



#### **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  $^1$ , Hot-Spot Protect and Traceable Quality Tra.Q $^{\text{TM}}$ .



#### **EXTREME WEATHER RATING**

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



# A RELIABLE INVESTMENT

Inclusive 25-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:

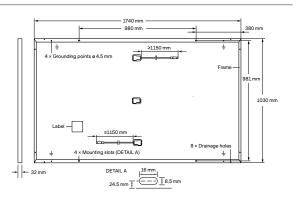


Rooftop arrays on residential buildings





Format	$1740\text{mm} \times 1030\text{mm} \times 32\text{mm}$ (including frame)
Weight	19.9 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 20 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 mm² Solar cable; (+) ≥1150 mm, (-) ≥1150 mm
Connector	Stäubli MC4, Hanwha Q CELLS HQC4; IP68



#### **ELECTRICAL CHARACTERISTICS**

PO	WER CLASS			340	345	350	355	360
MIN	IIMUM PERFORMANCE AT STANDARD	+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
μnu	Open Circuit Voltage <sup>1</sup>	V <sub>oc</sub>	[V]	40.20	40.45	40.70	40.95	41.19
Mini	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
MIN	IIMUM PERFORMANCE AT NORMAL OI							
	Power at MPP	P <sub>MPP</sub>	[W]	254.6	258.4	262.1	265.9	269.6
nimum	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

 $^1\text{Measurement tolerances P}_{\text{MPP}}\pm3\%; I_{\text{SC}}; V_{\text{OC}}\pm5\% \text{ at STC}; \overline{1000\text{W/m}^2, 25\pm2\text{°C}, \text{AM 1.5 according to IEC 60904-3}} + 2800\text{W/m}^2, \text{NMOT, spectrum AM 1.5}$ 

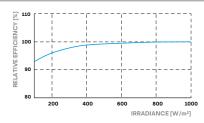
#### Q CELLS PERFORMANCE WARRANTY

# Bandurd term of guarante for the 10 PV companies Standard term of guarante for the 10 PV companies To 15 20 25 AVEARS With the highest production capacity in 2014 (see it September 2014)

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  $^{\circ}\text{C}$ , 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 1703	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**

# PACKAGING INFORMATION

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





	Number of Modules per Pallet	32
	Number of Pallets per Trailer (24t)	28
	Number of Pallets per 40' HC-Container (26t)	24
_	Pallet Dimensions (L × W × H)	1815 × 1150 × 1220 mm
	Pallet Weight	683 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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