

P-TYPE  
550Wp  
LARGE  
PROJECT  
MODULE

## DATASHEET

550Wp M10 182x91 mm cell (1/2 cut) 144 pcs  
PERC Mono type Alu Frame  
AN-550-10BB/11BB-LP

Designed and manufactured by



**DARWIN**  
RENEWABLE ENERGY INNOVATOR



## EXCLUSIVE HIGHLIGHTS KEY FEATURES

### Exclusive Darwin Reliability Features



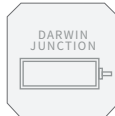
**STÄUBLI**

Original European Parts  
(ie. MC + Staubli)



**DARWIN  
Module Frame**

High stability and  
torsion free



**DARWIN  
Junction box**

High Quality Design  
for longer life  
expectancy




**DARWIN  
anti-reflection coating**

Maximize the light  
absorption for higher  
output



**DARWIN  
Module Wave Shape**

Grip shaped frame with  
anti-slip coating

<p><b>DARWIN EUROPEAN QUALITY CONTROL</b></p>  <p>Extra flash test control in accredited European lab</p>	<p><b>DARWIN 25 YEARS FACTORY WARRANTY</b></p> <p>Extension from 15 to 25 years for installs done by registered Darwin installers</p>	<p><b>25 YEARS</b></p>
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### Efficiency



0-5 % Positive Power  
Tolerance by individual  
measurement.



Low LCOE  
(Levelized Cost of Energy)

**21,3%**  
MODULE EFFICIENCY

### High Power Output Standards

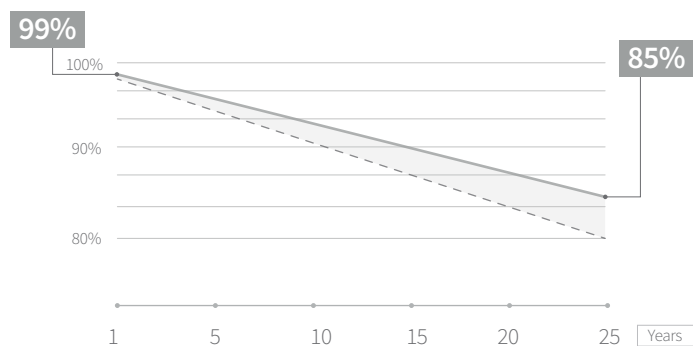


25 years linear Power Output  
Guarantee (85 %)  
0,55 % annual degradation



Annual degradation over 25 years  
limited to 0,55 %

ADDITIONAL VALUE  
25-Year Power Warranty



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Key Features – Durability & Quality



Enhanced Mechanical Load, certified to withstand Wind load (2400 Pascal) and Snow load (5400 Pascal)



100 % visual electro-luminescence inspection



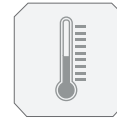
Reduced Hot Spot temperature due to optimized electrical design, low current



Durability against Extreme Environmental Conditions



Better shading tolerance and lower resistive loss



Low temp coefficient (P Max) for higher output



High salt mist and ammonia resistance



Multi Busbar Technology for better Light trapping



PID Resistance via optimized mass-production process and optimized material control during all the production phases

European



- "ANDO by Darwin" is a European brand, with 100 % European roots.
- The Darwin R&D - team collaborates with IMEC for new product developments.

- All products are engineered in Europe according to European norms (EN, IEC, etc.)
- The manufacturing facilities operate with European insurance partners such as MunichRE

- The company Darwin has offices and is represented in LV, BE, NL, DE, FR, ESP, IT and GB. Warehousing as well as technical support and warranty issues are being taken care of locally.

- Our quality control team works, upon request, with "EnergyVille Belgium" and "Solartester Netherlands" for incoming quality controls, such as extra flash, durability, electro-luminescence inspections and tests.



