



linear performance guarantee<sup>2</sup>.



## STATE OF THE ART MODULE TECHNOLOGY

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

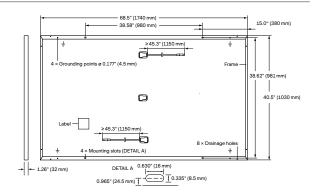
# THE IDEAL SOLUTION FOR:





 $<sup>^{\</sup>rm 1}$  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

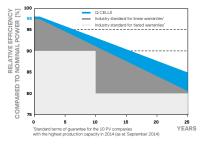


### **ELECTRICAL CHARACTERISTICS**

IUM PERFORMANCE AT STANDARD TEST (			330	335	340	345
TOWIFER ORWANCE AT STANDARD TEST	CONDITIO	NS, STC1 (POW	ER TOLERANCE +5 W / -0	W)		
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 Voltage¹	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
/oltage at MPP	V <sub>MPP</sub>	[V]	33.29	33.62	33.94	34.25
Efficiency <sup>1</sup>	η	[%]	≥18.4	≥18.7	≥19.0	≥19.3
IUM PERFORMANCE AT NORMAL OPERAT	ING CONE	DITIONS, NMOT	2			
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	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
/oltage at MPP	V <sub>MPP</sub>	[V]	31.66	31.97	32.27	32.57
	Short Circuit Current¹  Open Circuit Voltage¹  Current at MPP  /oltage at MPP  Efficiency¹  IUM PERFORMANCE AT NORMAL OPERATION  Cower at MPP  Short Circuit Current  Open Circuit Voltage  Current at MPP	Short Circuit Current   I <sub>SC</sub>	Short Circuit Current	Short Circuit Current¹   I <sub>SC</sub>   [A]   10.41     Open Circuit Voltage¹   V <sub>OC</sub>   [V]   40.15     Current at MPP   I <sub>MPP</sub>   [A]   9.91     Voltage at MPP   V <sub>MPP</sub>   [V]   33.29     Efficiency¹   η   [%]   ≥18.4     UMM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²     Ower at MPP   P <sub>MPP</sub>   [W]   247.0     Short Circuit Current   I <sub>SC</sub>   [A]   8.39     Open Circuit Voltage   V <sub>OC</sub>   [V]   37.86     Current at MPP   I <sub>MPP</sub>   [A]   7.80	Short Circuit Current¹   I <sub>SC</sub>   [A]   10.41   10.47     Open Circuit Voltage¹   V <sub>OC</sub>   [V]   40.15   40.41     Current at MPP	Short Circuit Current   I <sub>SC</sub>   [A]   10.41   10.47   10.52     Open Circuit Voltage   V <sub>OC</sub>   [V]   40.15   40.41   40.66     Current at MPP

¹Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>SC</sub>; V<sub>OC</sub> ±5% at STC: 1000 W/m², 25±2°C, AM 1.5G according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5G

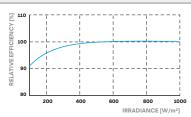
### Q CELLS PERFORMANCE WARRANTY



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 organization of your respective country.

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25  $^{\circ}C$  , 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	V	[%/K]	-0.36	Normal Module Operating Temperature	NMOT	[°F]	109+54(43+3°C)

# PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V <sub>SYS</sub>	[V]	1000	Safety Class	II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating	C (IEC)/TYPE 2 (UL)
Max. Design Load, Push/Pull <sup>3</sup>	[1507 11 ] 70 (50001 4)7 50 (2007 14)		ermitted Module Temperature	-40°F up to +185°F
Max. Test Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa) / 84 (4000 Pa)	on Continuous Duty	(-40°C up to +85°C)

<sup>3</sup>See Installation Manual

### **QUALIFICATIONS AND CERTIFICATES**

UL 1703, VDE Quality Tested, CE-compliant, IEC 61215:2016, IEC 61730:2016, Application Class II, U.S. Patent No. 9,893,215 (solar cells)







# PACKAGING INFORMATION

 Number of Modules per Pallet
 32

 Number of Pallets per 53' Trailer
 28

 Number of Pallets per 40' HC-Container
 24

 Pallet Dimensions (L×W×H)
 71.5 × 45.3 × 46.9 in (1815 × 1150 × 1190 mm)

 Pallet Weight
 1505 lbs (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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