

PRODUCT CATALOGUE 2019/20

Premium High Performance Solar Modules and Systems





Q CELLS

THE SMART CHOICE

Q CELLS provides affordable and smart energy solutions through technology and innovation to create a sustainable future for the planet.

We're rethinking power in ways that make more sense for tomorrow and give you greater value today. Q CELLS not only deliver next generation power they come with next generation support.

Q CELLS is a pioneer in PV technology and fully bankable solar solution provider with a global footprint and over a decade of experience in the Australian market. We have been providing superior before-and-after sales support to Australian consumers and businesses alongside our quality products. In 2018, our solar products supplied nearly 10% of Australian residential and commercial rooftop segments – making Q CELLS one of the top solar module suppliers in the country. We expect to lead the world's solar industry with our cutting-edge technology and superior product quality. It's why we're seen as The Smart Choice for the future and trustworthy to our investors, installers and end consumers.

Q CELLS is one of the world's largest and most recognized photovoltaic manufacturers for its high-quality, high-efficiency solar cells and modules. It is headquartered in Seoul, South Korea (Global Executive HQ) and Thalheim, Germany (Technology & Innovation HQ). With its diverse international manufacturing facilities in South Korea, Malaysia, China and USA, Q CELLS is in a unique position to flexibly address all global markets. Q CELLS offers the full spectrum of photovoltaic products and solutions, from modules to systems and large-scale solar power plants. At Q CELLS, we care the most about our customers and are passionate about meeting their needs. We will strive to apply our state-of-the-art technology to shape a new era in the energy industry, benefiting each consumer and the world in which we live.





HANWHA GROUP STRONG BACKING

As a member of the Hanwha Group, one of South Korea's seventh largest conglomerates, Hanwha Q CELLS is backed by a strong partner with a proud 67-year history. Hanwha Group's experience, broad expertise and financial strength uniquely position us to address our client's energy needs today – and tomorrow.



REVENUE 2018
61.24_B



FOUNDED IN
1952



IN ASSETS
180_B



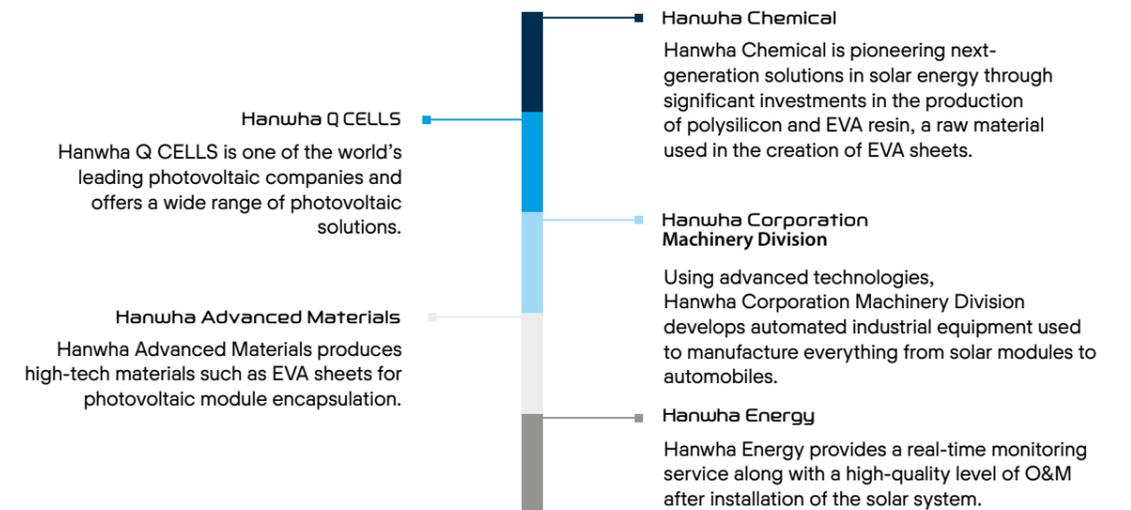
GLOBAL NETWORKS
325

Hanwha Group specialises in other businesses, including manufacturing and construction, finance, and services and leisure. Globally, it is ranked 261st among Fortune Global 500 companies and operates 258 networks worldwide. At the centre of it all, it is our group's belief and desire to lead a sustainable future for both mankind and our planet. These beliefs are what drive Hanwha Q CELLS to pursue different possibilities – developing and innovating new energy solutions. Through each of our businesses, we provide energy to our customers,

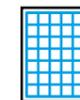
partners, and communities for a sustainable and vibrant future. The sun powers everything that grows on earth – it is clean, cost-effective, and infinite. Driven by our corporate philosophy of giving and earning trust and loyalty, we are able to meet the energy needs of people and institutions in diverse markets. Our full-scale entry into the photovoltaic business in 2010 was a natural extension of this mission, allowing us to offer a world-class array of sustainable solar products and services for generations to come.

