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# **EnergyPal**

## Solar Panel Guide Specification Data Sheet

# Hanwha Q CELLS GmbH Q.PEAK DUO-G8 345-360 355

Also available on the web at EnergyPal.com/hanwha-q-cells-gmbh-solar-panels/355



## Q.PEAK DUO-G8 345-360

ENDURING HIGH PERFORMANCE





## Q.ANTUM TECHNOLOGY: LOW LEVELISED COST OF ELECTRICITY

**Quality Tested** 

www.VDEinfo.com ID. 40032587 EUPD RESEARCH

EUROPE 2020

QCELLS

YIELD SECURITY

ANTI PID TECHNOLO (APT)

ANTI LID TECHNOLO

Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 20.4%.



### 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<sup>1</sup>, Hot-Spot Protect and Traceable Quality Tra.Q<sup>™</sup>.



#### 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 12-busbar design with Q.ANTUM Technology.

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

#### THE IDEAL SOLUTION FOR:



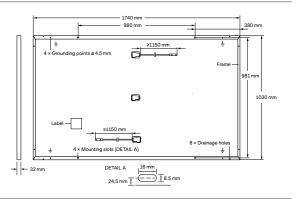


Rooftop arrays on commercial/industrial buildings



#### **MECHANICAL SPECIFICATION**

Format	1740mm  imes 1030mm  imes 32mm (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, Amphenol UTX, Renhe 05-6, Tongling TL-Cable01S, JMTHY JM601; IP68 or Friends PV2e; IP67

