powered by Q.ANTUM DUO Z

Q.PEAK DUO XL-G11.3
570-590

ENDURING HIGH PERFORMANCE

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2020

Q CELLS Yield Security

BREAKING THE 21% EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.7%.

LOW ELECTRICITY GENERATION COSTS
Higher yield per surface area, lower BOS costs and up to 175 watts more module power than standard 144 half-cell modules.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty[2].

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 (–1500 V, 168 h)
[2] See data sheet on rear for further information.

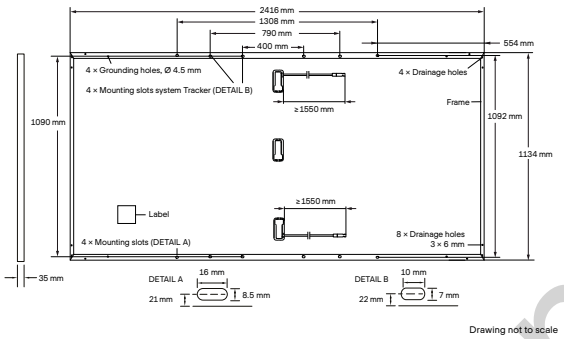
THE IDEAL SOLUTION FOR:
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	2416 mm × 1134 mm × 35 mm (including frame)
Weight	30.7 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminium
Cell	6 × 26 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; (+) ≥1550 mm, (–) ≥1550 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68



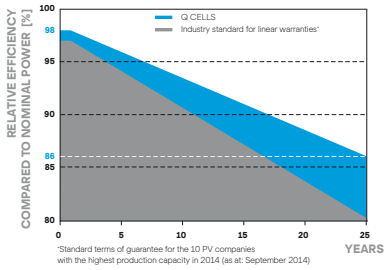
Drawing not to scale

ELECTRICAL CHARACTERISTICS

POWER CLASS				570	575	580	585	590
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	570	575	580	585	590
	Short Circuit Current[1]	I_{SC}	[A]	13.49	13.51	13.54	13.57	13.59
	Open Circuit Voltage[1]	V_{OC}	[V]	53.59	53.62	53.64	53.67	53.70
	Current at MPP	I_{MPP}	[A]	12.82	12.87	12.92	12.97	13.01
	Voltage at MPP	V_{MPP}	[V]	44.46	44.68	44.90	45.12	45.33
	Efficiency[1]	η	[%]	≥20.8	≥21.0	≥21.2	≥21.4	≥21.5
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	427.6	431.4	435.1	438.9	442.6
	Short Circuit Current	I_{SC}	[A]	10.87	10.89	10.91	10.93	10.95
	Open Circuit Voltage	V_{OC}	[V]	50.54	50.56	50.59	50.62	50.64
	Current at MPP	I_{MPP}	[A]	10.09	10.13	10.17	10.22	10.26
	Voltage at MPP	V_{MPP}	[V]	42.39	42.58	42.77	42.96	43.14

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

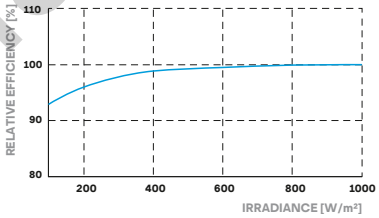
Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% 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_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	–0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.34	Nominal Module Operating Temperature	NMOT	[°C]	43±3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V_{SYS}	[V]	1500	PV module classification	Class II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 1
Max. Design Load, Push / Pull		[Pa]	3600 / 1600	Permitted Module Temperature on Continuous Duty	–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	5400 / 2400		

QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

TÜVRheinland CERTIFIED
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ID 1111220277

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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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Engineered in Germany

powered by Q.ANTUM DUO Z

Q.PEAK DUO XL-G10.3
475-495

ENDURING HIGH PERFORMANCE

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2020

Q CELLS Yield Security

BREAKING THE 21% EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 21.6%.

LOW ELECTRICITY GENERATION COSTS
Higher yield per surface area, lower BOS costs and up to 80 watts more module power than standard 144 half-cell modules.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty[2].