Darwin Management & Production



ISO9001:2015 (Quality Management Systems)  
ISO14001:2015 + ISO45001:2018 (Environmental Management Systems)



OHSAS18001:2011 (Occupational Health and Safety Management Systems)



Most of Darwin products are manufactured in TIER1 listed production facilities.

Certifications



Darwin manufacturing facilities strive to work with a maximum possible Cradle2cradle percentage.

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**Electrical Parameters at STC**

Peak Power-Pmax (W)	550 Wp
Open Circuit Voltage-Voc (V)	49.9 V
Short Circuit Current-Isc (A)	14.0 A
Max. Power Voltage-Vmp (V)	41.96 V
Max. Power Current-Imp (A)	13.11 A
Module Efficiency - Nm (%)	21,3%
Power Tolerance	0,+5w

\*STC (Standard Test Conditions): 1000 W/m<sup>2</sup>,  
Ambient Temp. 25°C, Air Mass (AM) 1.5

**Temperature Coefficient**

Temp. Coefficient of Isc (°C)	+0.045%/°C
Temp. Coefficient of Voc (°C)	-0.275%/°C
Temp. Coefficient of Pmax (°C)	-0.350%/°C

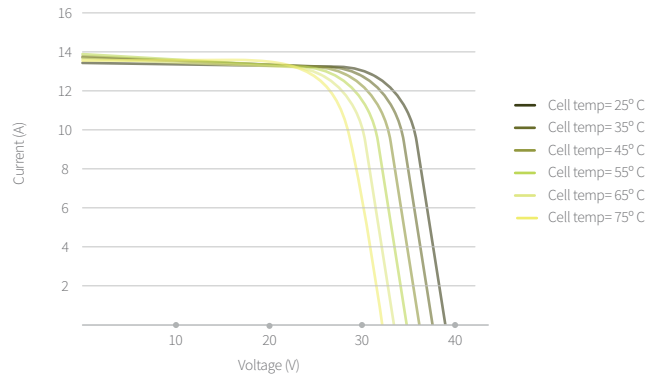
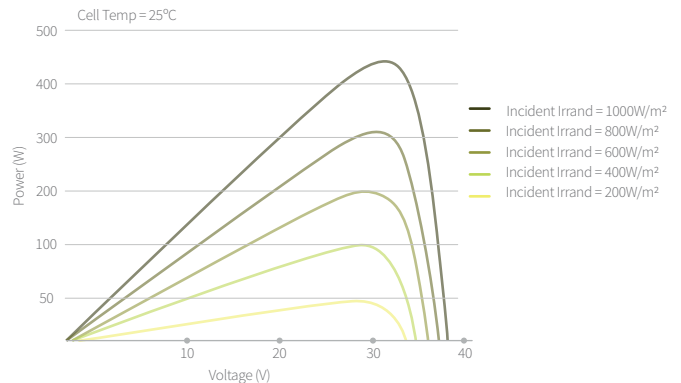
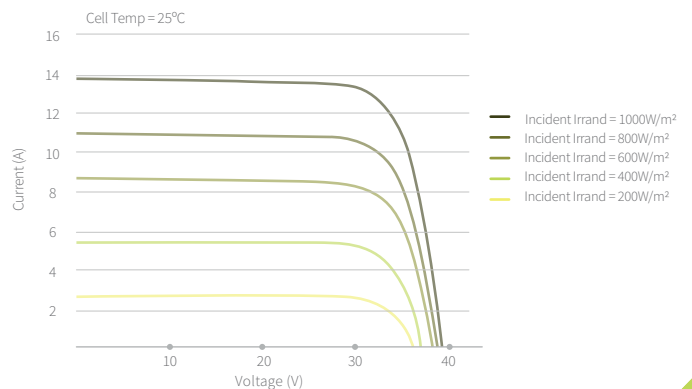
**Electrical Parameters at NOCT**

