# QCells Q.PEAK DUO BLK ML-G10+

**Brand:** Q Cells Solar
**Product Code:** Q.PEAK DUO BLK ML-G10+ 400W
**Availability:** 2 - 3 Days
**Weight:** 22.00kg
**Dimensions:** 1,879.00mm x 1,045.00mm x 32.00mm

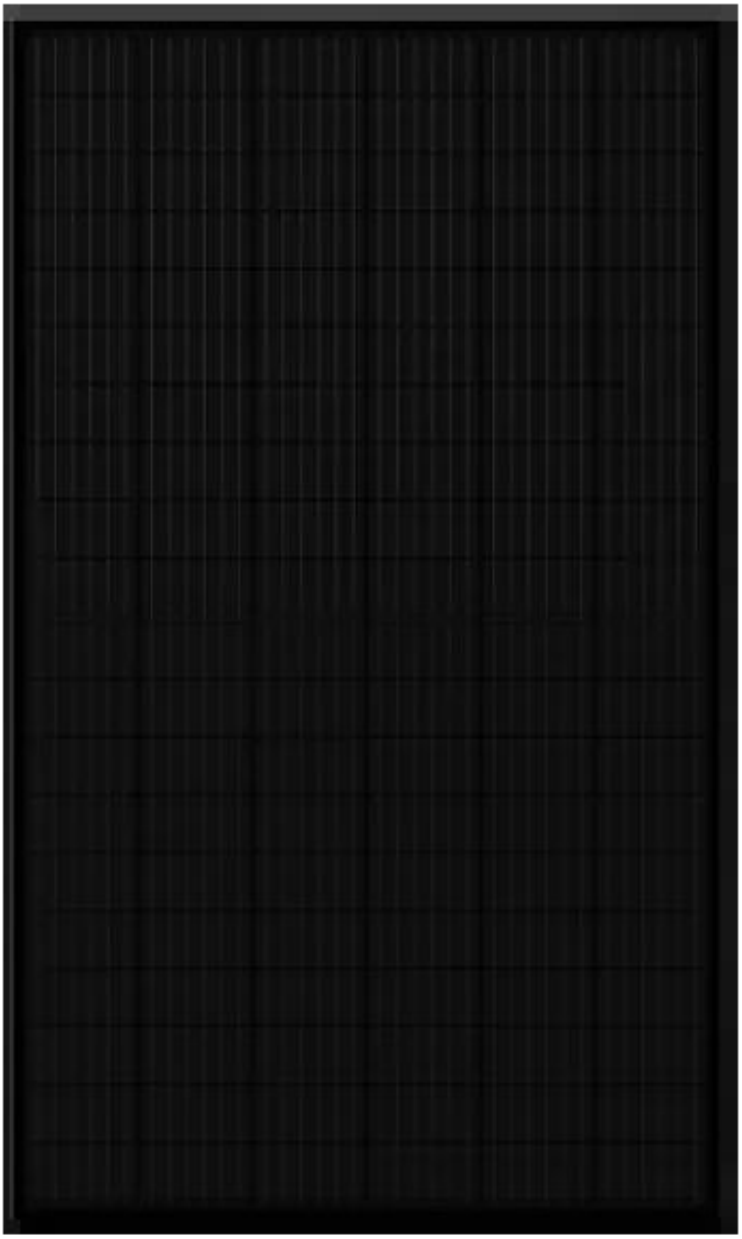
## Price: $900.00

**Ex Tax: $900.00**

**Short Description**
In-depth review of the high efficiency QCells 400W solar panel made in the USA. Get the full details on specs, warranties and real-world performance before installing.

**Description**

Solar panel warranties aren't exactly straightforward, so we developed a scoring system to facilitate comparison between warranties from different solar panel companies. Each warranty factor has a unique scale determined based on its importance.