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 A (–1500 V, 96 h)
[2] See data sheet on rear for further information.

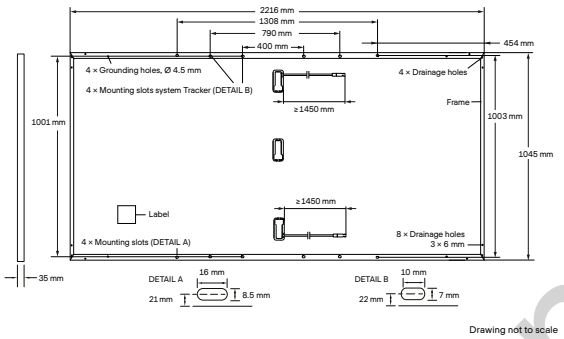
THE IDEAL SOLUTION FOR:
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	2216 mm × 1045 mm × 35 mm (including frame)
Weight	26.0 kg
Front Cover	3.2 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminium
Cell	6 × 26 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; (+) ≥1450 mm, (–) ≥1450 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68



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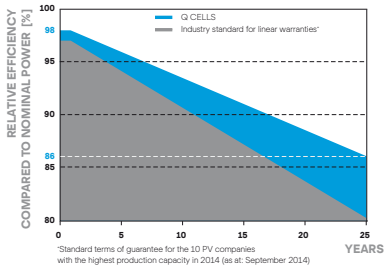
ELECTRICAL CHARACTERISTICS

POWER CLASS				475	480	485	490	495
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	475	480	485	490	495
	Short Circuit Current[1]	I_{SC}	[A]	11.24	11.26	11.29	11.31	11.34
	Open Circuit Voltage[1]	V_{OC}	[V]	53.58	53.61	53.64	53.68	53.71
	Current at MPP	I_{MPP}	[A]	10.66	10.71	10.76	10.81	10.86
	Voltage at MPP	V_{MPP}	[V]	44.54	44.81	45.07	45.33	45.59
	Efficiency[1]	η	[%]	≥20.5	≥20.7	≥20.9	≥21.2	≥21.4
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	356.4	360.1	363.9	367.6	371.4
	Short Circuit Current	I_{SC}	[A]	9.05	9.07	9.09	9.12	9.14
	Open Circuit Voltage	V_{OC}	[V]	50.53	50.56	50.59	50.62	50.65
	Current at MPP	I_{MPP}	[A]	8.39	8.43	8.47	8.52	8.56
	Voltage at MPP	V_{MPP}	[V]	42.49	42.72	42.94	43.17	43.39

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

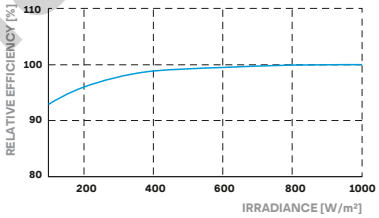
Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% 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_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	–0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.34	Nominal Module Operating Temperature	NMOT	[°C]	43±3

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage	V_{SYS}	[V]	1500	PV module classification	Class II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 1
Max. Design Load, Push / Pull		[Pa]	3600 / 1600	Permitted Module Temperature on Continuous Duty	–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	5400 / 2400		

QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

Certification in process.

TÜVRheinland CERTIFIED
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ID 1111220277

CE

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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Engineered in Germany

powered by Q.ANTUM DUO

Q.PEAK DUO XL-G9.3
440-460

ENDURING HIGH PERFORMANCE

pv magazine award 2017 top innovation

Photon Q.PRO-G2 235 Best polycrystalline solar module 2014 Q CELLS 174 modules tested

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2019

Q CELLS YIELD SECURITY
- ANTI PID TECHNOLOGY (APT)
- HOT-SPOT PROTECT (HSP)
- TRACEABLE QUALITY (TRA.Q™)
- ANTI LID TECHNOLOGY (ALT)

BREAKING THE 20 % EFFICIENCY BARRIER
Q.ANTUM Technology combined with zero gap cell layout boosts module efficiency up to 20.8 % absolute.

