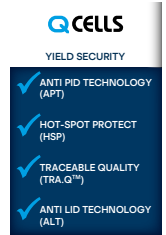


# Q.PEAK DUO L-G8.3 / BFG 405-415

BIFACIAL DOUBLE GLASS MODULE  
WITH EXCELLENT RELIABILITY  
AND ADDITIONAL YIELD



#### BIFACIAL ENERGY YIELD GAIN OF UP TO 20 %

Bifacial Q.ANTUM solar cells make efficient use of light shining on the module rear-side for radically improved LCOE.



#### LOW ELECTRICITY GENERATION COSTS

Q.ANTUM DUO 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 19.6%.



#### 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 Technology<sup>1</sup>, 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 (5400 Pa) and wind loads (2400 Pa).



#### A RELIABLE INVESTMENT

Double glass module design enables extended lifetime with 12-year product warranty and improved 30-year performance warranty<sup>2</sup>.

<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015 method B (-1500 V, 168h) including post treatment according to IEC 61215-1-1 Ed. 2.0 (CD)

<sup>2</sup> See data sheet on rear for further information

#### THE IDEAL SOLUTION FOR:



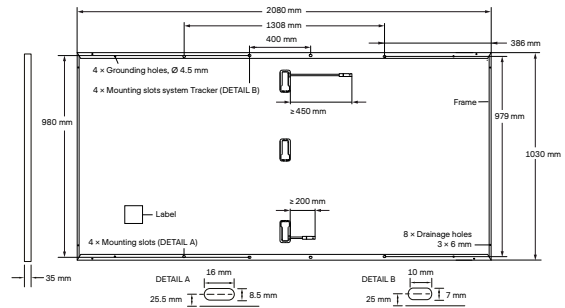
Rooftop arrays on commercial / industrial buildings



Ground-mounted solar power plants

## MECHANICAL SPECIFICATION

Format	2080mm × 1030mm × 35mm (including frame)
Weight	28.5kg
Front Cover	2mm thermally pre-stressed glass with anti-reflection technology
Back Cover	2mm semi-tempered glass
Frame	Anodised aluminium
Cell	6 × 24 monocrystalline Q.ANTUM solar half cells
Junction box	87-100.3mm × 32-38.5mm × 18.7mm Protection class IP67, with bypass diodes
Cable	4mm <sup>2</sup> Solar cable; (+) ≥ 450mm, (-) ≥ 200mm
Connector	Staubli MC4-Evo2, Hanwha Q CELLS HQC4, Amphenol UTX, Renhe 05-8, JMTHY JM601A, Tongling Cable01S-F; IP68 or Friends PV2e; IP67



## ELECTRICAL CHARACTERISTICS

POWER CLASS		405		410		415						
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / -0 W)												
Minimum	Power at MPP <sup>1</sup>	$P_{MPP}$	[W]	405	433	462	410	439	467	415	444	473
	Short Circuit Current <sup>1</sup>	$I_{SC}$	[A]	10.60	11.34	12.08	10.65	11.40	12.14	10.69	11.44	12.19
	Open Circuit Voltage <sup>1</sup>	$V_{OC}$	[V]	48.10	48.10	48.10	48.34	48.34	48.34	48.59	48.59	48.59
	Current at MPP	$I_{MPP}$	[A]	10.09	10.80	11.50	10.13	10.84	11.55	10.18	10.89	11.61
	Voltage at MPP	$V_{MPP}$	[V]	40.14	40.14	40.14	40.46	40.46	40.46	40.77	40.77	40.77
	Efficiency <sup>1</sup>	$\eta$	[%]	≥ 18.9		≥ 19.1		≥ 19.4				

Bifaciality of  $P_{MPP}$  and  $I_{SC}$  70% ± 3% • Bifaciality of  $V_{OC}$ : 0% ± 0.05% • Bifaciality given for rear side irradiation on top of STC (front side) • According to IEC 60904-1-2

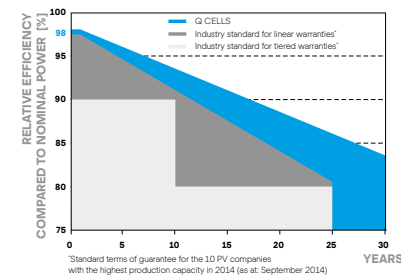
\* Bif100: Frontside irradiance for 1000 W/m<sup>2</sup> + 100 W/m<sup>2</sup> backside • \*\* Bif200: Frontside irradiance for 1000 W/m<sup>2</sup> + 200 W/m<sup>2</sup> backside

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup>

Minimum	Power at MPP	$P_{MPP}$	[W]	303.3	324.5	345.8	307.1	328.6	350.0	310.8	332.6	354.3
	Short Circuit Current	$I_{SC}$	[A]	8.54	9.14	9.74	8.58	9.20	9.80	8.61	9.22	9.82
	Open Circuit Voltage	$V_{OC}$	[V]	45.35	45.35	45.35	45.58	45.58	45.58	45.82	45.82	45.82
	Current at MPP	$I_{MPP}$	[A]	7.94	8.50	9.10	7.98	8.54	9.10	8.01	8.60	9.13
	Voltage at MPP	$V_{MPP}$	[V]	38.19	38.19	38.19	38.49	38.49	38.49	38.79	38.79	38.79

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

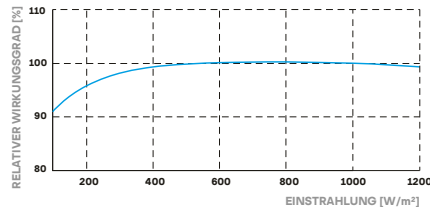
### Q CELLS PERFORMANCE WARRANTY



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 83.5% 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.

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m<sup>2</sup>).

### TEMPERATURE COEFFICIENTS

Temperature Coefficient of $I_{SC}$	$\alpha$	[%/K]	+0.04	Temperature Coefficient of $V_{OC}$	$\beta$	[%/K]	-0.27
Temperature Coefficient of $P_{MPP}$	$\gamma$	[%/K]	-0.35	Nominal Module Operating Temperature	NMOT	[°C]	42 ± 3

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{SYS}$	[V]	1500 (IEC)/1500 (UL)	PV module classification	Class II
Maximum Reverse Current	$I_R$	[A]	20	Fire Rating based on ANSI / UL 1703	C (IEC) / TYPE 19 (UL) <sup>4</sup>
Max. Design Load, Push / Pull		[Pa]	3600/1600	Permitted Module Temperature on Continuous Duty	-40°C - +85°C
Max. Test Load, Push / Pull		[Pa]	5400/2400	<sup>4</sup> New Type is similar to Type 3 but with metallic frame	

## QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016; IEC 61730:2016;  
This data sheet complies with DIN EN 50380.



## PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per Trailer (24t)	23
Number of Pallets per 40' HC-Container (26t)	22
Pallet Dimensions (L × W × H)	2130 × 1080 × 1196 mm
Pallet Weight	857.5 kg

**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 GmbH

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