HANWHA GROUP SOLAR BUSINESS VALUE CHAIN

Hanwha Group is vertically integrated across the entire photovoltaic value chain from silicon to large-scale solar power plants.



Cells



Modules



Residential Systems



EPC / Systems



Monitoring



O&M





Q CELLS AUSTRALIA YOUR DEPENDABLE PARTNER

Q CELLS has served the Australian community since 2009 – longer than any other manufacturer currently in the market. With a team of experts based in Sydney and warehouses strategically around the country, we are well positioned to provide in-depth support to our local customers.

- HEAD OFFICE
SYDNEY
- WAREHOUSE
6 LOCATIONS



FLEXIBLE DELIVERY OPTIONS

We have six warehouses located throughout Australia, providing convenient and flexible delivery direct to your warehouse or project site.

EXPERT SERVICE

A team of locally-based engineers and Q CELLS experts are on-hand to support consumers and businesses with any questions or issues. We make it easy to get project engineering support, logistics coordination, and offer tailored assistance.

MARKETING SUPPORT

We provide marketing materials and support to help grow our customers' businesses. We make it easy to convey the value of Q CELLS' premium products with tailored support and fast and convenient access to print and digital sales collaterals.

QUALITY SERVICE NETWORK

Q CELLS Australia operates a preferred network of solar installers called Q.PARTNER. Q.PARTNERS participate in Q CELLS' trainings while earning CPD points. Q.PARTNERS are resourced to provide the best experience for the Australian community.

QUALITY MANAGEMENT

Q CELLS' uncompromising quality and reliability is maintained and validated by a number of rigorous tests. We run our own VDE-certified testing laboratory at the largest privately held PV technology and test centre in the industry. Our testing program consists of four testing levels:

LEVEL 1 – ONE-TIME CERTIFICATION TESTS

The first level is comprised of international initial certification tests, for example, in accordance with IEC. These guarantee that the electrical safety of the modules and the safety of its construction comply with international standards.

LEVEL 2 – YIELD SECURITY

Since 2011, Q CELLS Yield Security has been the guarantee for PID resistance, Anti LID and LeTID Technology which is ensured by weekly production monitoring. For protection against Hot-Spots, 100% of the cell production is tested.

LEVEL 3 – VDE QUALITY TESTED

The VDE Quality Tested program exceeds the initial certification testing of IEC by e.g. double cycles of thermal tests. In addition, monthly re-testing guarantees consistent quality.

LEVEL 4 – Q CELLS QUALITY PROGRAM

Q CELLS internal quality program ensures that all products meet our company's high standards and additional tests than required by VDE as e.g. triple cycles of humidity-frost Test. 100% high-resolution EL inspection is Q CELLS standard.

Q CELLS:

- is German Engineering from Bitterfeld-Wolfen, Germany.
- is guaranteed quality with an outstandingly low rate of module degradation backed by a 12 to 25 year product warranty depending on the module and a 25-year linear performance warranty.
- is the first manufacturer of solar modules to participate successfully in the Quality Tested program of the VDE, an independent certification institute from Germany. For the first time, periodic testing is now required.
- operates the largest technology and module test centre in the industry, as well as its own VDE-certified testing laboratory.
- tests its products under extreme climate conditions, such as tropical humidity, desert heat, and Arctic cold.



QUALITY TESTED

German engineered and rigorously tested in Australian and international conditions to outlast the outlast-able.

TESTED IN AUSTRALIA FOR AUSTRALIAN CONDITIONS

Our products are specifically designed and tested for Australian conditions to ensure optimal performance. Our modules work reliably, regardless of environment. Further, we undergo the testing to prove it.

DESERT KNOWLEDGE SOLAR CENTRE ALICE SPRINGS

Since 2012, Q CELLS modules have been installed at The Desert Knowledge Australia Solar Centre (DKASC). Q CELLS has been a consistent top performer year after year where it sits in a field with other PV brands. Daily, weekly, and yearly generation information is publicly available to anyone in the world.