LOW ELECTRICITY GENERATION COSTS
Higher yield per surface area, lower BOS costs and up to 30 watts more power per module.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (2400 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty[2].

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 (–1500 V, 168 h)
[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:

Rooftop arrays on commercial / industrial buildings

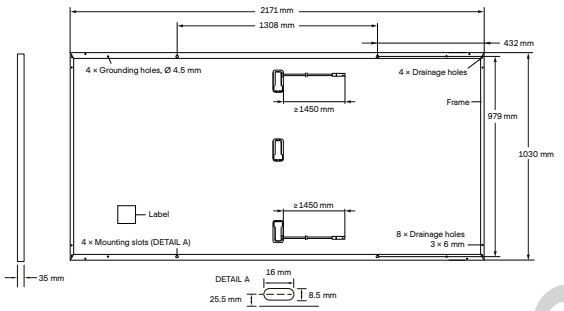
Ground-mounted solar power plants

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	2171 mm × 1030 mm × 35 mm (including frame)
Weight	25.5 kg
Front Cover	2.8 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Anodised aluminium
Cell	6 × 26 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; (+) ≥1450 mm, (–) ≥1450 mm
Connector	Stäubli MC4-Evo2, Hanwha Q CELLS HQC4, Amphenol UTX, Renhe 05-8, JMTHY JM601A, Tongling Cable01S-F; IP68 or Friends PV2e; IP67

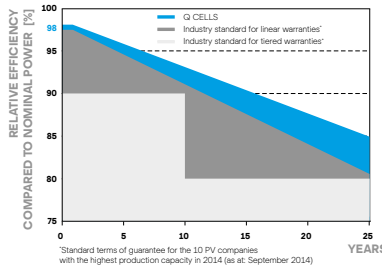


ELECTRICAL CHARACTERISTICS

POWER CLASS				440	445	450	455	460
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	440	445	450	455	460
	Short Circuit Current[1]	I_{SC}	[A]	10.59	10.62	10.65	10.67	10.70
	Open Circuit Voltage[1]	V_{OC}	[V]	53.11	53.15	53.18	53.22	53.25
	Current at MPP	I_{MPP}	[A]	10.05	10.10	10.15	10.20	10.25
	Voltage at MPP	V_{MPP}	[V]	43.77	44.06	44.34	44.61	44.89
	Efficiency[1]	η	[%]	≥19.7	≥19.9	≥20.1	≥20.3	≥20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	329.5	333.2	337.0	340.7	344.5
	Short Circuit Current	I_{SC}	[A]	8.54	8.56	8.58	8.60	8.62
	Open Circuit Voltage	V_{OC}	[V]	50.08	50.12	50.15	50.18	50.22
	Current at MPP	I_{MPP}	[A]	7.90	7.95	7.99	8.03	8.08
	Voltage at MPP	V_{MPP}	[V]	41.69	41.93	42.17	42.41	42.64

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

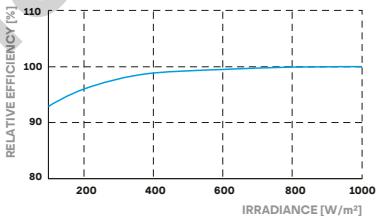
Q CELLS PERFORMANCE WARRANTY



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.

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_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	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_{SYS}	[V]	1500 (IEC) / 1500 (UL)	PV module classification	Class II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 1703	C / TYPE 1
Max. Design Load, Push / Pull		[Pa]	3600 / 1600	Permitted Module Temperature on Continuous Duty	–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	5400 / 2400		

QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016; IEC 61730:2016;
This data sheet complies with DIN EN 50380.