- **Power Rating:** 400W
- **Cell Type:** Monocrystalline
- **Panel Dimensions:** 1879.0 mm L 1045.0 mm W 32.0 mm D
- **Solar Panel Aesthetics:** Black Cell, Black Frame, Black Backsheet
- **Snow Load:** 5400 Pa
- **Wind Load:** 4000 Pa
- **Linear Warranty Term:** 25 years
- **Product Warranty Term:** 25 years
- **Made in USA**
- **Approximate cost per watt $2 .90**

Learn More about QCELLS solar

## Product Performance

## Rated Power 400W

## Efficiency 20.4%

The G10 + series 400 W module comes in at a solid 20.4 % efficiency. This accomplishment is thanks largely to Q CELLS' zero gap Q.ANTUM DUO Z technology.

## Power Tolerance 0/+5W

Power tolerance refers to the amount of electricity a panel will produce, either above or below its rated power capacity, at Standard Test Conditions (STC). The smaller the power tolerance deviation or range, the more accurate the rated power capacity is.Q CELLS modules have a power tolerance of -0/+5%.

This means Q CELL panels, including the PEAK DUO BLK ML-G10+ 400W will, at the minimum, operate at their rated capacity. The panels have exceeded their rated capacity by as much as 5% in third party testing. For example, a Q.PEAK DUO BLK ML-G10+ panel rated at 400 W will operate anywhere from 400 W to 420 W (or 5% higher than the rated 400 watts) under STC. With a -0% tolerance rating, the Q.PEAK DUO BLK ML-G10+ 400 panel operates at or above 400 W. American made Q Cells' tolerance means real world performance under Texas' most extreme conditions.

## Temperature Coefficient PMax: -0.34

Solar panels perform best at 77°F (25°C). Here in Texas, obviously, we see temperatures that far exceed 77°F for long portions of the year. A solar panel's temperature coefficient is a measurement indicating how well a specific model of solar panel will perform outside of ideal operating conditions.

Knowing a panel's temperature coefficient and the temperature of the panel will allow you to predict your panel's performance during the dog days of summer.

Temperature coefficients are calculated in Celsius.

With each degree above 25°C /77°F, a given solar panel's electric output will be diminished by its temperature coefficient.

Using the above methodology, the Q.PEAK DUO BLK ML-G10+ 400W panel has a temperature coefficient of -0.347%/°C. Hence, when this panel's temperature increases by one degree, from 25°C to 26°C (77° F to 79° F), expect a 0.34% reduction in potential electric output.

When it's July in Texas and temperatures have climbed to 95° F/35° C, expect electric output to decrease by 3.4%. When the hottest hours of the summer drives the mercury into the triple digits, say 113° F/ 45° C, the panels will decrease approximately 6.8%.

## Q.PEAK DUO BLK ML-G10+ 400W

| | |
|---|---|
| Product Name and Model Number | Q.PEAK DUO BLK ML-GL10+ 400w |
| Manufacturer Name and Rating | QCells |
| Rated Power Output | 400 watt |
| Efficiency Percentage | 20.4% |
| Power Tolerance | +5.0% |
| Temperature Coefficient | -0.34% |
| Resiliency Specs | Snow load 5400Pa, Wind load 4000Pa |
| Output Warranty Term Length | 25 year |
| Output Warranty Decline Rate | -0.5% |
| Materials Warranty Term Length | 25 years |
| Cell Color(s) | Black |
| Frame | Black Anodized Aluminum Alloy |
| Backsheet Color(s) | White |
| Cell Type (e.g. monocrystalline) | Monocrystalline Q.ANTUM half cells |
| Panel Dimensions | 1879 X 1045 X 32mm |
| Weight | 48.5 lbs/ 22.kg |
| Number of Cells | 72 cells |
| Connector Type | Staubli MC4, IP68 |
| Manufacturer Location | USA Dalton, Georgia |
| Certifications Received (UL, IEC, ISO) | IEC, UL, ISO, TUV, CE |
| Average Cost per Watt | .75 |
| Marketplace Average Pricing | .90 - 1.50 |

