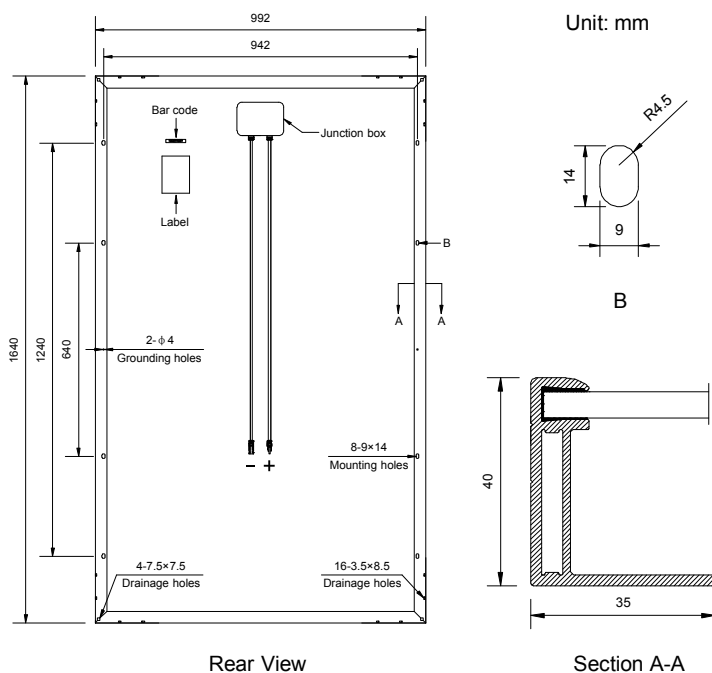
TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	45°C±2°C
Temperature Coefficients of P_{max}	-0.41%/°C
Temperature Coefficients of V_{oc}	-0.31%/°C
Temperature Coefficients of I_{sc}	0.05%/°C

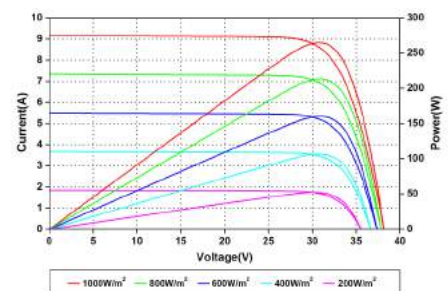
PACKAGING

Standard packaging	26pcs/pallet
Module quantity per 20' container	312pcs
Module quantity per 40' container	728pcs(GP)/784pcs(HQ)

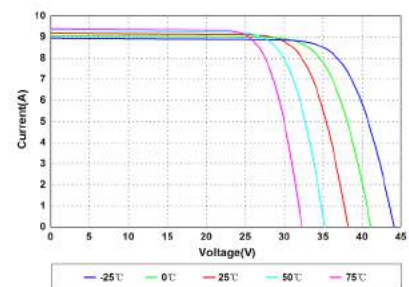
ENGINEERING DRAWINGS



IV CURVES

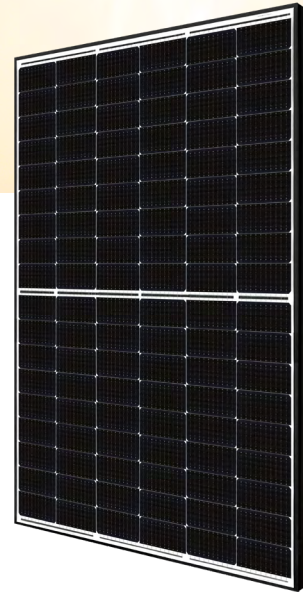


Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures

Specifications in this datasheet are subject to change without prior notice.



HiKu6 Mono PERC

395 W ~ 420 W

CS6R-395 | 400 | 405 | 410 | 415 | 420MS

MORE POWER

- Module power up to 420 W
Module efficiency up to 21.5%
- Lower LCOE & system cost
- Comprehensive LID / LeTID mitigation technology, up to 50% lower degradation
- Better shading tolerance

MORE RELIABLE

- Minimizes micro-crack impacts
- Heavy snow load up to 5400 Pa, wind load up to 2400 Pa*

25 Years Industry Leading Product Warranty on Materials and Workmanship*

25 Years Linear Power Performance Warranty*

1st year power degradation no more than 2%
Subsequent annual power degradation no more than 0.55%

*Subject to the terms and conditions contained in the applicable Canadian Solar Limited Warranty Statement. Also this 25-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / INMETRO / MCS / UKCA
UL 61730 / IEC 61701 / IEC 62716 / IEC 60068-2-68
UNI 9177 Reaction to Fire: Class 1 / Take-e-way



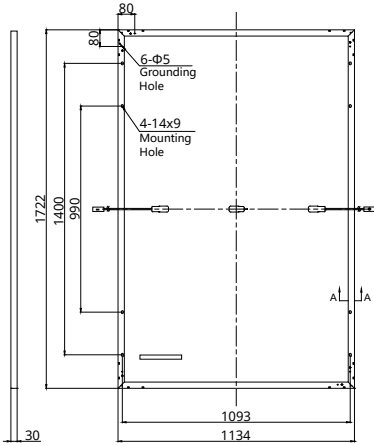
* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

CSI Solar Co., Ltd. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 20 years, it has successfully delivered over 70 GW of premium-quality solar modules across the world.

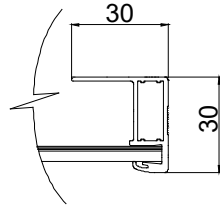
* For detailed information, please refer to the Installation Manual.