PACKAGING INFORMATION

Number of Modules per Pallet	29
Number of Pallets per Trailer (24 t)	24
Number of Pallets per 40' HC-Container (26 t)	20
Pallet Dimensions (L × W × H)	2241 × 1150 × 1220 mm
Pallet Weight	814 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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Engineered in Germany

powered by Q.ANTUM DUO Z

Q.PEAK DUO BLK ML-G9
365-385

ENDURING HIGH PERFORMANCE

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2020

ntv GERMANY'S MOST POPULAR PROVIDER Life & Living Award 2020 1st Place Solar Technology Customer rating from 11 brands www.disq.de DEUTSCHES INSTITUT FÜR SERVICE-QUALITÄT GmbH & Co. KG

Q CELLS Yield Security

BREAKING THE 20 % EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.6 %.

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™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (6000 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty[2].

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

[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.

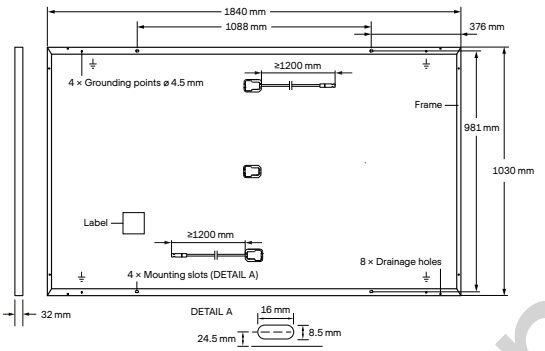
THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	1840 mm × 1030 mm × 32 mm (including frame)
Weight	19.5 kg
Front Cover	2.8 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 22 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; (+) ≥1200 mm, (–) ≥1200 mm
Connector	Stäubli MC4, Hanwha Q CELLS HQC4; IP68

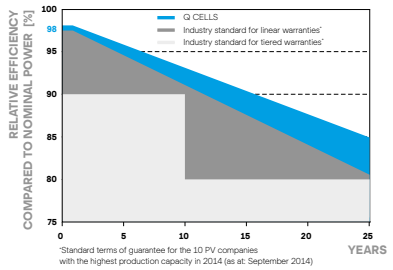


ELECTRICAL CHARACTERISTICS

POWER CLASS				365	370	375	380	385
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	365	370	375	380	385
	Short Circuit Current[1]	I_{SC}	[A]	10.40	10.44	10.47	10.50	10.53
	Open Circuit Voltage[1]	V_{OC}	[V]	44.93	44.97	45.01	45.04	45.08
	Current at MPP	I_{MPP}	[A]	9.87	9.92	9.98	10.04	10.10
	Voltage at MPP	V_{MPP}	[V]	36.99	37.28	37.57	37.85	38.13
	Efficiency[1]	η	[%]	≥19.3	≥19.5	≥19.8	≥20.1	≥20.3
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	273.3	277.1	280.8	284.6	288.3
	Short Circuit Current	I_{SC}	[A]	8.38	8.41	8.43	8.46	8.48
	Open Circuit Voltage	V_{OC}	[V]	42.37	42.41	42.44	42.48	42.51
	Current at MPP	I_{MPP}	[A]	7.76	7.81	7.86	7.91	7.96
	Voltage at MPP	V_{MPP}	[V]	35.23	35.48	35.72	35.96	36.20

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY



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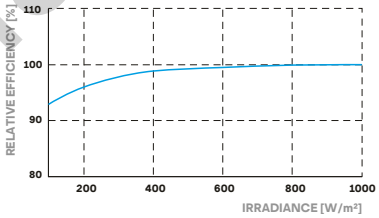
PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	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_{SYS}	[V]	1000	PV module classification	Class II
Maximum Reverse Current	I_R	[A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 2
Max. Design Load, Push / Pull		[Pa]	4000 / 2660	Permitted Module Temperature on Continuous Duty	–40 °C - +85 °C
Max. Test Load, Push / Pull		[Pa]	6000 / 4000		

QUALIFICATIONS AND CERTIFICATES

IEC 61215:2016;
IEC 61730:2016.
This data sheet complies with DIN EN 50380.

