



HERO®
BLACK

430W

PREMIUM

M10 N-TYPE SOLAR

MODULE

SOLARHERO



Hero® solar panels are manufactured in top quality by OEM rights of Solar Hero GmbH we are committed to making solar energy illuminate every corner of the Globe. We strive to provide high-efficiency, high-quality and affordable clean energy solutions. Solar Hero insists on continuous innovation according to customer needs. We invest our profit in technology research, and we promote green energy in Germany and all the EU.



HERO® BLACK

430 Watt

M10 N-TYPE HALF CELL 108 PCS 10 BB

TOP CATEGORY
24% CELL EFFICIENCY



SUPER POWER



MULTI BUSBAR 10 BB HALF CELL TECHNOLOGY

Stronger current consumption, special circuit design at much lower hot spot (HOT-SPOT) temperatures.



MODULE EFFICIENCY 21.94%

Higher power results in lower kWp costs, higher lifetime production capacity, and lower annual power reductions (degradation).



PID STANDARD TECHNOLOGY

Excellent PID resistance in a 96-hour (85% / 85%) test and can be improved to meet the higher performance of particularly harsh environments.



LOW-LIGHT OPTIMIZED CELL

Excellent power generation performance in low light conditions thanks to the multi BusBar.



SHADOW-RESISTANT SEMI-CELL TECHNOLOGY

Excellent micro-cracking proof cell structure with balanced internal load. Also partial shadow tolerance.

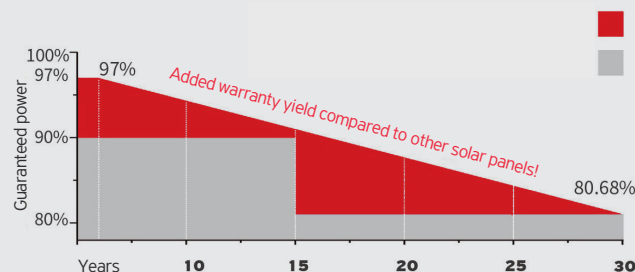


N-TYPE ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally which can increase power generation.

LINEAR PERFORMANCE GUARANTEE

25-year product warranty · 30-year
linear performance guarantee



PRODUCT AND QUALITY CERTIFICATES

ISO 9001:2008
ISO 14001:2004
OHSAS 18001:2007



Engineered in EU



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www.solarhero.hu

SH SOLARHERO



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N-TYPE TECHNOLOGY
25 YEAR PRODUCT
30 YEAR PERFORMANCE
WARRANTY

PIONEERING TECHNOLOGY

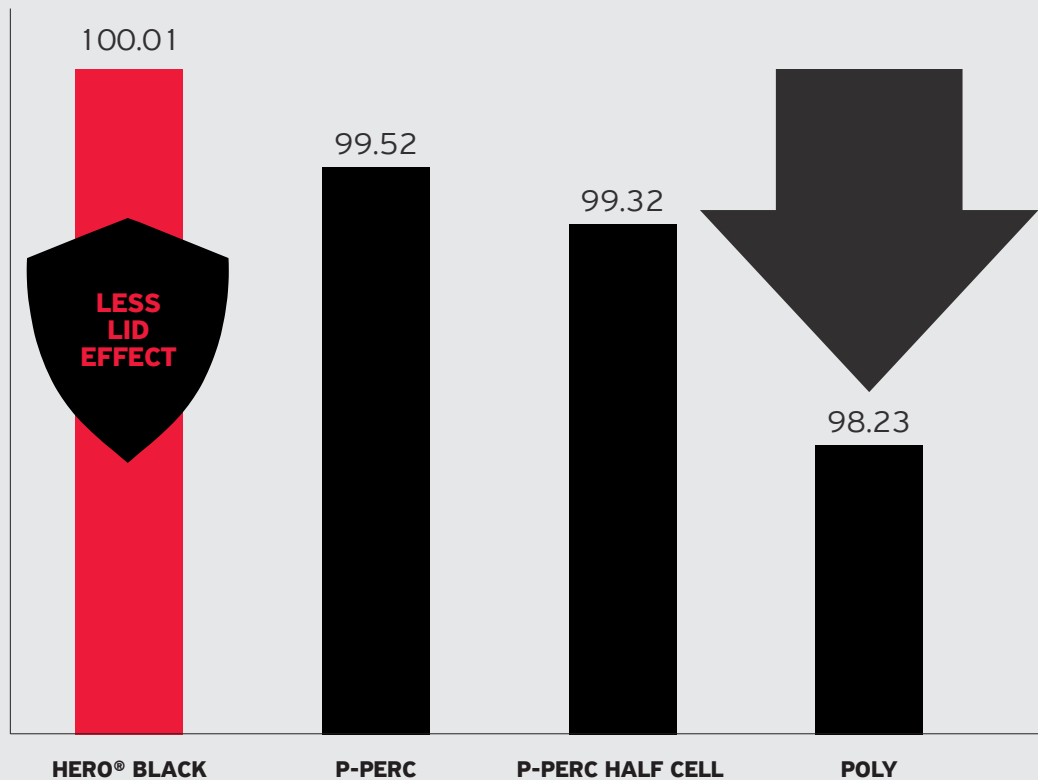
N-type cell to reduce light-induced aging (LID). With N-type cells, the effect of light-induced aging (LID) is less with HERO® SOLAR MODULES than with P-type solar cells. The N-type mono PERC technology cell is more expensive and better than the standard P-type mono PERC solution.



