





# Q.ANTUM TECHNOLOGY: LOW LEVELISED COST OF ELECTRICITY

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.5%.



## **INNOVATIVE ALL-WEATHER TECHNOLOGY**

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



# **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<sup>TM</sup>.



# **EXTREME WEATHER RATING**

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



# A RELIABLE INVESTMENT

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



# STATE OF THE ART MODULE TECHNOLOGY

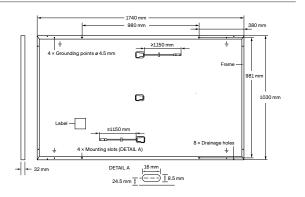
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

- $^{\rm 1}$  APT test conditions according to IEC/TS 62804-1:2015, method B (–1500 V, 168 h)
- <sup>2</sup> See data sheet on rear for further information.

# THE IDEAL SOLUTION FOR:







### **ELECTRICAL CHARACTERISTICS**

PO	VER CLASS			330	335	340	345
MIN	IIMUM PERFORMANCE AT STANDA	RD TEST CONDITIO	NS, STC¹ (PC	WER TOLERANCE +5 W /	-0W)		
Minimum	Power at MPP¹	P <sub>MPP</sub>	[W]	330	335	340	345
	Short Circuit Current <sup>1</sup>	I <sub>sc</sub>	[A]	10.41	10.47	10.52	10.58
	Open Circuit Voltage <sup>1</sup>	V <sub>oc</sub>	[V]	40.15	40.41	40.66	40.92
	Current at MPP	I <sub>MPP</sub>	[A]	9.91	9.97	10.02	10.07
	Voltage at MPP	$V_{MPP}$	[V]	33.29	33.62	33.94	34.25
	Efficiency <sup>1</sup>	η	[%]	≥18.4	≥18.7	≥19.0	≥19.3
MIN	IIMUM PERFORMANCE AT NORMAL	OPERATING COND	DITIONS, NM	OT <sup>2</sup>			
	Power at MPP	P <sub>MPP</sub>	[W]	247.0	250.7	254.5	258.2
E	Short Circuit Current	I <sub>sc</sub>	[A]	8.39	8.43	8.48	8.52
nim	Open Circuit Voltage	V <sub>oc</sub>	[V]	37.86	38.10	38.34	38.59
≘	Current at MPP	I <sub>MPP</sub>	[A]	7.80	7.84	7.89	7.93
	Voltage at MPP	V <sub>MPP</sub>	[V]	31.66	31.97	32.27	32.57

 $^{1}\text{Measurement tolerances P}_{\text{MPP}}\pm3\%; |_{\text{Sc}}; |_{\text{CC}}\pm5\% \text{ at STC}: 1000 \text{ W/m}^{2}, 25\pm2\text{°C}, \text{AM 1.5 according to IEC 60904-3} \bullet ^{2}800 \text{ W/m}^{2}, \text{NMOT, spectrum AM 1.5}$ 

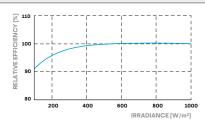
### Q CELLS PERFORMANCE WARRANTY

# ARED

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/m²).

TEMPERATURE COEFFICIENTS							
Temperature Coefficient of I <sub>SC</sub>	α	[%/K]	+0.04	Temperature Coefficient of Voc	β	[%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ	[%/K]	-0.36	Nominal Module Operating Temperature	NMOT	[°C]	43±3

# PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V <sub>SYS</sub>	[V]	1000	PV module classification	Class II
Maximum Reverse Current	I <sub>R</sub>	[A]	20	Fire Rating based on ANSI/UL 61730	C/TYPE 2
Max. Design Load, Push / Pull		[Pa]	3600/2667	Permitted Module Temperature	-40°C - +85°C
May Test Load Push / Pull		[Pa]	5400 / 4000	on Continuous Duty	

### **QUALIFICATIONS AND CERTIFICATES**

### VDE Quality Tested, IEC 61215:2016; IEC 61730:2016. This data sheet complies with DIN EN 50380.





Vertical	1791mm	1130 mm	1200mm







681kg

**PACKAGING INFORMATION** 



28 pallets





26 pallets 32 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. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document "Packaging and Transport Information", available from Q CELLS.

### Hanwha Q CELLS GmbH

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packaging

