

powered by

**Q.ANTUM DUO Z**

# Solahart390S3 390

ENDURING HIGH  
PERFORMANCE



#### BREAKING THE 20% EFFICIENCY BARRIER

Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.1%.



#### THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY

Q CELLS 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.



#### 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, Hot-Spot Protect and Traceable Quality Tra.Q™.



#### EXTREME WEATHER RATING

High-tech aluminium alloy frame, certified for high snow (5400Pa) and wind loads (4000Pa).



#### A RELIABLE INVESTMENT

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

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

#### THE IDEAL SOLUTION FOR:



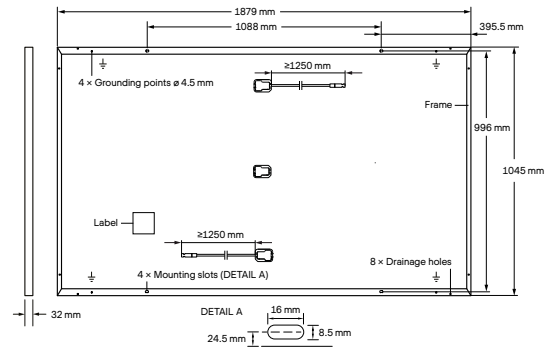
Rooftop arrays on  
residential buildings

Engineered in Germany

 **Solahart®**

## MECHANICAL SPECIFICATION

Format	1879mm × 1045mm × 32mm (including frame)
Weight	22.0kg
Front Cover	3.2mm 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	4mm <sup>2</sup> Solar cable; (+) ≥1250mm, (-) ≥1250mm
Connector	Stäubli MC4 (Male: PV-KST4/xy-UR, Female: PV-KBT4/xy-UR); IP68



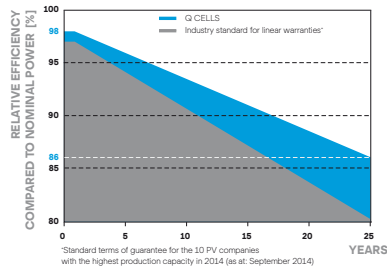
## ELECTRICAL CHARACTERISTICS

POWER CLASS				390
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]	390
	Short Circuit Current <sup>1</sup>	I <sub>SC</sub>	[A]	11.07
	Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub>	[V]	45.23
	Current at MPP	I <sub>MPP</sub>	[A]	10.65
	Voltage at MPP	V <sub>MPP</sub>	[V]	36.62
	Efficiency <sup>1</sup>	η	[%]	≥19.9
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>				
Minimum	Power at MPP	P <sub>MPP</sub>	[W]	292.6
	Short Circuit Current	I <sub>SC</sub>	[A]	8.92
	Open Circuit Voltage	V <sub>OC</sub>	[V]	42.65
	Current at MPP	I <sub>MPP</sub>	[A]	8.41
	Voltage at MPP	V <sub>MPP</sub>	[V]	34.81

<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 • 2800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

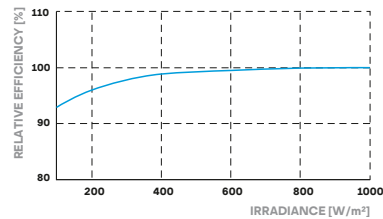
### Q CELLS PERFORMANCE WARRANTY

### PERFORMANCE AT LOW IRRADIANCE



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.



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]	1000	PV module classification	Class II
Maximum Reverse Current	I <sub>R</sub>	[A]	20	Fire Rating based on ANSI / UL 61730	C / TYPE 2
Max. Design Load, Push / Pull		[Pa]	3600 / 2660	Permitted Module Temperature on Continuous Duty	-40°C - +85°C
Max. Test Load, Push / Pull		[Pa]	5400 / 4000		

## QUALIFICATIONS AND CERTIFICATES

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



## PACKAGING INFORMATION

Horizontal packaging	1940mm	1100mm	1220mm	751kg	28 pallets	24 pallets	32 modules
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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.

**Made in Korea**

**License Holder and Importer:**

Solahart Industries Pty Ltd., 1 Alan St. Rydalmere, NSW 2116, Australia

**Manufacturer:**

Hanwha Solutions Corporation, 1329 Daegeum-ro, Geumwang-eup, Eumseong-gun, Chungcheongbuk-do, Republic of Korea, 27632

Engineered in Germany

**Solahart®**