ENGINEERING DRAWING (mm)

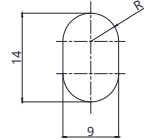
Rear View



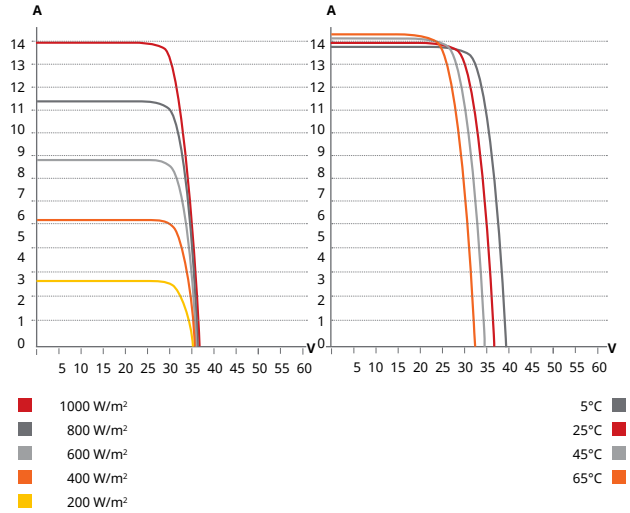
Frame Cross Section A-A



Mounting Hole



CS6R-405MS / I-V CURVES



ELECTRICAL DATA | STC*

CS6R	395MS	400MS	405MS	410MS	415MS	420MS
Nominal Max. Power (Pmax)	395 W	400 W	405 W	410 W	415 W	420 W
Opt. Operating Voltage (Vmp)	30.6 V	30.8 V	31.0 V	31.2 V	31.4 V	31.6 V
Opt. Operating Current (Imp)	12.91 A	12.99 A	13.07 A	13.15 A	13.23 A	13.31 A
Open Circuit Voltage (Voc)	36.6 V	36.8 V	37.0 V	37.2 V	37.4 V	37.6 V
Short Circuit Current (Isc)	13.77 A	13.85 A	13.93 A	14.01 A	14.09 A	14.17 A
Module Efficiency	20.2%	20.5%	20.7%	21.0%	21.3%	21.5%
Operating Temperature	-40°C ~ +85°C					
Max. System Voltage	1500V (IEC/UL) or 1000V (IEC/UL)					
Module Fire Performance	TYPE 1 (UL 61730 1500V) or TYPE 2 (UL 61730 1000V) or CLASS C (IEC 61730)					
Max. Series Fuse Rating	25 A					
Application Classification	Class A					
Power Tolerance	0 ~ + 10 W					

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

MECHANICAL DATA

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	108 [2 X (9 X 6)]
Dimensions	1722 × 1134 × 30 mm (67.8 × 44.6 × 1.18 in)
Weight	21.3 kg (47.0 lbs)
Front Cover	3.2 mm tempered glass with anti-reflective coating
Frame	Anodized aluminium alloy,
J-Box	IP68, 3 bypass diodes
Cable	4 mm ² (IEC), 12 AWG (UL)
Connector	T6 or MC4 or MC4-EVO2
Cable Length (Including Connector)	Portrait: 410 mm (16.1 in) (+) / 290 mm (11.4 in) (-); landscape: 1100 mm (43.3 in)*
Per Pallet	35 pieces
Per Container (40' HQ)	910 pieces

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

ELECTRICAL DATA | NMOT*

CS6R	395MS	400MS	405MS	410MS	415MS	420MS
Nominal Max. Power (Pmax)	296 W	300 W	304 W	307 W	311 W	315 W
Opt. Operating Voltage (Vmp)	28.7 V	28.9 V	29.1 V	29.2 V	29.4 V	29.6 V
Opt. Operating Current (Imp)	10.33 A	10.39 A	10.45 A	10.52 A	10.58 A	10.65 A
Open Circuit Voltage (Voc)	34.6 V	34.8 V	35.0 V	35.1 V	35.3 V	35.5 V
Short Circuit Current (Isc)	11.09 A	11.15 A	11.21 A	11.28 A	11.34 A	11.41 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.34 % / °C
Temperature Coefficient (Voc)	-0.26 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	41 ± 3°C

PARTNER SECTION



* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice.

Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.

199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

LG NeON[®]H

LG440N2W-E6

144

440W

For those who demand super-high efficiency, strong warranties and time-tested technology from a trusted brand, the NeON H Monofacial module is good value and offers improved temperature coefficient and near-zero Light Induced Degradation (LID).



Features



Enhanced Performance Warranty

LG NeON[®] H has an enhanced performance warranty. After 25 years, LG NeON[®] H is guaranteed at least 90.6% of initial performance.



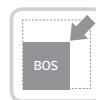
25-Year Limited Product Warranty

The NeON[®] H is covered by a 25-year limited product warranty.



Solid Performance on Hot Days

LG NeON[®] H performs well on hot days due to its low temperature coefficient.



BOS (Balance Of System) Saving

LG NeON[®] H can reduce the total number of strings due to its high module efficiency resulting in a more cost effective and efficient solar power system.



Bifacial Energy Yield

LG NeON[®] H modules use a highly efficient bifacial solar cell, "NeON" applied Cello technology for better energy production than standard monofacial PV module.

When you go solar, ask for the brand you can trust: LG Solar

About LG Solar.