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LIGHT INDUCED DEGRADATION IN THE FIRST YEAR

Caused by light
module performance after
initial aging (LID) / initial
module performance (%)

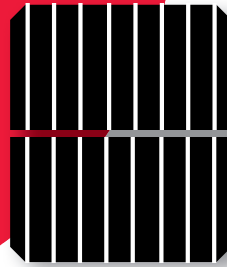


WITH N-TYPE SOLAR PERFORMANCE DOES NOT REDUCE BETWEEN 0.4% PER YEAR IN 30 YEARS!

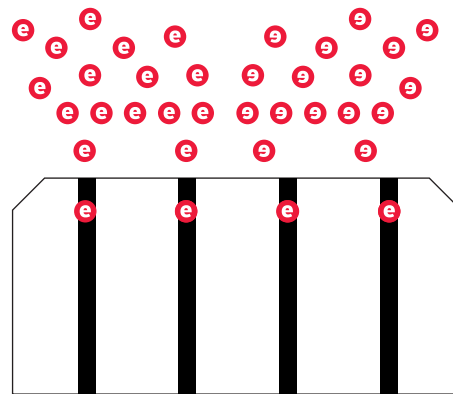
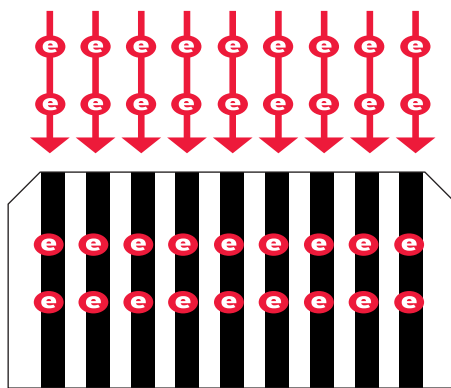


10 BUSBAR

- greater current conductivity
- longer service life
- better heat dissipation
- half-cell shadow tolerance
- 30 years performance and 25 years product warranty



HALF CELL TECHNOLOGY

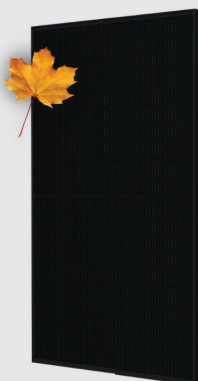


The soul of the solar panel is the Bus Wire quantity between the cells. More BusBar means more stable energy transmission over the years. Thus, the Hero series is made of the best "A" quality M10 cell and 10 guidewires (BusBar). Over the long years, it matters a lot if even 1 in 4 to 6 conductors detaches from the cell surface because the energy produced cannot pass through. In the case of 10 guide wires, this is not possible!

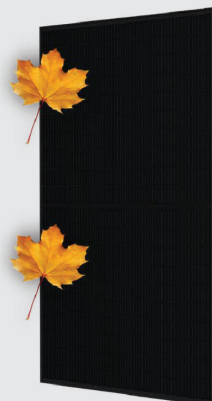
Cheaper solar panels save precisely on the number of the BusBars and the quality of the cell, so the customer has a risk of losing serious production after 10 years. In the case of 4-6 BB, a fault due to soldering or a change in cold and hot temperatures can cause a peeling from the cell's surface that causes a serious loss compared to a 10 busbar cell.

HALL CELL SHADING RESISTANT

92%



84%



76%





HERO®BLACK&WHITE NAPELEM

Electrical Properties STC*

Product name	M10 10BB 430
Peak Power (Pmax) (W)	430
MPP Voltage (Vmp) (V)	32.3
MPP Current (Imp) (A)	13.32
Open Circuit Voltage (Voc) (V)	38.3
Short Circuit Current (Isc) (A)	14.12
Module Efficiency (%)	21.94

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5

The data above is for reference only and the actual data is in accordance with the practical testing

Electrical Properties NOCT*

Product name	M10 10BB 430
Peak Power (Pmax) (W)	326
MPP Voltage (Vmp) (V)	30.3
MPP Current (Imp) (A)	10.74
Open Circuit Voltage (Voc) (V)	36.6
Short Circuit Current (Isc) (A)	11.38

*NOCT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Properties

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage (V)	1500V (IEC)
Maximum Series Fuse Rating (A)	30
Power Tolerance	+/-5%

Temperature Coefficient

Temperature Coefficient of Pmax*	-0.310%/°C
Temperature Coefficient of Voc	-0.260%/°C
Temperature Coefficient of Isc	+0.046%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