powered by Q.ANTUM DUO Z

# Q.PEAK DUO BLK ML-G10+

## 385-405

ENDURING HIGH PERFORMANCE

Quality Controlled PV
TÜVRheinland CERTIFIED
www.tuv.com ID 1111232615

ASSEMBLED IN THE USA

25 YR Warranty
Product & Performance

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2021

Q CELLS Yield Security

6 BUSBAR CELL TECHNOLOGY

12 BUSBAR CELL TECHNOLOGY

### BREAKING THE 20 % EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9 %.

### THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS 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.

### INNOVATIVE ALL-WEATHER TECHNOLOGY

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

### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

### EXTREME WEATHER RATING

High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

### A RELIABLE INVESTMENT

Inclusive 25-year product warranty and 25-year linear performance warranty[2].

[1] APT test conditions according to IEC / TS 62804-1:2015, method A (–1500 V, 96 h)
[2] See data sheet on rear for further information.

### THE IDEAL SOLUTION FOR:

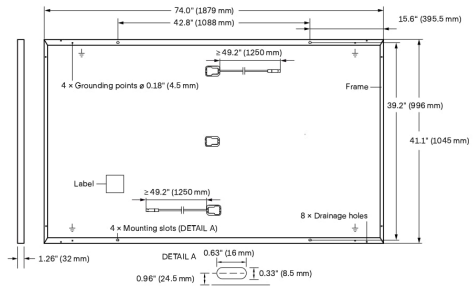
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS

## MECHANICAL SPECIFICATION

| | |
|---|---|
| Format | 74.0 in × 41.1 in × 1.26 in (including frame)<br>(1879 mm × 1045 mm × 32 mm) |
| Weight | 48.5 lbs (22.0 kg) |
| Front Cover | 0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology |
| Back Cover | Composite film |
| Frame | Black anodized aluminum |
| Cell | 6 × 22 monocrystalline Q.ANTUM solar half cells |
| Junction Box | 2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in<br>(53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes |
| Cable | 4 mm² Solar cable; (+) ≥ 49.2 in (1250 mm), (−) ≥ 49.2 in (1250 mm) |
| Connector | Stäubli MC4; IP68 |

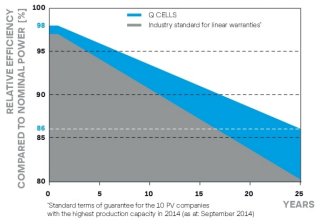



## ELECTRICAL CHARACTERISTICS

| POWER CLASS | | | | 385 | 390 | 395 | 400 | 405 |
|---|---|---|---|---|---|---|---|---|
| MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / −0 W) | | | | | | | | |
| Minimum | Power at MPP[1] | $P_{MPP}$ | [W] | 385 | 390 | 395 | 400 | 405 |
| | Short Circuit Current[1] | $I_{SC}$ | [A] | 11.04 | 11.07 | 11.10 | 11.14 | 11.17 |
| | Open Circuit Voltage[1] | $V_{OC}$ | [V] | 45.19 | 45.23 | 45.27 | 45.30 | 45.34 |
| | Current at MPP | $I_{MPP}$ | [A] | 10.59 | 10.65 | 10.71 | 10.77 | 10.83 |
| | Voltage at MPP | $V_{MPP}$ | [V] | 36.36 | 36.62 | 36.88 | 37.13 | 37.39 |
| | Efficiency[1] | η | [%] | ≥ 19.6 | ≥ 19.9 | ≥ 20.1 | ≥ 20.4 | ≥ 20.6 |
| MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2] | | | | | | | | |
| Minimum | Power at MPP | $P_{MPP}$ | [W] | 288.8 | 292.6 | 296.3 | 300.1 | 303.8 |
| | Short Circuit Current | $I_{SC}$ | [A] | 8.90 | 8.92 | 8.95 | 8.97 | 9.00 |
| | Open Circuit Voltage | $V_{OC}$ | [V] | 42.62 | 42.65 | 42.69 | 42.72 | 42.76 |
| | Current at MPP | $I_{MPP}$ | [A] | 8.35 | 8.41 | 8.46 | 8.51 | 8.57 |
| | Voltage at MPP | $V_{MPP}$ | [V] | 34.59 | 34.81 | 35.03 | 35.25 | 35.46 |