JAMES COOK UNIVERSITY CYCLONE TESTING STATION

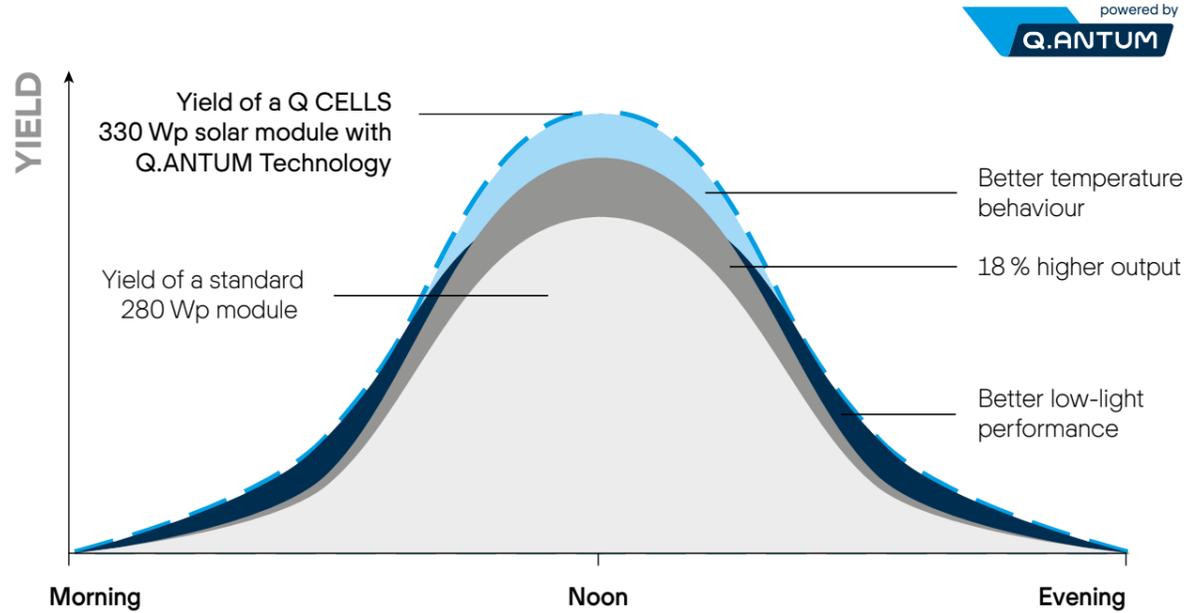
Each of our modules are tested at James Cook University's (JCU) Cyclone Testing Station. There, our panels survived the phenomenal pressures of a 1 in 500-year cyclone. At JCU, our panels are tested with close to 4x the amount of pressure and with over 10,000 repetitions compared to that of the standard IEC Wind Load test.



Q.ANTUM TECHNOLOGY

THE BEST ONLY BETTER

Q.ANTUM Technology combines the best characteristics of all available cell technologies to obtain high performance under real conditions, all with low leveled cost of electricity (LCOE).



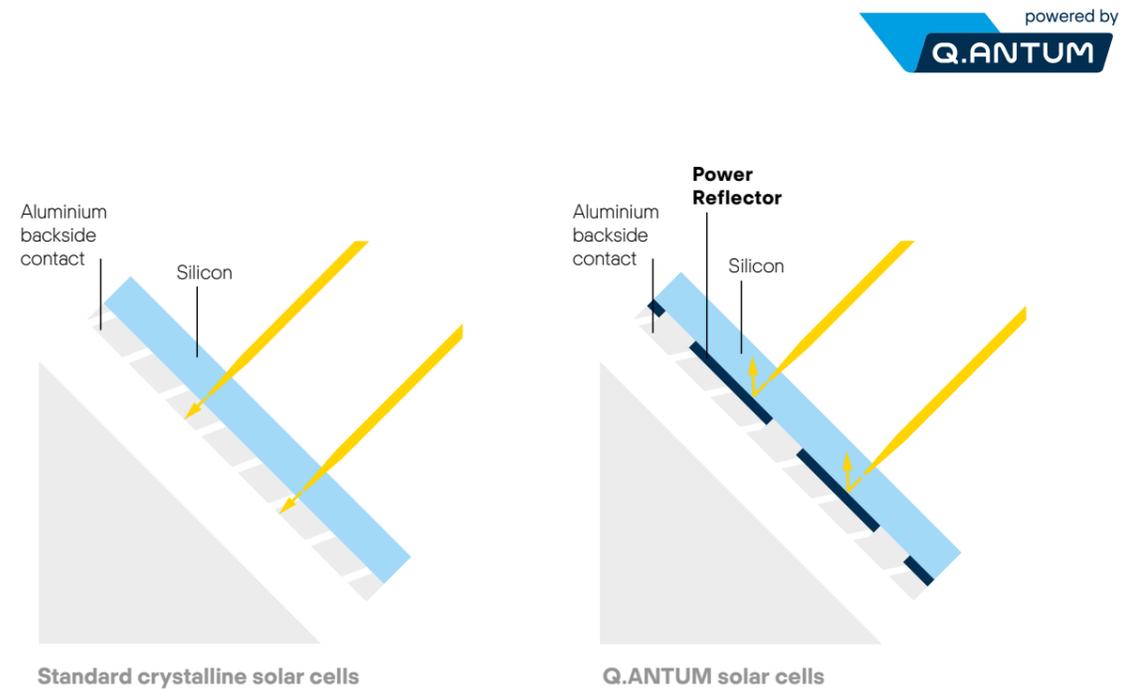
Q.ANTUM ADVANTAGE: MORE YIELD. MORE SAVINGS. MORE FOR YOU.

