Q. PEAK DUO XL-G9.3 / BFG
445-460

BIFACIAL DOUBLE GLASS MODULE WITH EXCELLENT RELIABILITY AND ADDITIONAL YIELD

BIFACIAL ENERGY YIELD GAIN OF UP TO 20%
Bifacial Q.ANTUM DUO Z solar cells with zero gap cell layout make efficient use of light shining on the module rear-side for radically improved LCOE.

LOW ELECTRICITY GENERATION COSTS
Q.ANTUM DUO Z combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology for higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.9%.

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 and Anti PID Technology¹, Hot-Spot Protect and Traceable Quality Tra.Q™.

FRAME FOR VERSATILE MOUNTING OPTIONS
High-tech aluminum alloy frame protects from damage, enables use of a wide range of mounting structures and is certified regarding IEC for high snow (5400Pa) and wind loads (3000Pa).

A RELIABLE INVESTMENT
Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty².

¹ APT test conditions according to IEC / TS 62804-1:2015, method B (-1500V, 168h)
² See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:
Rooftop arrays on commercial/industrial buildings
Ground-mounted solar power plants
MECHANICAL SPECIFICATION

Format  
85.2 in × 40.6 in × 1.38 in (including frame)  
(2163 mm × 1030 mm × 35 mm)

Weight  
63.27 lbs (28.7 kg)

Front Cover  
0.08 in (2.0 mm) thermally pre-stressed glass with anti-reflection technology

Back Cover  
2 mm semi-tempered glass

Frame  
Anodized aluminum

Cell  
6 x 26 monocrystalline Q.ANTUM solar half cells

Junction Box  
2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in  
(53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes

Cable  
4 mm² Solar cable; (+) ≥ 27.6 in (700 mm), (−) ≥ 13.8 in (350 mm)

Connector  
Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, IP56

ELECTRICAL CHARACTERISTICS

POWER CLASS  
445  450  455  460

MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC* AND BSTC* (POWER TOLERANCE +5 W / −0 W)

| Power at MPP | P_{\text{MPP}} | [W] | 445  | 465  | 486.8  | 450  | 492.2  | 455  | 497.7  | 460  | 503.2 |
| Open Circuit Voltage | V_{\text{OC}} | [V] | 52.90 | 50.03 | 53.15 | 53.41 | 53.41 | 53.60 | 53.66 | 53.85 |
| Current at MPP | I_{\text{AMP}} | [A] | 10.00 | 9.94 | 10.04 | 10.08 | 10.08 | 11.03 | 10.12 | 11.07 |
| Voltage at MPP | V_{\text{AMP}} | [V] | 44.50 | 44.49 | 44.82 | 44.81 | 45.13 | 45.12 | 45.44 | 45.44 |
| Efficiency | η (%) | ≥ 20.0 | ≥ 21.8 | ≥ 20.2 | ≥ 22.1 | ≥ 20.4 | ≥ 22.3 | ≥ 20.6 | ≥ 22.6 |

Bifaciality of P_{\text{MPP}} and I_{\text{SC}} ± 70% ± 5%  
Bifaciality given for rear side irradiation on top of STC (front side)  
*According to IEC 60904-1-2

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT*  

| Power at MPP | P_{\text{MPP}} | [W] | 334.5 | 338.2 | 342.0 | 345.7 |
| Short Circuit Current | I_{\text{SC}} | [A] | 8.46 | 8.49 | 8.53 | 8.56 |
| Open Circuit Voltage | V_{\text{OC}} | [V] | 50.03 | 50.27 | 50.51 | 50.75 |
| Current at MPP | I_{\text{AMP}} | [A] | 7.87 | 7.90 | 7.94 | 7.97 |
| Voltage at MPP | V_{\text{AMP}} | [V] | 42.48 | 42.79 | 43.08 | 43.38 |

NOTE  

Q CELLS PERFORMANCE WARRANTY

At least 98% of nominal power during first year. Thereafter max. 0.45% degradation per year. At least 93.95% of nominal power up to 10 years. At least 84.95% of nominal power up to 30 years.

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

TEMPERATURE COEFFICIENTS

| Temperature Coefficient of I_{\text{SC}} | α [% / K] | +0.04 | Temperature Coefficient of V_{\text{OC}} | β [% / K] | −0.27 |
| Temperature Coefficient of P_{\text{MPP}} | γ [% / K] | −0.35 | Nominal Module Operating Temperature | NMOT °[F] | 108 ± 5.4 (42 ± 3 °C) |

PROPERTIES FOR SYSTEM DESIGN

| Maximum System Voltage V_{\text{V_{MN}}} | [V] | 1500 | PV module classification | Class II |
| Maximum Series Fuse Rating | [A DC] | 20 | Fire Rating based on ANSI / UL 61730 | TYPE 29* |
| Maximum Design Load, Push / Pull | [lbs/ft²] | 75 (3600 Pa) / 42 (2000 Pa) | Permitted Module Temperature on Continuous Duty | −40°F up to +185°F |
| Maximum Test Load, Push / Pull | [lbs/ft²] | 115 (5400 Pa) / 63 (3000 Pa) | | (−40°C up to +85°C) |

*See Installation Manual  
**New Type is similar to Type 3 but with metallic frame

QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant, 
IEC 61215:2016, 
IEC 61730:2016, 
U.S. Patent No. 9,859,215
(solar cells)

PACKAGING AND TRANSPORT INFORMATION

Horizontally placed: 2230 mm × 42.5 in × 1196 mm  
2010 lbs, 912 kg pallets

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.

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