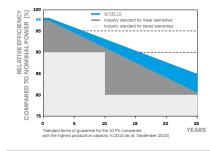


#### **ELECTRICAL CHARACTERISTICS**

VER CLASS			345	350	355	360
IIMUM PERFORMANCE AT STANDA	RD TEST CONDITIO	NS, STC <sup>1</sup> (POW	/ER TOLERANCE +5 W /	-0W)		
Power at MPP <sup>1</sup>	P <sub>MPP</sub>	[W]	345	350	355	360
Short Circuit Current <sup>1</sup>	I <sub>sc</sub>	[A]	10.68	10.74	10.79	10.84
Open Circuit Voltage <sup>1</sup>	V <sub>oc</sub>	[V]	40.45	40.70	40.95	41.19
Current at MPP	I <sub>MPP</sub>	[A]	10.17	10.22	10.28	10.33
Voltage at MPP	V <sub>MPP</sub>	[V]	33.92	34.24	34.55	34.85
Efficiency <sup>1</sup>	η	[%]	≥19.3	≥19.5	≥19.8	≥20.1
IMUM PERFORMANCE AT NORMA	OPERATING CONE	DITIONS, NMO	T <sup>2</sup>			
Power at MPP	P <sub>MPP</sub>	[W]	258.4	262.1	265.9	269.6
Short Circuit Current	I <sub>sc</sub>	[A]	8.61	8.65	8.69	8.74
Open Circuit Voltage	V <sub>oc</sub>	[V]	38.14	38.38	38.61	38.85
Current at MPP	I <sub>MPP</sub>	[A]	8.00	8.05	8.09	8.13
Voltage at MPP	V <sub>MPP</sub>	[V]	32.28	32.57	32.87	33.16
	IMUM PERFORMANCE AT STANDA Power at MPP <sup>1</sup> Short Circuit Current <sup>1</sup> Open Circuit Voltage <sup>1</sup> Current at MPP Voltage at MPP Efficiency <sup>1</sup> IMUM PERFORMANCE AT NORMAN Power at MPP Short Circuit Current Open Circuit Voltage Current at MPP	IMUM PERFORMANCE AT STANDARD TEST CONDITIO         Power at MPP <sup>1</sup> P <sub>MPP</sub> Short Circuit Current <sup>1</sup> I <sub>SC</sub> Open Circuit Voltage <sup>1</sup> V <sub>OC</sub> Current at MPP       I <sub>MPP</sub> Voltage at MPP       V <sub>MPP</sub> Efficiency <sup>1</sup> ŋ         IMUM PERFORMANCE AT NORMAL OPERATING COND         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>	IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POW         Power at MPP <sup>1</sup> $P_{MPP}$ [W]         Short Circuit Current <sup>1</sup> $I_{SC}$ [A]         Open Circuit Voltage <sup>1</sup> $V_{oC}$ [V]         Current at MPP $I_{MPP}$ [A]         Voltage at MPP $V_{MPP}$ [V]         Efficiency <sup>1</sup> $\eta$ [%]         IMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOP       Power at MPP $P_{MPP}$ Power at MPP $P_{MPP}$ [W]         Short Circuit Current $I_{SC}$ [A]         Open Circuit Voltage $V_{OC}$ [V]         Current at MPP $I_{MPP}$ [A]	IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC1 (POWER TOLERANCE +5W/Power at MPP1 $P_{MPP}$ [W]345Short Circuit Current1 $I_{SC}$ [A]10.68Open Circuit Voltage1 $V_{OC}$ [V]40.45Current at MPP $I_{MPP}$ [A]10.17Voltage at MPP $V_{MPP}$ [V]33.92Efficiency1 $\eta$ [%] $\geq 19.3$ IMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT2Power at MPP $P_{MPP}$ [W]Power at MPP $P_{MPP}$ [W]258.4Short Circuit Current $I_{SC}$ [A]8.61Open Circuit Voltage $V_{OC}$ [V]38.14Current at MPP $I_{MPP}$ [A]8.00	IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W / -0 W)         Power at MPP <sup>1</sup> $P_{MPP}$ [W]       345       350         Short Circuit Current <sup>1</sup> $I_{SC}$ [A]       10.68       10.74         Open Circuit Voltage <sup>1</sup> $V_{SC}$ [V]       40.45       40.70         Current at MPP $I_{MPP}$ [A]       10.17       10.22         Voltage at MPP $V_{MPP}$ [V]       33.92       34.24         Efficiency <sup>1</sup> $\eta$ [%]       >19.3       >19.5         IMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup> Power at MPP $P_{MPP}$ [W]       258.4       262.1         Short Circuit Current $I_{SC}$ [A]       8.61       8.65         Open Circuit Voltage $V_{OC}$ [V]       38.14       38.38         Current at MPP $I_{MPP}$ [A]       8.00       8.05	IMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5W / -0W)         Power at MPP <sup>1</sup> P <sub>MPP</sub> [W]       345       350       355         Short Circuit Current <sup>1</sup> I       SC       [A]       10.68       10.74       10.79         Open Circuit Voltage <sup>1</sup> V <sub>OC</sub> [V]       40.45       40.70       40.95         Current at MPP       I <sub>MPP</sub> [A]       10.17       10.22       10.28         Voltage at MPP       V <sub>MPP</sub> [V]       33.92       34.24       34.55       Efficiency <sup>1</sup> 10.22       10.28       10.28       Voltage at MPP       V <sub>MPP</sub> [V]       33.92       34.24       34.55       Efficiency <sup>1</sup> 1       0       M/MPP       [W]       258.4       262.1       265.9       Short Circuit Current       I        Short

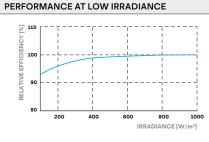
<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>Sci</sub> V<sub>oc</sub> ±5% at STC: 1000W/m<sup>2</sup>, 25±2°C, AM 1.5 according to IEC 60904-3 • <sup>2</sup>800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

#### 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 organisation of your respective country.



Typical module performance under low irradiance conditions in comparison to STC conditions (25  $^{\circ}\text{C},$  1000 W/m²).

#### **TEMPERATURE COEFFICIENTS**

Temperature Coefficient of $I_{sc}$	α	[%/K]	+0.04	Temperature Coefficient of V <sub>oc</sub>	β	[%/K]	-0.27
Temperature Coefficient of $P_{MPP}$	γ	[%/K]	-0.35	Nominal Module Operating Temperature	NMOT	[°C]	43±3

#### **PROPERTIES FOR SYSTEM DESIGN**

Maximum System Voltage	$V_{\text{SYS}}$	[V]	1000 (IEC)/1000 (UL)	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;	Number of Modules per Pallet	32
This data sheet complies with DIN EN 50380.	Number of Pallets per Trailer (24t)	28
	Number of Pallets per 40' HC-Container (26t)	26
	Pallet Dimensions (L × W × H)	1791×1130×1200mm
UL 1703 (254141)	Pallet Weight	681kg

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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