

# Q.PEAK DUO ML-G11S+ SERIES



**490 - 510 Wp | 132 Cells**  
**21.5 % Maximum Module Efficiency**

**MODEL** Q.PEAK DUO ML-G11S.2+



## Breaking the 21% efficiency barrier

Q.ANTUM DUO Technology with optimized module layout boosts module power.



## A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>1</sup>.



## Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology<sup>2</sup>, and Hot-Spot Protect.



## Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3000 Pa).



## Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



## The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

<sup>1</sup> See data sheet on rear for further information.

<sup>2</sup> APT test conditions according to IEC/TS 62804-1:2015, method A (~1500 V, 96 h)

### The ideal solution for:



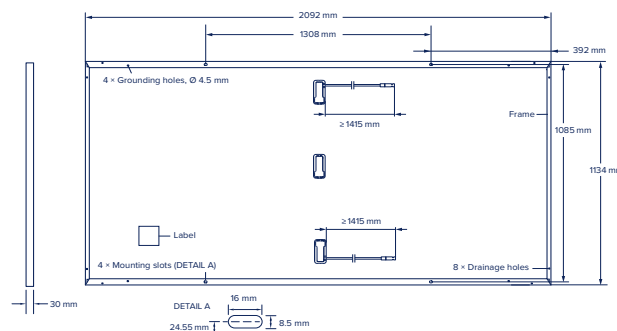
Rooftop arrays on  
commercial/industrial  
buildings



# Q.PEAK DUO ML-G11S+ SERIES

## Mechanical Specification

|              |                                                                              |
|--------------|------------------------------------------------------------------------------|
| Format       | 2092 mm × 1134 mm × 30 mm (including frame)                                  |
| Weight       | 25.7 kg                                                                      |
| Front Cover  | 3.2 mm thermally pre-stressed glass with anti-reflection technology          |
| Back Cover   | Composite film                                                               |
| Frame        | Anodized aluminium                                                           |
| Cell         | 6 × 22 monocrystalline Q.ANTUM solar half cells                              |
| Junction box | 53-101 mm × 32-60 mm × 15-18 mm<br>Protection class IP67, with bypass diodes |
| Cable        | 4 mm <sup>2</sup> Solar cable; (+) ≥ 1415 mm, (-) ≥ 1415 mm                  |
| Connector    | Stäubli MC4-Evo2, Hanwha Q CELLS HQC4; IP68                                  |



## Electrical Characteristics

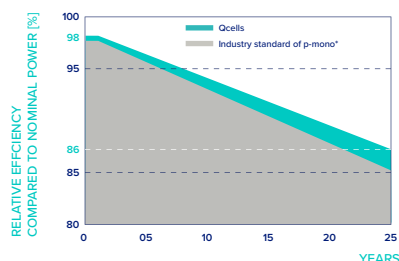
| POWER CLASS                                                                                   |                                    |                      | 490    | 495    | 500    | 505    | 510    |
|-----------------------------------------------------------------------------------------------|------------------------------------|----------------------|--------|--------|--------|--------|--------|
| MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5 W/-0 W) |                                    |                      |        |        |        |        |        |
| Minimum                                                                                       | Power at MPP <sup>1</sup>          | P <sub>MPP</sub> [W] | 490    | 495    | 500    | 505    | 510    |
|                                                                                               | Short Circuit Current <sup>1</sup> | I <sub>SC</sub> [A]  | 13.88  | 13.91  | 13.94  | 13.97  | 14.00  |
|                                                                                               | Open Circuit Voltage <sup>1</sup>  | V <sub>OC</sub> [V]  | 45.30  | 45.32  | 45.35  | 45.38  | 45.41  |
|                                                                                               | Current at MPP                     | I <sub>MPP</sub> [A] | 13.16  | 13.22  | 13.28  | 13.34  | 13.39  |
|                                                                                               | Voltage at MPP                     | V <sub>MPP</sub> [V] | 37.23  | 37.44  | 37.66  | 37.87  | 38.08  |
|                                                                                               | Efficiency <sup>1</sup>            | η [%]                | ≥ 20.7 | ≥ 20.9 | ≥ 21.1 | ≥ 21.3 | ≥ 21.5 |

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT<sup>2</sup>

|         |                       |                      |       |       |       |       |       |
|---------|-----------------------|----------------------|-------|-------|-------|-------|-------|
| Minimum | Power at MPP          | P <sub>MPP</sub> [W] | 367.6 | 371.4 | 375.1 | 378.9 | 382.6 |
|         | Short Circuit Current | I <sub>SC</sub> [A]  | 11.18 | 11.21 | 11.23 | 11.26 | 11.28 |
|         | Open Circuit Voltage  | V <sub>OC</sub> [V]  | 42.72 | 42.74 | 42.77 | 42.79 | 42.82 |
|         | Current at MPP        | I <sub>MPP</sub> [A] | 10.35 | 10.40 | 10.45 | 10.50 | 10.55 |
|         | Voltage at MPP        | V <sub>MPP</sub> [V] | 35.52 | 35.71 | 35.89 | 36.07 | 36.25 |

<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000 W/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

## Qcells PERFORMANCE WARRANTY

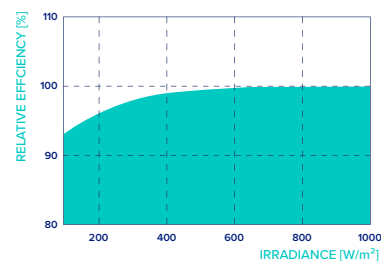


At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

\*Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m<sup>2</sup>).

## TEMPERATURE COEFFICIENTS

|                                             |   |       |       |                                            |      |       |        |
|---------------------------------------------|---|-------|-------|--------------------------------------------|------|-------|--------|
| Temperature Coefficient of I <sub>SC</sub>  | α | [%/K] | +0.04 | Temperature Coefficient of V <sub>OC</sub> | β    | [%/K] | -0.27  |
| Temperature Coefficient of P <sub>MPP</sub> | γ | [%/K] | -0.34 | Nominal Module Operating Temperature       | NMOT | [°C]  | 43 ± 3 |

## Properties for System Design

|                             |                  |      |           |                                                 |                 |
|-----------------------------|------------------|------|-----------|-------------------------------------------------|-----------------|
| Maximum System Voltage      | V <sub>sys</sub> | [V]  | 1500      | PV module classification                        | Class II        |
| Maximum Reverse Current     | I <sub>R</sub>   | [A]  | 25        | Fire Rating based on ANSI/UL 61730              | C / TYPE 1      |
| Max. Design Load, Push/Pull |                  | [Pa] | 3600/2000 | Permitted Module Temperature on Continuous Duty | -40 °C - +85 °C |
| Max. Test Load, Push/Pull   |                  | [Pa] | 5400/3000 |                                                 |                 |

## Qualifications and Certificates

Quality Controlled PV -  
TÜV Rheinland;  
IEC 61215:2016;  
IEC 61730:2016.  
This data sheet complies  
with DIN EN 50380.



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.

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