



STATE OF THE ART MODULE TECHNOLOGY

 $\ensuremath{\mathsf{Q.ANTUM}}$ DUO combines cutting edge cell separation and innovative wiring with $\ensuremath{\mathsf{Q.ANTUM}}$ Technology.

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

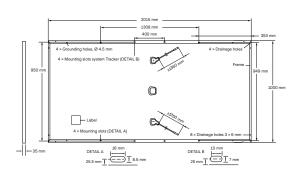
THE IDEAL SOLUTION FOR:





Ground-mounted solar power plants





ELECTRICAL CHARACTERISTICS

VER CLASS			385	390	395	400	405
IIMUM PERFORMANCE AT STANDARD	TEST CONDITIO	NS, STC1 (PC	OWER TOLERANCE	+5W/-0W)			
Power at MPP ¹	P _{MPP}	[W]	385	390	395	400	405
Short Circuit Current ¹	I _{sc}	[A]	10.05	10.10	10.14	10.19	10.23
Open Circuit Voltage ¹	V _{oc}	[V]	48.17	48.44	48.70	48.96	49.22
Current at MPP	I _{MPP}	[A]	9.57	9.61	9.66	9.70	9.75
Voltage at MPP	V _{MPP}	[V]	40.24	40.57	40.90	41.23	41.56
Efficiency ¹	η	[%]	≥19.1	≥19.4	≥19.6	≥19.9	≥20.1
IIMUM PERFORMANCE AT NORMAL OI	PERATING CONE	DITIONS, NIV	IOT ²				
Power at MPP	P _{MPP}	[W]	288.1	291.9	295.6	299.4	303.1
Short Circuit Current	I _{sc}	[A]	8.10	8.14	8.17	8.21	8.24
Open Circuit Voltage	V _{oc}	[V]	45.42	45.67	45.92	46.17	46.41
Current at MPP	I _{MPP}	[A]	7.53	7.57	7.60	7.64	7.67
Voltage at MPP	V _{MPP}	[V]	38.26	38.58	38.89	39.20	39.51
	Power at MPP¹ Short Circuit Current¹ Open Circuit Voltage¹ Current at MPP Voltage at MPP Efficiency¹ IIMUM PERFORMANCE AT NORMAL OF Power at MPP Short Circuit Current Open Circuit Voltage Current at MPP	IMUM PERFORMANCE AT STANDARD TEST CONDITIO Power at MPP¹	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	IIIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE Power at MPP¹ P _{MPP} [W] 385 Short Circuit Current¹ I_{SC} [A] 10.05 Open Circuit Voltage¹ V_{OC} [V] 48.17 Current at MPP I_{MPP} [A] 9.57 Voltage at MPP V_{MPP} [V] 40.24 Efficiency¹ η [%] ≥19.1 IIIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT² Power at MPP P_{MPP} [W] 288.1 Short Circuit Current I_{SC} [A] 8.10 Open Circuit Voltage V_{OC} [V] 45.42 Current at MPP I_{MPP} [A] 7.53	IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5W/-0W) Power at MPP¹ P _{MPP} [W] 385 390 Short Circuit Current¹ I _{SC} [A] 10.05 10.10 Open Circuit Voltage¹ V _{OC} [V] 48.17 48.44 Current at MPP I _{MPP} [A] 9.57 9.61 Voltage at MPP V _{MPP} [V] 40.24 40.57 Efficiency¹ η [%] ≥19.1 ≥19.4 IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT² Power at MPP P _{MPP} [W] 288.1 291.9 Short Circuit Current I _{SC} [A] 8.10 8.14 Open Circuit Voltage V _{OC} [V] 45.42 45.67 Current at MPP I _{MPP} [A] 7.53 7.57	Number Number	Number Power at MPP Power MPP

*Measurement tolerances P_{MPP} ±3%; I_{SG}; V_{OC} ±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

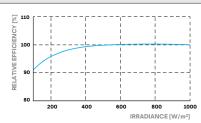
Q CELLS PERFORMANCE WARRANTY

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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 $^{\circ}$ C, 1000 W/m²).

TEMPERATURE COEFFICIENTS								
Temperature Coefficient of I _{sc}	α	[%/K]	+0.04	Temperature Coefficient of Voc	β	[%/K]	-0.27	
Temperature Coefficient of P _{MPP}	γ	[%/K]	-0.36	Normal Module Operating Temperature	NMOT	[°C]	43±3	

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	$V_{\scriptsize \text{SYS}}$	[V]	1000 (IEC)/1000 (UL)	Safety Class	II
Maximum Reverse Current	I _R	[A]	20	Fire Rating	C/TYPE 2
Max. Design Load, Push / Pull		[Pa]	3600/1600	·	-40°C - +85°C
Max. Test Load. Push / Pull		[Pa]	5400/2400	on Continuous Duty	

QUALIFICATIONS AND CERTIFICATES

PACKAGING INFORMATION

IEC 61215:2016; IEC 61730:2016, Application Class II; This data sheet complies with DIN EN 50380.







Number of Modules per Pallet	29
Number of Pallets per Trailer (24t)	24
Number of Pallets per 40' HC-Container (26t)	22
Pallet Dimensions (L × W × H)	2080×1150×1185mm
Pallet Weight	727kg

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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