Bottom line, only one thing counts: the total amount of electricity your PV system produces throughout the day and throughout the year – and how much it would save. Q.ANTUM takes sophisticated and cost-effective crystalline silicon technology and optimises it to offer the very best price-performance ratio. The combination of high efficiency, high performance classes and optimised yields under real conditions guarantee that you will benefit from your relationship with the sun.

Q.ANTUM CELL TECHNOLOGY

MORE LIGHT. MORE PERFORMANCE. MORE ELECTRICITY.

Do not maximise, optimise: The rear surfaces of Q.ANTUM solar cells are treated with a special nano coating that functions much like a typical household mirror. Rays of sunlight that would otherwise go to waste are reflected back through the cell to generate more electricity. This enhances the electrical properties, considerably increasing the efficiency.



HIGHER PERFORMANCE CLASSES

Thanks to Q.ANTUM Technology, Q CELLS solar modules offer more power per surface, resulting in higher yields at lower BOS costs.



TEMPERATURE COEFFICIENT

Even on hot days, Q CELLS solar modules produce reliable yields and lose less efficiency than standard solar modules.



LOW-LIGHT BEHAVIOUR

High yields with low radiation intensity, for example, during sunrise and sunset and on cloudy days, but also in autumn and winter when the sun is flat over the horizon.

OUR Q.PEAK DUO-G6+ WE PAY ATTENTION TO DETAILS



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

Reduced frame edge avoids moss and dirt build-up

Q.ANTUM DUO half-cells with 6 busbar technology for higher yield per surface area and low BOS costs

Independent upper and lower module-halves connected in parallel ensure improved yield when modules are partly shaded

Q CELLS YIELD SECURITY

- Anti PID Technology against power loss through Potential-Induced Degradation
- Hot-Spot Protect to protect against module fire
- Tra.Q™ laser identification for additional protection against counterfeiting
- Anti LID Technology against power loss through Light-Induced Degradation

New wire technology instead of ribbons with round shape and smaller width increasing internal reflections and reducing shading by up to 75%

32 mm high-tech frame for high wind and snow loads up to 4,000 / 5,400 Pa (IEC, UL)

Reliable silicone connection for excellent stability and durability

Optimised junction box design for increased energy yields and corrosion protection

High-quality backside for permanent sealing

High quality Stäubli MC4 connectors with >1,100 mm cable length

Optimally positioned, large drainage holes protect against frost damage

Q.ANTUM DUO TECHNOLOGY PERFORMANCE HAS NEVER LOOKED THIS GOOD

The next generation of Q.ANTUM technology benefits from outstanding performances and aesthetics.



WHAT IS DUO TECHNOLOGY ALL ABOUT?

The new Q.ANTUM DUO Technology combines cutting edge advancements in cell separation technology with round wires – reducing both electrical and optical losses, respectively. This is achieved by halving the internal current in the module reducing resistive losses one-quarter of what would be with a full-cell. and making use of incident light more effectively. Q.ANTUM technology not only increases nameplate power, but also improves reliability. Anti LID (Light Induced Degradation) / LeTID (Light and elevated Temperature Induced Degradation) ensure low initial degradation and for the Q.ANTUM

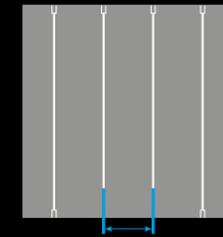
DUO, the half-cell design minimises cell stress, reducing the potential for micro cracks in the field. This is backed by improved guaranteed yearly degradation ensuring the highest energy yields. Combined with Q CELLS award winning Q.ANTUM cell technology, Q.PEAK DUO is the module series with the highest power available at a reasonable price, maximising energy yields and ensuring low LCOE. With more than 15 GW of Q.ANTUM solar cells deployed, only Q CELLS has the experience and the knowledge to push forward cell and module technology simultaneously, to create Q.ANTUM DUO.