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PACKAGING INFORMATION

Horizontal packaging	1890 mm	1080 mm	1208 mm	661 kg	28 pallets	24 pallets	32 modules

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
Sonnenallee 17-21, 06766 Bitterfeld-Wolfen, Germany | **TEL** +49 (0)3494 66 99-23444 | **FAX** +49 (0)3494 66 99-23000 | **EMAIL** sales@q-cells.com | **WEB** www.q-cells.com

Engineered in Germany

powered by Q.ANTUM DUO Z

Q.PEAK DUO ML-G9
370-390

ENDURING HIGH PERFORMANCE

EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2020

ntv GERMANY'S MOST POPULAR PROVIDER Life & Living Award 2020 1st Place Solar Technology Customer rating from 11 brands www.disq.de DEUTSCHES INSTITUT FÜR SERVICE-QUALITÄT GmbH & Co. KG

Q CELLS Yield Security

BREAKING THE 20 % EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.8 %.

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™.

EXTREME WEATHER RATING
High-tech aluminium alloy frame, certified for high snow (6000 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT
Inclusive 12-year product warranty and 25-year linear performance warranty[2].

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative wiring with Q.ANTUM Technology.

[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.

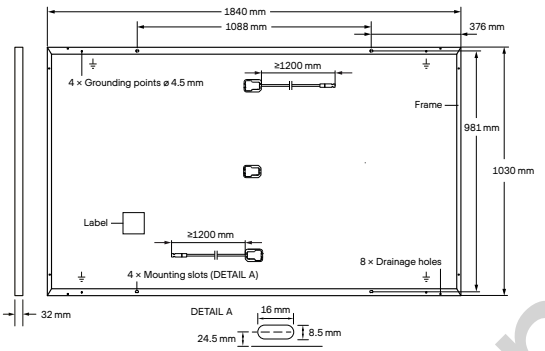
THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS

MECHANICAL SPECIFICATION

Format	1840 mm × 1030 mm × 32 mm (including frame)
Weight	19.5 kg
Front Cover	2.8 mm thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 22 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; (+) ≥1200 mm, (–) ≥1200 mm
Connector	Stäubli MC4, Hanwha Q CELLS HQC4; IP68

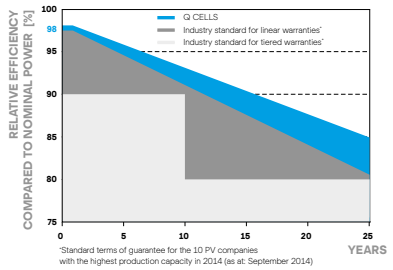


ELECTRICAL CHARACTERISTICS

POWER CLASS				370	375	380	385	390
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / –0 W)								
Minimum	Power at MPP[1]	P_{MPP}	[W]	370	375	380	385	390
	Short Circuit Current[1]	I_{SC}	[A]	10.58	10.62	10.65	10.68	10.71
	Open Circuit Voltage[1]	V_{OC}	[V]	44.92	44.96	44.99	45.03	45.06
	Current at MPP	I_{MPP}	[A]	10.03	10.09	10.14	10.20	10.26
	Voltage at MPP	V_{MPP}	[V]	36.90	37.18	37.46	37.74	38.01
	Efficiency[1]	η	[%]	≥19.5	≥19.8	≥20.1	≥20.3	≥20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]								
Minimum	Power at MPP	P_{MPP}	[W]	277.1	280.8	284.6	288.3	292.0
	Short Circuit Current	I_{SC}	[A]	8.53	8.55	8.58	8.60	8.63
	Open Circuit Voltage	V_{OC}	[V]	42.36	42.39	42.43	42.46	42.50
	Current at MPP	I_{MPP}	[A]	7.88	7.93	7.99	8.04	8.09
	Voltage at MPP	V_{MPP}	[V]	35.15	35.39	35.64	35.87	36.11

[1]Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2]800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY

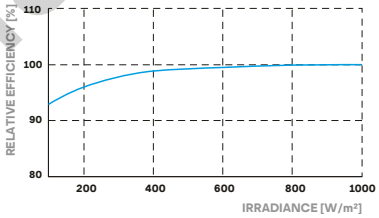


*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)

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 °C, 1000 W/m²).

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	–0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	–0.35	Nominal Module Operating Temperature	NMOT	[°C]	43±3

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