



# 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.

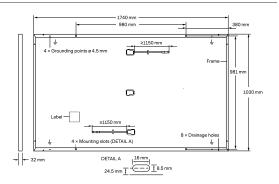
### THE IDEAL SOLUTION FOR:





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

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



#### **ELECTRICAL CHARACTERISTICS**

PO	VER CLASS			330	335	340	345
MIN	IIMUM PERFORMANCE AT STANDAF	RD TEST CONDITIO	NS, STC¹ (F	OWER TOLERANCE +5 W /	-0 W)		
Minimum	Power at MPP <sup>1</sup>	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	$V_{\text{MPP}}$	[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 CONE	DITIONS, N	MOT <sup>2</sup>			
Minimum	Power at MPP	P <sub>MPP</sub>	[W]	247.0	250.7	254.5	258.2
	Short Circuit Current	I <sub>sc</sub>	[A]	8.39	8.43	8.48	8.52
	Open Circuit Voltage	Voc	[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

 $<sup>^{1}\</sup>text{Measurement tolerances P}_{MPP}\pm3\%;|_{\text{Sci.}}\text{V}_{\text{Dc}}\pm5\%\text{ at STC: }1000\text{W/m}^{2},25\pm2\text{°C},\text{AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}800\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}8000\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot ^{2}8000\text{W/m}^{2},\text{NMOT, spectrum AM }1.5\text{ according to IEC }60904-3 \cdot$ 

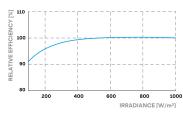
#### Q CELLS PERFORMANCE WARRANTY

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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	Normal Module Operating Temperature	NMOT	[°C]	43±3

#### PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{\text{SYS}}$	[V]	1000	Safety Class	II
Maximum Reverse Current	I <sub>R</sub>	[A]	20	Fire Rating based on ANSI / UL 1703	С
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, Application Class II; 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.

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