





Technology¹, 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 (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.

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

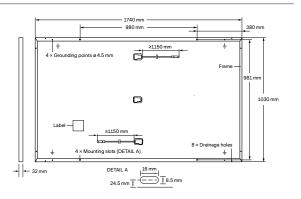
# THE IDEAL SOLUTION FOR:



Rooftop arrays on residential buildings







## **ELECTRICAL CHARACTERISTICS**

WER CLASS			340	345	350	355	360
IIMUM PERFORMANCE AT STANDAR	D TEST CONDITIO	NS, STC1 (PO	OWER TOLERANCE	+5W/-0W)			
Power at MPP <sup>1</sup>	P <sub>MPP</sub>	[W]	340	345	350	355	360
Short Circuit Current <sup>1</sup>	I <sub>sc</sub>	[A]	10.63	10.68	10.74	10.79	10.84
Open Circuit Voltage <sup>1</sup>	Voc	[V]	40.20	40.45	40.70	40.95	41.19
Current at MPP	I <sub>MPP</sub>	[A]	10.12	10.17	10.22	10.28	10.33
Voltage at MPP	V <sub>MPP</sub>	[V]	33.61	33.92	34.24	34.55	34.85
Efficiency <sup>1</sup>	η	[%]	≥19.0	≥19.3	≥19.5	≥19.8	≥20.1
IIMUM PERFORMANCE AT NORMAL	OPERATING CONE	DITIONS, NIV	IOT <sup>2</sup>				
Power at MPP	P <sub>MPP</sub>	[W]	254.6	258.4	262.1	265.9	269.6
Short Circuit Current	I <sub>sc</sub>	[A]	8.56	8.61	8.65	8.69	8.74
Open Circuit Voltage	V <sub>oc</sub>	[V]	37.91	38.14	38.38	38.61	38.85
Current at MPP	I <sub>MPP</sub>	[A]	7.96	8.00	8.05	8.09	8.13
Voltage at MPP	V <sub>MPP</sub>	[V]	31.98	32.28	32.57	32.87	33.16
	Power at MPP¹ Short Circuit Current¹ Open Circuit Voltage¹ Current at MPP Voltage at MPP Efficiency¹ NIMUM PERFORMANCE AT NORMAL Power at MPP Short Circuit Current Open Circuit Voltage Current at MPP	NIMUM PERFORMANCE AT STANDARD TEST CONDITION  Power at MPP¹ P <sub>MPP</sub> Short Circuit Current¹ I <sub>SC</sub> Open Circuit Voltage¹ V <sub>OC</sub> Current at MPP I <sub>MPP</sub> Voltage at MPP V <sub>MPP</sub> Efficiency¹ ¶  NIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS  Power at MPP P <sub>MPP</sub> Short Circuit Current I <sub>SC</sub> Open Circuit Voltage V <sub>OC</sub> Current at MPP I <sub>MPP</sub>	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POPOWER at MPP1 Power at MPP Power Powe	MIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE Power at MPP¹ $P_{MPP}$ [W] 340   Short Circuit Current¹ $P_{MPP}$ [W] 340   Short Circuit Voltage¹ $P_{MPP}$ [W] 40.20   Current at MPP $P_{MPP}$ [V] 40.20   Current at MPP $P_{MPP}$ [V] 33.61   Efficiency¹ $P_{MPP}$ [V] 33.61   Efficiency¹ $P_{MPP}$ [V] 33.61   Efficiency¹ $P_{MPP}$ [W] 254.6   Short Circuit Current $P_{MPP}$ [W] 254.6   Short Circuit Voltage $P_{MPP}$ [W] 37.91   Current at MPP $P_{MPP}$ [A] 7.96	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5W/-0W)   Power at MPP¹   P <sub>MPP</sub> [W] 340 345   Short Circuit Current¹   I <sub>SC</sub> [A] 10.63 10.68   Open Circuit Voltage¹   V <sub>OC</sub> [V] 40.20 40.45   Current at MPP   I <sub>MPP</sub> [A] 10.12 10.17   Voltage at MPP   V <sub>MPP</sub> [V] 33.61 33.92   Efficiency¹   $\eta$ [%] ≥19.0 ≥19.3   NIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²   Power at MPP   P <sub>MPP</sub> [W] 254.6 258.4   Short Circuit Current   I <sub>SC</sub> [A] 8.56 8.61   Open Circuit Voltage   V <sub>OC</sub> [V] 37.91 38.14   Current at MPP   I <sub>MPP</sub> [A] 7.96 8.00	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / −0 W)	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / -0 W)   Power at MPP¹   Power at MPP   Power MPP   Pow

 $^1\text{Measurement tolerances P}_{\text{MPP}} \pm 3\%; \text{I}_{\text{SC}}; \text{V}_{\text{CC}} \pm 5\% \text{ at STC}: 1000 \text{W/m}^2, 25 \pm 2^{\circ}\text{C}, \text{AM 1.5 according to IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{NMOT, spectrum AM 1.5} \text{ACCORDING TO IEC 60904-3} \bullet ^2800 \text{W/m}^2, \text{ACCORDING$ 

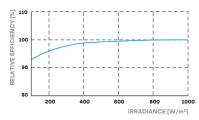
## Q CELLS PERFORMANCE WARRANTY

# 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]	-0.35	Nominal Module Operating Temperature	NMOT	[°C]	43±3

## PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{\text{SYS}}$	[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
Max. 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.







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1815mm 1150mm 1220mm





673.8 kg

683kg

**PACKAGING INFORMATION** 



28 pallets

28 pallets





26 pallets 32 modules

24 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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Vertical

packaging