[1]Measurement tolerances $P_{MPP}$ ±3 %; $I_{SC}$; $V_{OC}$ ±5 % at STC: 1000 W/m², 25 ± 2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

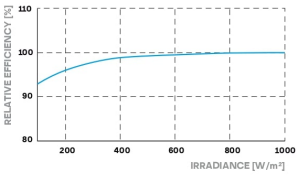
### Q CELLS PERFORMANCE WARRANTY




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 Q CELLS sales organisation of your respective country.

### 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 | [°F] | 109 ± 5.4 (43 ± 3 °C) |

## PROPERTIES FOR SYSTEM DESIGN

| | | | | |
|---|---|---|---|---|
| Maximum System Voltage $V_{SYS}$ | [V] | 1000 (IEC) / 1000 (UL) | PV module classification | Class II |
| Maximum Series Fuse Rating | [A DC] | 20 | Fire Rating based on ANSI / UL 61730 | TYPE 2 |
| Max. Design Load, Push / Pull[3] | [lbs/ft²] | 75 (3600 Pa) / 55 (2660 Pa) | Permitted Module Temperature on Continuous Duty | −40 °F up to +185 °F<br>(−40 °C up to +85 °C) |
| Max. Test Load, Push / Pull[3] | [lbs/ft²] | 113 (5400 Pa) / 84 (4000 Pa) | | |

[3] See Installation Manual

## QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant,
Quality Controlled PV - TÜV Rheinland,
IEC 61215:2016, IEC 61730:2016,
U.S. Patent No. 9,893,215 (solar cells),

C SP US Certified UL 61730

CE

TÜVRheinland CERTIFIED www.tuv.com ID 1111220277

## PACKAGING INFORMATION

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Horizontal packaging | 76.4 in<br>1940 mm | 43.3 in<br>1100 mm | 48.0 in<br>1220 mm | 1656 lbs<br>751 kg | 24<br>pallets | 24<br>pallets | 32<br>modules |

**Note:** Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

**Hanwha Q CELLS America Inc.**
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | **TEL** +1 949 748 59 96 | **EMAIL** inquiry@us.q-cells.com | **WEB** www.q-cells.us

**Warranty Specifications**

## Warranty Specifications

All Q Cells G9+ and G10+ series panels come complete with both a 25-year product and performance warranty.

The product warranty ensures all solar panels to be free of defects. The performance warranty guarantees 98% of nominal power rating during the first year. Thereafter a maximum rate of degradation not to exceed .5% per year is guaranteed. At ten years, you will retain at least 93.5% of your rated nominal power and at 25 years your solar panels will retain at least 86% of their energy producing potential.

**Specification**

| | |
|---|---|
| Solar Panel Configuration | |
| Cell Type | Monocrystalline |
| Panel Aesthetics | Black Cell, Black Frame, Black Backsheet |
| Panel Dimensions | 1879 X 1045 X 32mm |
| Power Rating | 410W |
| Snow load | 5400 Pa |
| Wind Load | 4000 Pa |
| Solar Panel Warranty | |
| Linear Production Warranty Term | 25 Years |
| Product Warranty Term | 25 Years |
| PV Product Performance | |
| Efficiency | 20.4% |
| Max Power Output | 400W |
| Power Tolerance | 0/+5W |
| Temperature Coefficient | PMax: -0.34 |
| Others | |
| Average Cost / Watt | $2 .90 |
| Where it’s Made | Made in USA |