1

12 BUSBAR TECHNOLOGY

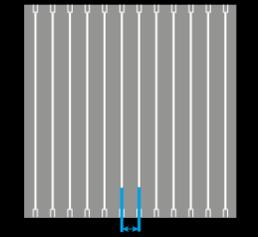
Reduced distance in between the busbars and additional paths for electric current results in 2% power increase. More paths means lower congestion which in return reduces resistive losses.

STANDARD 4 BUSBAR TECHNOLOGY



Wider distance between busbars causes longer ways for electrons and higher resistance.

ADVANCED 12 BUSBAR TECHNOLOGY



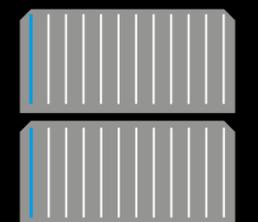
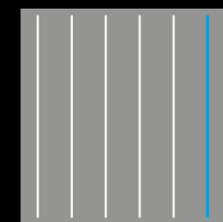
Shorter distance means less resistance and better capture of excited electrons.

2

HALF-CELL TECHNOLOGY

Halving the cell halves the current. Combined with a module layout which reduces the distance travelled by the electric current results in an increase of power by 3%.

HALF-CELL TECHNOLOGY



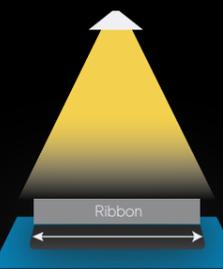
Two half-cells with 12 busbars have the same or even greater output as a full cell with 24 busbars.

3

WIRE INTERCONNECTION

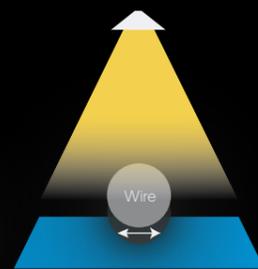
Utilising wires instead of flat ribbons reduces both the width and the effective shading width decreasing shading by 75% and increasing the power by 2.5%. The light reflected from the round shape of the wires improves the light capturing effect of the module.

CONVENTIONAL TECHNOLOGY



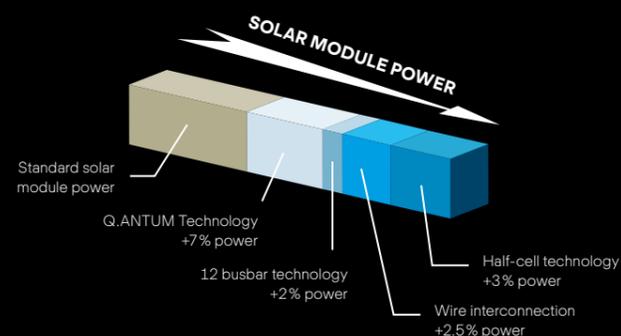
100% of ribbon width is effective for shading.

Q.ANTUM DUO TECHNOLOGY



Reduced width and internal reflection decreases shading by a total of 75%.

THE Q.ANTUM DUO EFFECT



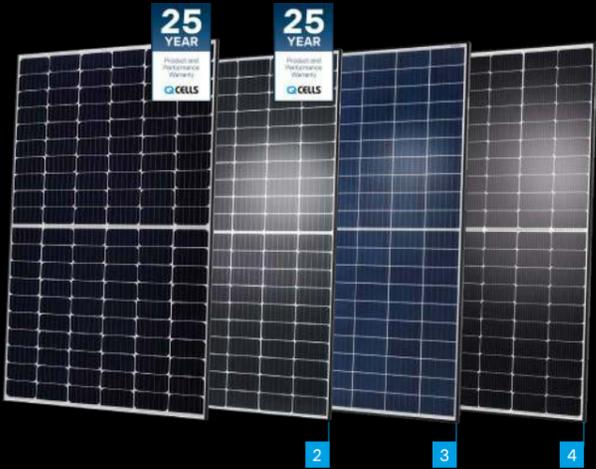
EXCEPTIONAL POWER, SUPERIOR EFFICIENCY AND BEST-IN-CLASS WARRANTIES

Q CELLS solar modules equipped with Q.ANTUM DUO Technology not only offer impressive performance under real life conditions, but also best-in-class warranty terms of 98% power in the first year and 85% after 25 years.