LG is transforming today's solar landscape, offering high-efficiency solar panels for customers who demand high performance, reliability and consistently strong energy yield from a brand they can trust. LG's modules feature high-power outputs, outstanding durability, appealing aesthetics and high-efficiency technology.



LG440N2W-E6

General Data

Cell Properties (Material/Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	144 Cells (6 x 24)
Number of Busbars	9EA
Module Dimensions (L x W x H)	2,110mm x 1,042mm x 40mm
Weight	22kg
Glass (Material)	Tempered Glass with AR Coating
Backsheet (Color)	White
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)*	1,400mm x 2EA
Connector (Type/Maker)	MC 4 / MC

*Including connector

Certifications and Warranty

Certifications	IEC 61215-1/-1-1/2 : 2016, IEC 61730-1/2: 2016, UL 61730
	ISO 9001, ISO 14001, ISO 50001
	OHSAS 18001
Salt Mist Corrosion Test	IEC 61701 : 2012 Severity 6
Ammonia Corrosion Test	IEC 62716 : 2013
Module Fire Performance	Type 1 (UL 61730)
Fire Rating	Class C (UL 790, ULC / ORD C 1703)
Solar Module Product Warranty	25 Year Limited
Solar Module Output Warranty	Linear Warranty*

*Improved: 1st year 98.5%, from 2-24th year: -0.33%/year down, 90.6% at year 25

Temperature Characteristics

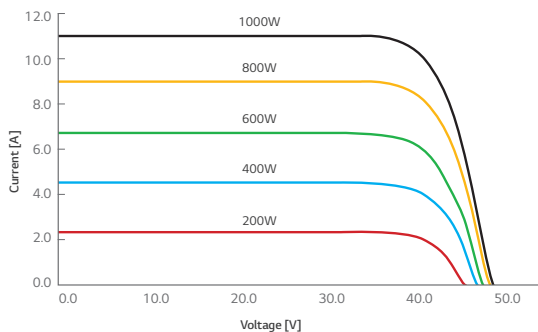
NMOT [†]	[°C]	44 ± 3
Pmax	[%/°C]	-0.33
Voc	[%/°C]	-0.26
Isc	[%/°C]	0.04

[†]NMOT (Nominal Module Operating Temperature): Irradiance 800 W/m², Ambient temperature 20°C, Wind speed 1 m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

Model	LG440N2W-E6	
Maximum Power (Pmax)	[W]	331
MPP Voltage (Vmpp)	[V]	38.1
MPP Current (Impp)	[A]	8.67
Open Circuit Voltage (Voc)	[V]	45.9
Short Circuit Current (Isc)	[A]	9.18

I-V Curves



Electrical Properties (STC*)

Model	LG440N2W-E6	
Maximum Power (Pmax)	[W]	440
MPP Voltage (Vmpp)	[V]	40.6
MPP Current (Impp)	[A]	10.85
Open Circuit Voltage (Voc, ± 5%)	[V]	48.8
Short Circuit Current (Isc, ± 5%)	[A]	11.40
Module Efficiency	[%]	20.0
Bifaciality Coefficient of Power	[%]	4
Power Tolerance	[%]	0 ~ +3

*STC (Standard Test Condition): Irradiance 1000 W/m², cell temperature 25°C, AM 1.5
Measure tolerance of Pmax: ± 3%

Operating Conditions

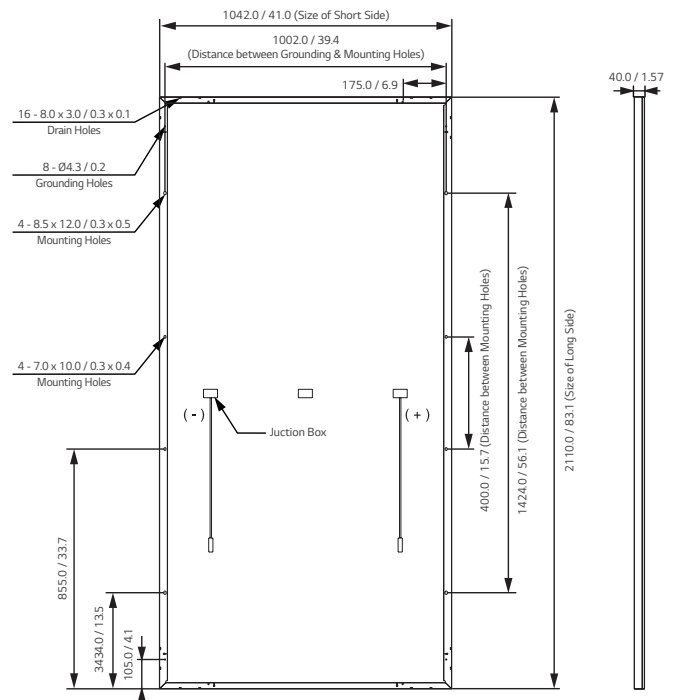
Operating Temperature	[°C]	-40 ~ +85
Maximum System Voltage	[V]	1,000 (IEC)
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load [†] (Front)	[Pa/psf]	5,400/113
Mechanical Test Load [†] (Rear)	[Pa/psf]	3,000/63

[†]Based on IEC 61215-2 : 2016 (Test Load = Design Load x Safety Factor (1.5))

Packaging Configuration

Number of Modules per Pallet	[EA]	25
Number of Modules per 40' HQ Container	[EA]	550
Number of Modules per 53' HQ Container	[EA]	750
Packaging Box Dimensions (L x W x H)	[mm]	2,160 x 1,120 x 1,213
Packaging Box Dimensions (L x W x H)	[in]	85 x 44.1 x 47.8
Packaging Box Gross Weight	[kg]	610
Packaging Box Gross Weight	[lb]	1,345