Max. Power - Pmax (Wp)	417 Wp
Open Circuit Voltage-Voc (V)	47,82 V
Short Circuit Current-Isc (A)	11,36 A
Max. Power Voltage-Vmp (V)	39,12 V
Max. Power Current-Imp (A)	10,67 A

\*NOCT (Nominal cell temp.): Irradiance 800W/m<sup>2</sup>,  
Ambient Temp. 20°C, Wind Speed 1m/s

**Operating Parameters**

Max. System Voltage (Vdc)	1500 VDC
Max. Series Fuse Rating (A)	25 A
Nominal Operating Cell temp. (°C)	45 +/- 2 °C
Operational temp. (°C)	-45°C -+85 °C
	Class II

**Current-voltage Curve (Cell Temp.)**

**Power-voltage Curve (Incident Irrad)**

**Current-voltage Curve (Incident Irrad)**


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## Power + Performance Warranty

12 years = 92.2 %

25 years = 84.8 %



## Mechanical Design

Frontside glass	3.2 mm toughened Low-reflection low-iron tempered glass for max. Transmission
Coating on glass	Anti-reflection coating Darwin type
Backside	White Composite Film
Encapsulant material	EVA/POE
Frame	35 mm anodized aluminium alloy 6065-T6 Cradle to cradle concept
Junction Box	IP68, 1500 V, Darwin type
Cable Length (mm)	(+) 1200 del mm, (-) 1200 del mm
Cable Thickness (mm <sup>2</sup> )	4 mm <sup>2</sup> (IEC)
Connector (plug-in system)	EU original Stäubli Plug Socket, IP68, MC4-EVO2, 1500 V
Fire class	C
Internal Diodes	3 Bypass Diodes

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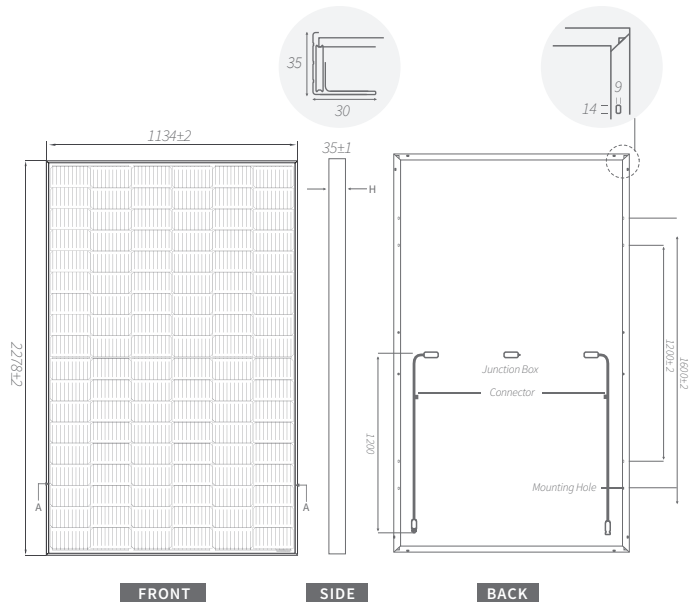
## Mechanical Specifications

Cell	Mono PERC (P-type) 10BB or 11 BB
Cell Size	182x91 (182 mm 1/2 cut)
No. of Cells	144 pcs (6 x 22)
Dimensions L X W X H	2278 x 1134 x 35 mm
Weight	28.0 kg (+-3%) with frame

## Mechanical Load

Design load (pressure/suction)	3600 Pa / 1600 Pa
Test load (pressure/suction)	5400 Pa / 2400 Pa
Hail Test	Diam. 25 mm, speed 80 km/h

## Mechanical Diagrams



\*All Dimensions in mm | The above drawing is a graphical representation of the product | For engineering quality drawings please contact DARWIN.

## Packaging

Configuration Pallet	36 pcs / pallet
Pallet Size	2314 x 1130 x 1245 mm
Pallet configuration 40ft HQ	20 pallets / container
Qty per 40ft HQ	720 pcs