PRODUCTS

RESIDENTIAL & COMMERCIAL

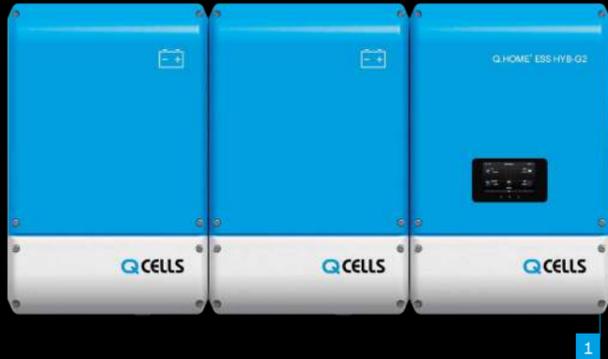
120-HALF -CELL MODULES



Q CELLS delivers a combination of high efficiency, high power class and maximum yields at competitive prices across our product range. Equipped with award-winning Q.ANTUM Technology, Q CELLS modules deliver exceptional performance under realworld conditions. Every last cell with traceable quality testing, every module guaranteed, everything you want from an award-winning brand.

- 1 Q.PEAK DUO-G6+
- 2 Q.PEAK DUO-G5+
- 3 Q.PLUS DUO BFR-G5
- 4 Q.MAXX

SYSTEMS



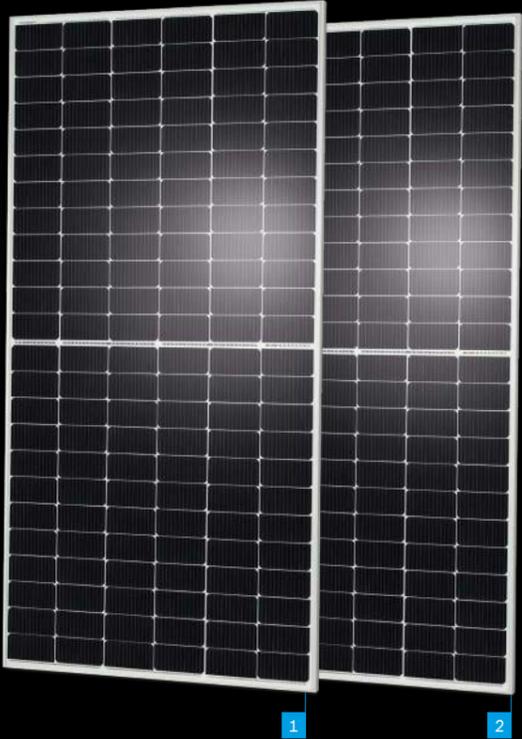
- 1 Q.HOME+ ESS HYB-G2

Technology that powers tomorrow with today's sun. Our Q.HOME storage system is the ideal solution for those seeking renewable energy independence. Scalable from 4 kWh to 12 kWh, Q.HOME delivers exceptional performance and high output. Perfectly matched technology, wrapped into one powerful 10-year fully-wrapped warranty with a single point of contact.

PRODUCTS

LARGE COMMERCIAL & UTILITY

144-HALF-CELL MODULES



- 1 Q.PEAK DUO L-G8.2
- 2 Q.PEAK DUO L-G7.2

Q CELLS' solar modules provide the maximised energy yields at a reasonable price and ensures low LCOE.

Q.PEAK DUO-G6+ ULTIMATE CONFIDENCE



Q.PEAK DUO-G6+ is Q CELLS at the top of our game, empowering you to live a life more powerful. It's our most powerful module yet. Advanced Q.ANTUM DUO technology, backed by a 25-year product and performance warranty. Allowing you to soak up more sun and reap peak performance for decades to come. Ultimate confidence is yours.

 Additional Add-On Q.HOME+ ESS HYB-G2 4 kWh, 8 kWh, 12 kWh

MONOCRYSTALLINE Q.ANTUM DUO TECHNOLOGY

The new Q.PEAK DUO-G6+ is the most powerful Q CELLS module to land in Australia yet. This monocrystalline solar module with power classes up to 355 Wp and an efficiency of up to 20.1%, enables higher yields over smaller surface areas. Building on the award-winning success of Q.PEAK DUO-G5, the new Q.PEAK DUO-G6+ contains all the features of Q.ANTUM DUO design including state-of-the-art circuitry, half-cells and a six-busbars, now with larger half-cells to reap

more power. residential system. The Q CELLS Anti LID Technology eliminates light induced degradation (LID), which can greatly minimise system performance, almost completely. Other conventional monocrystalline solar cells will lose much of their initial performance, once exposed to sunlight. With Q.PEAK DUO-G6+ this is not the case, thanks to Anti LID Technology.