Dimensions (mm/inch)



LG NeON[®]2

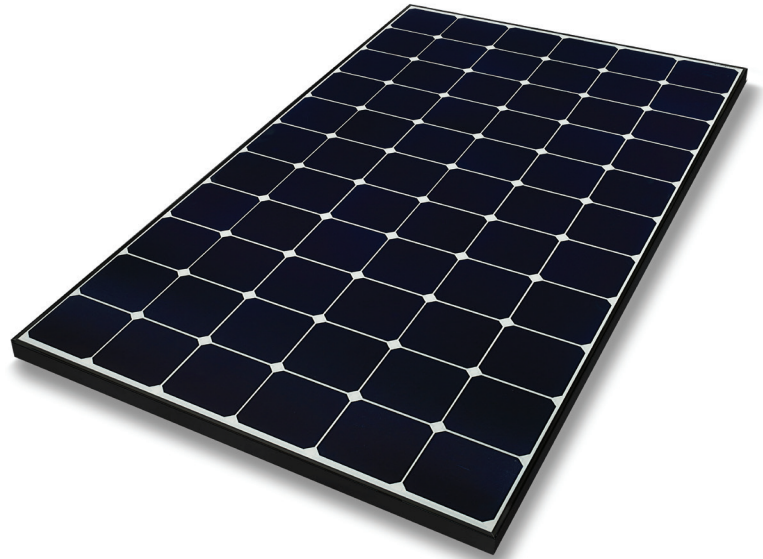
LG440QAC-A6

66

440W

LG NeON[®] R is a powerful solar module that provides world-class performance. A new cell structure that eliminates electrodes on the front maximizes the utilization of light and enhances reliability.

LG NeON[®] R is a result of LG's efforts to increase customer's values beyond efficiency. LG NeON[®] R features enhanced durability, performance under real-world conditions, an enhanced warranty and aesthetic design suitable for roofs.



Features



Roof Aesthetics

LG NeON[®] R has been designed with aesthetics in mind: the lack of any electrodes on the front creates an improved, modern aesthetic.



25-Year Limited Product Warranty

The NeON[®] R is covered by a 25-year limited product warranty. In addition, up to \$450 of labor costs will be covered in the rare case that a module needs to be repaired or replaced.



Enhanced Performance Warranty

The LG NeON[®] R has an enhanced performance warranty. After 25 years, LG NeON[®] R is guaranteed at least 92.5% of initial performance.



More generation per square meter

The LG NeON[®] R has been designed to significantly enhance its output, making it efficient even in limited space.

When you go solar, ask for the brand you can trust: LG Solar

About LG Electronics USA, Inc.

LG Electronics is a global leader in electronic products in the clean energy markets by offering solar PV panels and energy storage systems. 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[®] series to the market, which is now available in 32 countries. The NeON[®] (previous MonoX[®] NeON), NeON[®]2, NeON[®]2 BiFacial won the "Intersolar AWARD" in 2013, 2015 and 2016, which demonstrates LG's leadership and innovation in the solar industry.



LG440QAC-A6

General Data

Cell Properties (Material/Type)	Monocrystalline / N-type
Cell Maker	LG
Cell Configuration	66 Cells (6 x 11)
Module Dimensions (L x W x H)	1,910mm x 1,042mm x 40mm
Weight	20.5 kg
Glass (Material)	Tempered Glass with AR Coating
Backsheet (Color)	White
Frame (Material)	Anodized Aluminium
Junction Box (Protection Degree)	IP 68 with 3 Bypass Diodes
Cables (Length)	1,250mm x 2EA
Connector (Type/Maker)	MC 4 / MC

Certifications and Warranty

Certifications	IEC 61215-1/-1-1/2 : 2016, IEC 61730-1/2: 2016, UL 61730-1 : 2017, UL 61730-2 : 2017 ISO 9001, ISO 14001, ISO 50001 OHSAS 18001
Salt Mist Corrosion Test	IEC 61701:2011 Severity 6
Ammonia Corrosion Test	IEC 62716 : 2013
Hail Test	25mm (1") diameter at 23m/s (52mph)
Module Fire Performance	Type 1 (UL 61730)
Fire Rating	Class C (UL 790, ULC / ORD C 1703)
Solar Module Product Warranty	25 Years
Solar Module Output Warranty	Linear Warranty*

*Improved: 1st year 98.5%, from 2-24th year: -0.25%/year down, 92.5% at year 25

Temperature Characteristics

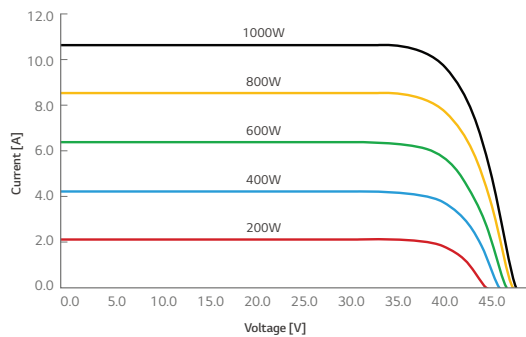
NMOT [†]	[°C]	44 ± 3
Pmax	[%/°C]	-0.29
Voc	[%/°C]	-0.24
Isc	[%/°C]	0.04

