

powered by

**Q.ANTUM DUO Z**

# Q.PEAK DUO XL-G9.2

## 440-460

ENDURING HIGH  
PERFORMANCE



#### BREAKING THE 20% EFFICIENCY BARRIER

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



#### LOW ELECTRICITY GENERATION COSTS

Higher yield per surface area, lower BOS costs and up to 30 watts more power per module.



#### ENDURING HIGH PERFORMANCE

Long-term yield security with Anti LID Technology, Anti PID Technology<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q™.



#### EXTREME WEATHER RATING

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).



#### A RELIABLE INVESTMENT

Inclusive 12-year product warranty and 25-year linear performance warranty<sup>2</sup>.



#### STATE OF THE ART MODULE TECHNOLOGY

Q.ANTUM DUO combines cutting edge cell separation and innovative 12-busbar design with Q.ANTUM Technology.

<sup>1</sup> APT test conditions according to IEC/TS 62804-1:2015, method B (-1500V, 168h)

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

#### THE IDEAL SOLUTION FOR:



Ground-mounted  
solar power plants

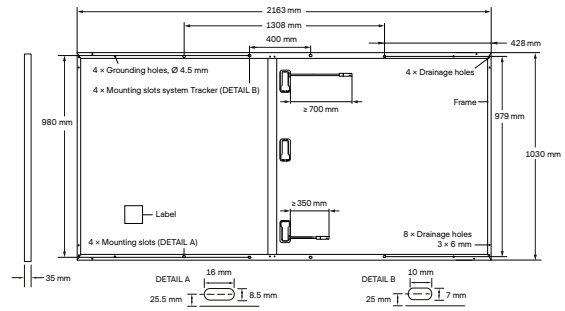
Engineered in Germany

**Q CELLS**

## MECHANICAL SPECIFICATION

Format	2163 mm × 1030 mm × 35 mm (including frame)
Weight	26 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminium
Cell	6 × 26 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 <sup>2</sup> Solar cable; (+) ≥ 700 mm, (-) ≥ 350 mm*
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68

\*Long cables (+) ≥ 1450 mm, (-) ≥ 1450 mm for landscape installation are available upon request.

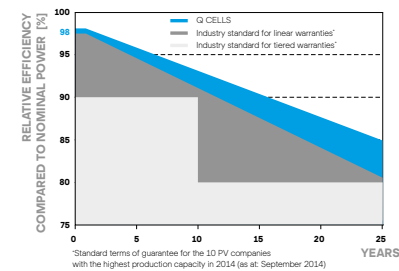


## ELECTRICAL CHARACTERISTICS

POWER CLASS		440	445	450	455	460	
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]	440	445	450	455	460
	Short Circuit Current <sup>1</sup>	$I_{SC}$ [A]	10.59	10.62	10.65	10.67	10.70
	Open Circuit Voltage <sup>1</sup>	$V_{OC}$ [V]	53.11	53.15	53.18	53.22	53.25
	Current at MPP	$I_{MPP}$ [A]	10.05	10.10	10.15	10.20	10.25
	Voltage at MPP	$V_{MPP}$ [V]	43.77	44.06	44.34	44.61	44.89
	Efficiency <sup>1</sup>	$\eta$ [%]	≥ 19.7	≥ 20.0	≥ 20.2	≥ 20.4	≥ 20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>							
Minimum	Power at MPP	$P_{MPP}$ [W]	329.5	333.2	337.0	340.7	344.5
	Short Circuit Current	$I_{SC}$ [A]	8.54	8.56	8.58	8.60	8.62
	Open Circuit Voltage	$V_{OC}$ [V]	50.08	50.12	50.15	50.18	50.22
	Current at MPP	$I_{MPP}$ [A]	7.90	7.95	7.99	8.03	8.08
	Voltage at MPP	$V_{MPP}$ [V]	41.69	41.93	42.17	42.41	42.64

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

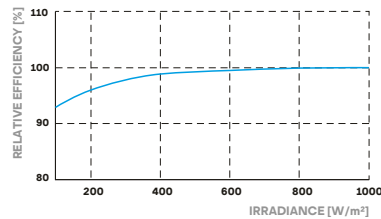
### Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% 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/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]	43 ± 3

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{SYS}$ [V]	1500	PV module classification	Class II
Maximum Reverse Current	$I_R$ [A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 1
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		

### QUALIFICATIONS AND CERTIFICATES

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



### PACKAGING INFORMATION

Horizontal packaging	2230 mm	1080 mm	1196 mm	796 kg	24 pallets	22 pallets	29 modules
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**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

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.q-cells.com