TECHNICAL DATA

Type	120-half-cell module
Power	Up to 355 Wp
Efficiency	Up to 20.1%
Sorting	+5 / -0 W
Weight	19.9 kg

THE IDEAL SOLUTION FOR

-  Private rooftop installations
-  Commercial and industrial rooftop installations

HOW YOU BENEFIT



Optimal yields, whatever the weather with excellent low-light and temperature behaviour (-0.36% / K)



Excellent stability: tested for wind loads up to 4,000 Pa and snow loads up to 5,400 Pa



Separated operation of upper and lower module-half enables better shading resistance



25-year product warranty and 25-year linear performance warranty



Q.PEAK DUO-G5+ UNIQUELY AUSTRALIAN



Based on the award-winning Q.PEAK DUO-G5 module that is proven in Australia to withstand a 1-in-500 year storm, and extreme desert heat, the new Q.PEAK DUO-G5+ features everything you love about Q.PEAK DUO-G5 - now with a 25 year product and performance warranty. Powerful Q.ANTUM DUO technology. Proven performance. Available only in Australia.

 Additional Add-On Q.HOME ESS HYB-G2 4kWh, 8kWh, 12kWh

MONOCRYSTALLINE Q.ANTUM DUO TECHNOLOGY

The Q.PEAK DUO-G5+ is a monocrystalline solar module with power classes up to 330 Wp and an efficiency of up to 19.9%. Q.PEAK DUO-G5+ solar modules offer higher yields over smaller surface areas. This is made possible by the new generation of Q.ANTUM's world-record-holding cell concept which has now been combined with state-of-the-art circuitry, half-cells and a six-busbar design. The black half-cells of the Q.PEAK DUO-G5+ enhance the visual appearance of even

the most exclusive residential system. The Q CELLS Anti LID Technology eliminates light induced degradation (LID), which can greatly minimise system performance, almost completely. Other conventional monocrystalline solar cells will lose much of their initial performance, once exposed to sunlight. With Q.PEAK DUO-G5+ this is not the case, thanks to Anti LID Technology.

TECHNICAL DATA

Type	120-half-cell module
Power	Up to 330 Wp
Efficiency	Up to 19.9%
Sorting	+5 / -0 W
Weight	18.7kg

THE IDEAL SOLUTION FOR

-  Private rooftop installations
-  Commercial and industrial rooftop installations

HOW YOU BENEFIT



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



Excellent stability: tested for wind loads up to 4,000 Pa and snow loads up to 5,400 Pa



Separated operation of upper and lower module-half enables better shading resistance



25-year product warranty and 25-year linear performance warranty



Q.PLUS DUO BFR-G5

VARIABLY APPLICABLE AND RELIABLE



The polycrystalline high-performance module Q.PLUS DUO BFR-G5 is the ideal solution for all applications thanks to its innovative Q.ANTUM cell technology.

 Additional Add-On Q.HOME ESS HYB-G2 4kWh, 8kWh, 12kWh

POLYCRYSTALLINE Q.ANTUM SOLAR MODULE

Our Q.PLUS DUO BFR-G5 high-performance solar module is the solution for all solar applications thanks to its innovative cell technology Q.ANTUM. This polycrystalline solar module is designed to achieve best performances under real conditions – even with low radiation intensity and on clear summer

days. The Q.PLUS DUO BFR-G5 with Q.ANTUM Technology achieves high module efficiencies of up to 18.7% and are characterised by above average durabilities and high operational safety. Like all Q CELLS solar modules, installation is quickly and easily done to guarantee immediate use.

TECHNICAL DATA

Type 120-half-cell module
Power Up to 310 Wp
Efficiency Up to 18.7%
Sorting +5 / -0 W
Weight 18.7 kg

THE IDEAL SOLUTION FOR

-  Private rooftop installations
-  Commercial and industrial rooftop installations

HOW YOU BENEFIT



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



Excellent stability: tested for wind loads up to 4,000 Pa and snow loads up to 5,400 Pa



Separated operation of upper and lower module-half enables better shading resistance