[†]NMOT (Nominal Module Operating Temperature): Irradiance 800 W/m², Ambient temperature 20°C, Wind speed 1 m/s, Spectrum AM 1.5

Electrical Properties (NMOT)

Model	LG440QAC-A6	
Maximum Power (Pmax)	[W]	334
MPP Voltage (Vmpp)	[V]	39.1
MPP Current (Impp)	[A]	8.53
Open Circuit Voltage (Voc)	[V]	46.0
Short Circuit Current (Isc)	[A]	9.03

I-V Curves



Electrical Properties (STC*)

Model	LG440QAC-A6	
Maximum Power (Pmax)	[W]	440
MPP Voltage (Vmpp)	[V]	41.4
MPP Current (Impp)	[A]	10.64
Open Circuit Voltage (Voc, ± 5%)	[V]	48.2
Short Circuit Current (Isc, ± 5%)	[A]	11.20
Module Efficiency	[%]	22.1
Power Tolerance	[%]	0 ~ +3

*STC (Standard Test Condition): Irradiance 1000 W/m², Cell temperature 25°C, AM 1.5
Measure Tolerance: ± 3%

Operating Conditions

Operating Temperature	[°C]	-40 ~ +85
Maximum System Voltage	[V]	1,000
Maximum Series Fuse Rating	[A]	20
Mechanical Test Load* (Front/Rear) (2 rails)	[Pa]	5,400/4,000
Mechanical Test Load** (Front/Rear) (3 rails)	[Pa]	5,400/5,400

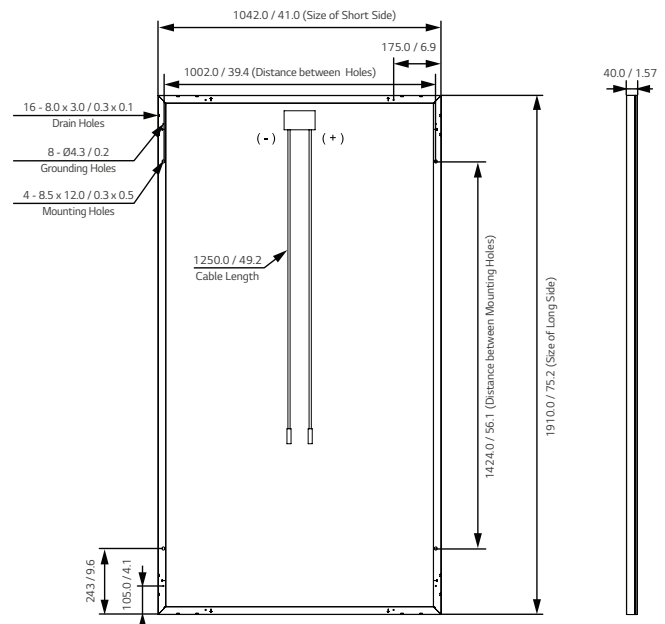
*Based on UL 61730-1 : 2017, UL 61730-2 : 2017 Test condition (Test Load = Design Load x Safety Factor(1.5))

**For details of the 3 rail test results, please check with LG staff.

Packaging Configuration

Number of Modules per Pallet	[EA]	25
Number of Modules per 40' Container	[EA]	600
Number of Modules per 53' Container	[EA]	800
Packaging Box Dimensions (L x W x H)	[mm]	1,960 x 1,120 x 1,221
Packaging Box Dimensions (L x W x H)	[in]	77.2 x 44.1 x 48.1
Packaging Box Gross Weight	[kg]	549
Packaging Box Gross Weight	[lb]	1,210

Dimensions (mm/inch)



Q.PEAK DUO M-G11S+ SERIES



400 - 420 Wp | 108 Cells
21.5 % Maximum Module Efficiency

MODEL Q.PEAK DUO M-G11S+



Breaking the 21% efficiency barrier

Q.ANTUM DUO Technology with optimized module layout boosts module power.



Warranty
Product & Performance

A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty¹.



Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology², and Hot-Spot Protect.



Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (8100 Pa) and wind loads (4000 Pa).



Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

¹ See data sheet on rear for further information.

² APT test conditions according to IEC/TS 62804-1:2015, method A (~1500V, 96h)

The ideal solution for:



Rooftop arrays on residential buildings



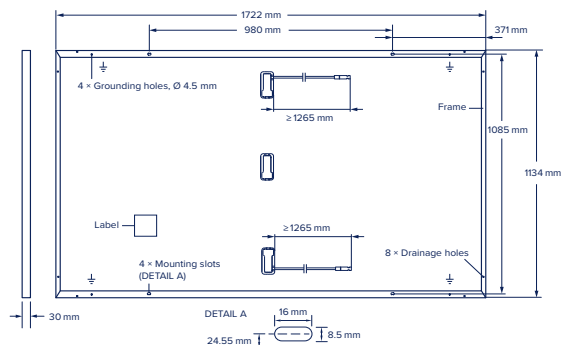
Rooftop arrays on commercial/industrial buildings



Q.PEAK DUO M-G11S+ SERIES

Mechanical Specification

Format	1722 mm × 1134 mm × 30 mm (including frame)
Weight	21.1 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM solar half cells
Junction box	53-101 mm × 32-60 mm × 15-18 mm Protection class IP67, with bypass diodes
Cable	4 mm ² Solar cable; (+) ≥1265 mm, (-) ≥1265 mm
Connector	Stäubli MC4, Hanwha Q CELLS HQC4; IP68