*Temperature Coefficient of Pmax±0.03%/°C

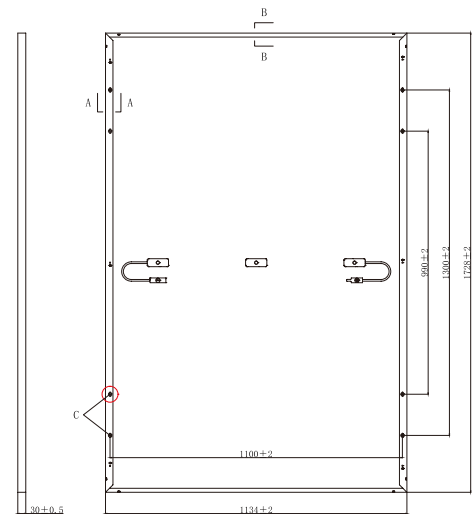
Mechanical Properties

Cell Size	182.00mm*91.00mm
Number of Cells	108pcs(12*9)
Module Dimension	1728mm*1134mm*30mm
Weight	24.5kg
Front / Rear Glass*	3.0mm
Frame	Anodized Aluminium
Junction Box	IP68 (3 diodes)
Length of Cable	4.0mm ² , +1200mm/-1200mm
Csatlakozó	MC4

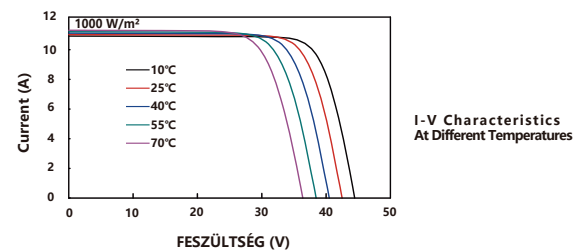
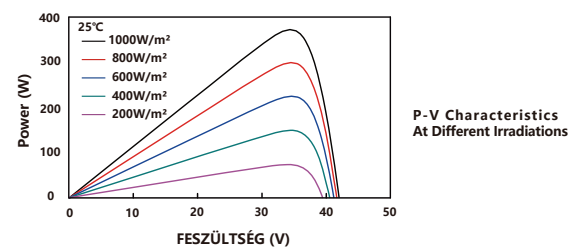
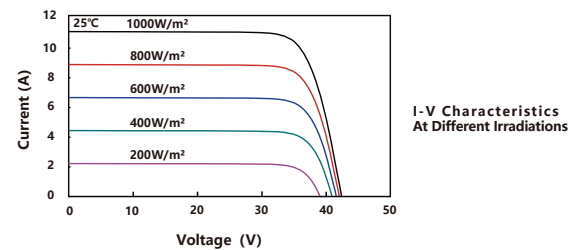
*Heat strengthened glass

*Cable length can be customized

Engineering Drawing (mm)



Characteristic Curves



Proof of insurance cover
INSURANCE POLICY

Bond number: 98481

This policy contains the following contracts: 186004
AEGON TREND Corporate Property Insurance II 186005
AEGON TREND Corporate Liability Insurance II

AEGON Magyarország Zrt.
Corporate Wealth Business
Unit 1091 Budapest Üllői út 1.

Account number: Raiffeisen Bank 12001008-00312663-00100006
Rt. Tax number: 10389395-4-44
The insurance is exempt from VAT.

INSURED

Name / Company SOLAR HERO ZRT.
Name: Address: 1108 BUDAPEST ÚJHEGYI ÚT 14.
Mailing address: 1108 BUDAPEST ÚJHEGYI ÚT 14.
The main activity: Solar module manufacturer

Name of the insurance methods used:

5.2 Producer liability insurance **500,000.00 EUR/year**
In accordance with the terms and conditions of the AEGON TREND II Liability Insurance, the General Terms and Conditions and the terms and conditions of the Supplementary Service Liability Insurance Policy

5.4 Product liability insurance **1,000,000.00 EUR/year**
In accordance with the terms and conditions of the AEGON TREND II Liability Insurance Policy, the General Terms and Conditions and the Supplementary Product Liability Insurance Policy

Product Liability Insurance Coverage:
HERO BLACK solar panels.

The solar panels are self-manufactured, their insurance value is EUR 1 million / year.

Territorial scope: EU

In accordance with the provisions of this policy, AEGON Magyarország Általános Biztosító Zrt. Undertakes to reimburse the claims of the insured named in the title against the premium paid in accordance with the regulations. The insurance contract covers the risks listed on the policy.

1091 Budapest, Üllői út 1.
Tel: +36-1-477-4808/1 Fax: +36-1-476-5656 E-mail: vagyonkar@aegon.hu

The relevant insurance regulations are part of the insurance contract, 1-1 copy of which was taken over by the Insured.

Budapest, 20.04.2021



Zatykó Péter Iván
Elnök-Vezérigazgató



Szombat Tamás
Ügyfélkapcsolati és Termékfejlesztési, Nem-életbiztosítási Vezérigazgató-helyettes

AEGON Magyarország
Általános Biztosító Zrt.