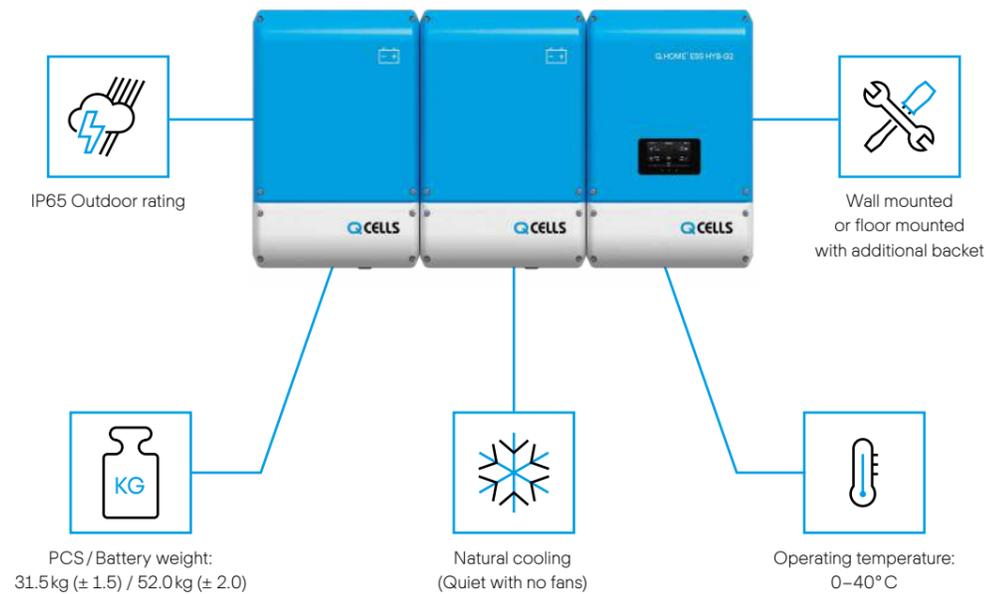
12-year product warranty and 25-year linear performance warranty





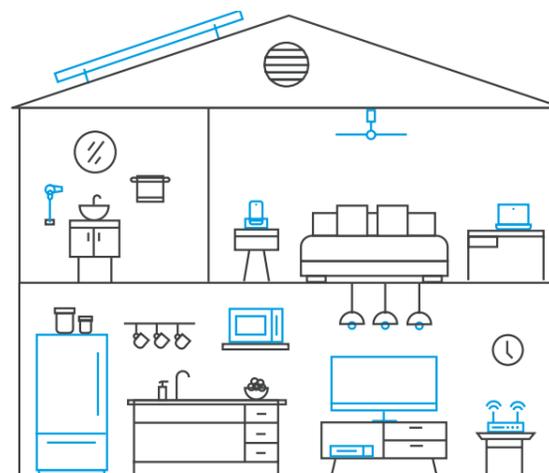
AUSTRALIA'S FIRST FULLY-BRANDED PV+ESS

Q.HOME+ ESS HYB-G2 features made-in-Korea quality inverter and battery designed specifically for real Australian conditions including heat and humidity. With only one point of contact for technical and warranty support, Q.HOME is a revolution in home energy.



Q.HOME+ ESS HYB-G2 THE EVOLUTION OF ENERGY

Today's sun is tomorrow's power with Q.HOME+ ESS HYB-G2 scalable storage solution for residential photovoltaic systems.



It is often more economical to store generated solar power and use it when needed, instead of sell it back to the grid. Due to increasing energy bills, selling of your own produced solar

energy is the smart way to save money and reduce your carbon footprint. Our storage solutions ensure a reliable long-term operation and high output.

SCALABLE SOLUTION FOR OPTIMIZED CONSUMPTION

Scalable storage capacity from 4kWh up to 12kWh to suit the specific energy consumption.

SMART DESIGN

Modular design for easy and fast installation, remote control operated systems with lithium-ion battery and battery charger.

SAFETY

Premium quality Samsung lithium-ion battery.

DURABILITY

High durability with 10 years product warranty and a performance to be maintained at least 80% of the initial battery capacity after 10 years. Very short recharge time and a high discharge depth.

REMOTE MAINTENANCE

Easy maintenance of the device due to early error detection function, web and mobile monitoring and a reliable service network.

CYCLE STRENGTH

Exceptionally good cycle strength

OUR RELIABILITY IS PROVEN



**CLIFTON HILL,
MELBOURNE, VIC**

7.8 kWp
2019

The customer asked their installer to deliver, “the best possible system”. The installer immediately recommended a solution utilising Q.PEAK DUO-G5. With just 24 panels, this suburban family is benefitting from Q.PEAK DUO-G5’s high performance – saving \$1,300 in electricity costs their first year. Q.PEAK DUO-G5’s excellent low-light behaviour is perfect for Melbourne’s fickle weather.

**WOODEND,
VIC**

6.6 kWp
2019

The Briertys enjoy a quiet life in rural Victoria. Due to frequent power outages, rising costs of energy, and a desire to switch to clean energy, this family of four decided that a solar and storage solution from Q CELLS was the smartest choice. Q.PEAK DUO-G5’s proven performance along with the scalable Q.HOME⁺ ESS HYB-G2, along with its backup-mode feature, presented a powerful solution to the Briertys’ needs. Now, the family enjoys a steady and reliable source of electricity. The Q.HOME system as helped reduce home energy demand by 44.6% and they especially enjoy the silent operating mode thanks to Q.HOME’s smart design so they can continue to enjoy their natural life.

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