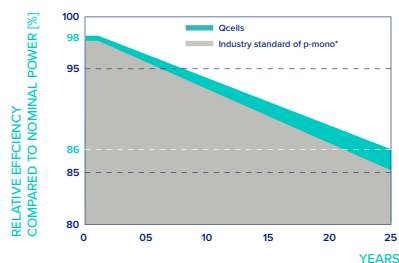


Electrical Characteristics

POWER CLASS			400	405	410	415	420
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC ¹ (POWER TOLERANCE +5 W/-0 W)							
Minimum	Power at MPP ¹	P_{MPP} [W]	400	405	410	415	420
	Short Circuit Current ¹	I_{SC} [A]	13.88	13.91	13.95	13.99	14.03
	Open Circuit Voltage ¹	V_{OC} [V]	37.06	37.09	37.11	37.14	37.17
	Current at MPP	I_{MPP} [A]	13.16	13.23	13.30	13.37	13.44
	Voltage at MPP	V_{MPP} [V]	30.40	30.62	30.83	31.05	31.26
	Efficiency ¹	η [%]	≥20.5	≥20.7	≥21.0	≥21.3	≥21.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT ²							
Minimum	Power at MPP	P_{MPP} [W]	300.1	303.8	307.6	311.3	315.1
	Short Circuit Current	I_{SC} [A]	11.18	11.21	11.24	11.27	11.30
	Open Circuit Voltage	V_{OC} [V]	34.95	34.97	35.00	35.03	35.05
	Current at MPP	I_{MPP} [A]	10.34	10.41	10.47	10.53	10.59
	Voltage at MPP	V_{MPP} [V]	29.01	29.20	29.38	29.56	29.74

¹Measurement tolerances $P_{MPP} \pm 3\%$; I_{SC} ; $V_{OC} \pm 5\%$ at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5

Qcells PERFORMANCE WARRANTY

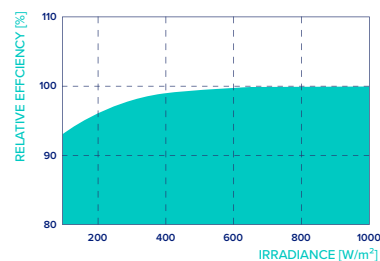


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

^{*}Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α [%/K]	+0.04	Temperature Coefficient of V_{OC}	β [%/K]	-0.27
Temperature Coefficient of P_{MPP}	γ [%/K]	-0.34	Nominal Module Operating Temperature	NMOT [°C]	43 ± 3

Properties for System Design

Maximum System Voltage	V_{SYS} [V]	1000	PV module classification	Class II
Maximum Reverse Current	I_R [A]	25	Fire Rating based on ANSI/UL 61730	C / TYPE 2
Max. Design Load, Push/Pull	[Pa]	5400/2665	Permitted Module Temperature on Continuous Duty	-40 °C - +85 °C
Max. Test Load, Push/Pull	[Pa]	8100/4000		

Qualifications and Certificates

Quality Controlled PV - TÜV Rheinland; IEC 61215:2016; IEC 61730:2016. This data sheet complies with DIN EN 50380.



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

Hanwha Q CELLS GmbH Sonnenallee 17-21, 06766 Bitterfeld-Wolfen, Germany | TEL +49 (0)3494 66 99-23444 | FAX +49 (0)3494 66 99-23000 | EMAIL sales@q-cells.com | WEB www.qcells.com

qcells

SUPREME

BISOL Supreme™

Monocrystalline PV Module BDO 400 Wp



The one & only in the world with **25 years of 100 % Output Power Guarantee**



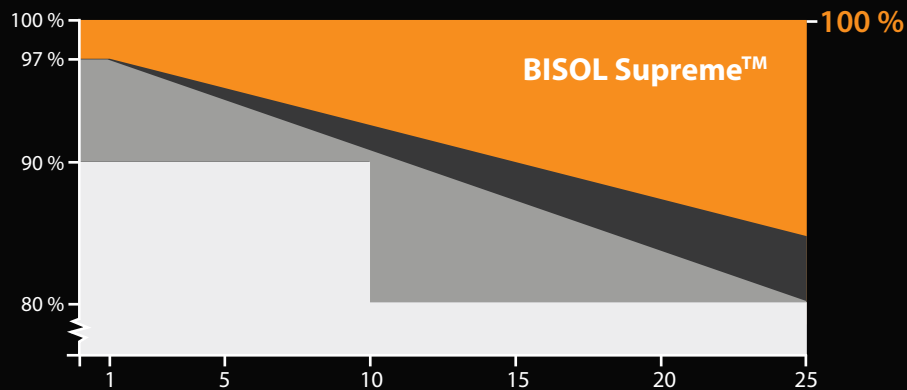
100 % Output Power Guarantee



0 % Effective Degradation Rate



+11 % More Energy



- Specialized equipment, materials tested to destruction, unique processes
- Individualised QR code
- Improved temperature coefficients
- Lower NOTC
- PID, LID and other ID free
- 25-year product guarantee

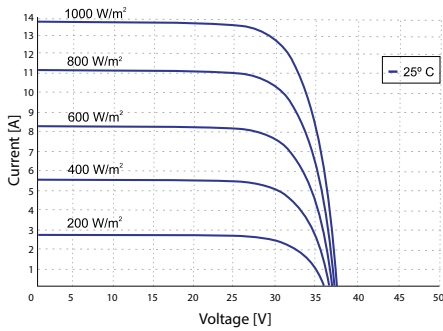


Get your
BISOL Supreme™ Cashback.

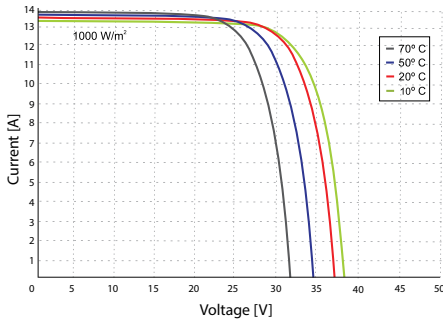


Limited to 30 MW per BISOL client

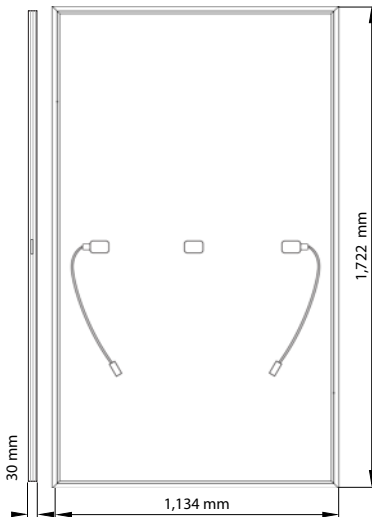
I-V Curve at Various Irradiation Levels



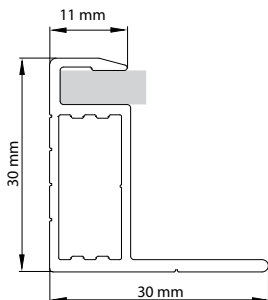
I-V Curve at Various Cell Temperatures



Dimensions



Frame Cross Section



Electrical Specifications @ STC (AM 1.5, 1,000 W/m², 25 °C):

Module Type	BDO	400
Nominal Power	P_{MPP} [W]	400
Short Circuit Current	I_{SC} [A]	13.0
Open Circuit Voltage	V_{OC} [V]	39.5
MPP Current	I_{MPP} [A]	12.3
MPP Voltage	V_{MPP} [V]	32.6
Module Efficiency	η_M [%]	20.5
Power Output Tolerance		0/+10 W
Maximum Reverse Current		25 A
Maximum System Voltage		1,500 V
Protection Class		Class II

Additional power classes available upon request. I Efficiency at irradiation 200 W/m²: 99.3 % of STC efficiency or higher. I Tolerances for V_{OC} and I_{SC} and other electrical parameters are ± 3 %.

Thermal Specifications:

Current Temperature Coefficient	α	+ 0.073 %/°C
Voltage Temperature Coefficient	β	- 0.28 %/°C
Power Temperature Coefficient	γ	- 0.34 %/°C
NOCT		43 \pm 2 °C
Temperature Range		- 40 °C to + 85 °C

Mechanical Specifications:

Length x Width x Thickness	1,722 x 1,134 x 30 mm
Weight	22 kg
Solar Cells	108 Half-Cut c-Si / 182 x 91 mm
Junction Box / Connectors / IP	3 bypass diodes / MC4 compatible / IP 68
Cable Length	Default: 1,200 mm On demand (for portrait orientation): 300 mm
Frame	Anodized Al with drainage holes / rigid anchored corners
Glass	3.2 mm AR coating tempered glass / high-transparency / low-iron content
Certified Test Load (Snow / Wind)	5,400 Pa / 2,400 Pa
Impact Resistance	Hailstone / Φ 25 mm / 83 km/h (51 mph)

Tolerances of values are ± 5 %. Unspecified product properties remain under full discretion of BISOL Production.

In Compliance With:



Certificates available upon special request. Additional charges may apply.

Packaging Information:

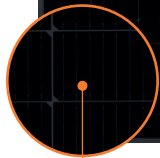
Modules per Pallet	Packing Dimension: Length/Width/Height	Stackable	Packing Weight	Tot. Nr. of Pallets/Load
35	175 x 116 x 128 cm	3 pallets	794 kg	30

Additional terms & conditions apply. Please see *Standard Limited Guarantee* and *General Sales Terms & Conditions*.

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M10-108 GLASS-BACKSHEET

ALL BLACK MONOFACIAL HALF CELL FRAMED MODULE



10 BB Half Cell Technology



375 - 400 WATT



UP TO 20.7% MODULE EFFICIENCY



25 YEARS POWER WARRANTY



10 YEARS PRODUCT WARRANTY



Roof Aesthetics

The modules have a beautiful look thanks to their black design, which is created using a black backsheet and a black frame. This design harmony the architectural integrity and adds refinement to the usage areas.



Compact Design Perfect for Residential Use

It offers effective usage of installation areas and high level energy production due to its light and optimized design.



Half Cut Technology

The 3-piece junction box provides the modules includes 108 half-cells work better in shaded conditions and reduce power loss.

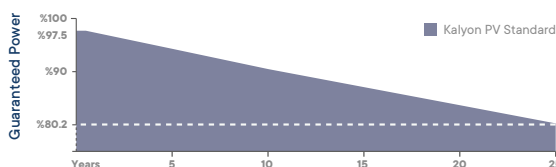


High Performance with M10 Cell

With large size M10 cells, power gain per module is increased and system installation costs are reduced.

PERFORMANCE WARRANTY

10 Years Product Warranty . 25 Years Power Warranty



From the 2nd year to the 25th year, the average annual power decline will be no more than 0.55%.

CERTIFICATES

ISO Certificates: ISO 9001 / ISO 14001 / ISO 45001

IEC Certificates: IEC 61215 : 2018 / IEC 61730-1 : 2018

IEC 61730-2 : 2018

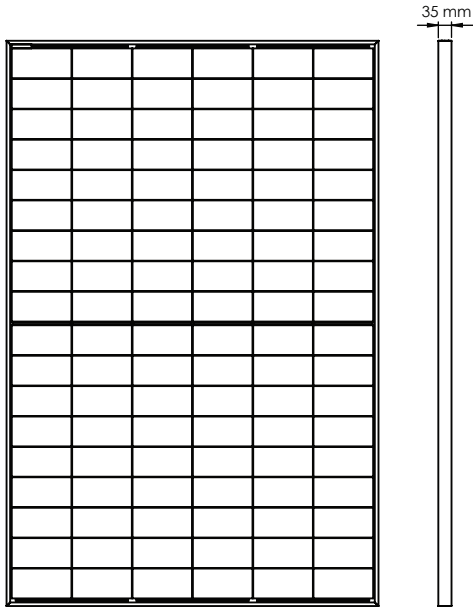
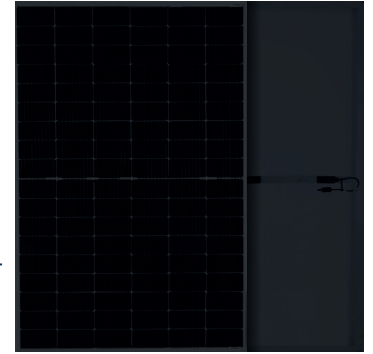
UL Certificate: UL 61730-1-2



KY-375B-54H-GBB, KY-380B-54H-GBB, KY-385B-54H-GBB,
KY-390B-54H-GBB, KY-395B-54H-GBB, KY-400B-54H-GBB

M10-108 GLASS-BACKSHEET

ALL BLACK MONOFACIAL HALF CELL FRAMED MODULE



STRUCTURAL PARAMETERS

Cell	Type	Mono-C Silicon Bifacial PERC	Module Size	Length	1724 mm + 1 mm
	Number	108 pcs, Half Cut		Width	1134 mm + 1 mm
	Size	182 mm x 91 mm		Thickness	35 mm ± 2 mm
Junction Box	Bypass Diode	3 pcs	Mounting Dimensions	Mounting Hole Number	8
	Degree of Protection	IP67/IP68		Size	9 mm x 14 mm Radius: 4.5 mm
	Cable Length	30 cm		Long Side Mounting Hole Distances (Vertical Axis)	564/1004 mm
	Connector	Compatible with MC4	Weight	Framed	20 kg ± 5%
	Rated Current	25 A		Number	2
Glass	AR Coating Half Tempered, 3.2 mm Thickness		Grounding Holes	Radius	4 mm

WORKING CONDITIONS

System Voltage	1500 VDC	Maximum Static Mechanical Load	Negative	1600 Pa
Operating Temperature	-40 ~ + 85 °C		Positive	2400 Pa
		Fire Type: 1	Protection Type: Class II	Maximum Protection Current: 25 A

PS: The maximum load capacity that can be obtained if the installation is made in the type of mounting corresponding to the relevant maximum load capacity in the installation manual.

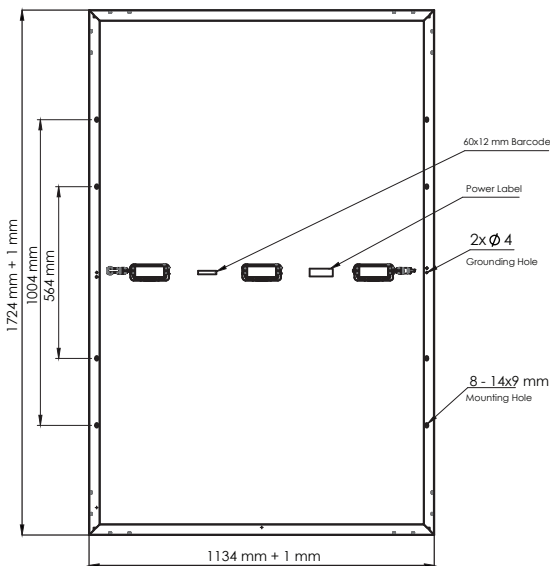
ELECTRICAL PARAMETERS

Type	375	380	385	390	395	400
Test Conditions	STC	STC	STC	STC	STC	STC
Maximum Power (Pmax) [W]	375	380	385	390	395	400
Open Circuit Voltage (Voc) [V]	36.72	36.82	36.91	37.01	37.12	37.22
Short Circuit Current (Isc) [A]	12.91	12.98	13.06	13.13	13.22	13.29
Maximum Power Voltage (Vmp) [V]	30.47	30.67	30.86	31.06	31.23	31.42
Maximum Power Current (Imp) [A]	12.31	12.39	12.48	12.57	12.65	12.73
PV Module Efficiency (%)	19.18	19.44	19.70	19.95	20.20	20.46

* Standard Test Conditions (STC): Irradiance 1000 W/m², Air Mass 1.5, Module Temperature 25 °C, Measurement Tolerance ±3%.

TEMPERATURE COEFFICIENTS

Temperature Coefficient of Isc	+0.049 %/°C
Temperature Coefficient of Voc	-0.28 %/°C
Temperature Coefficient of Pmax	-0.37 %/°C



I-V Curve @200, 400, 600, 800, 1000 W/m²

