

N-TYPE

# SOLARHERO

An astronaut in a white space suit is floating in space. The astronaut's helmet has a red 'SH' logo on the visor. To the right, a large, dark solar panel is visible, extending from the bottom right towards the top right. In the upper right corner, a small, dark Earth is visible against the blackness of space. The overall scene is set against a dark blue and black background, suggesting a space environment.

# HERO<sup>®</sup>PV

420-S2 PRO2 Stäubli MC4-EVO2  
BIFACIAL DOUBLE GLASS MODULE



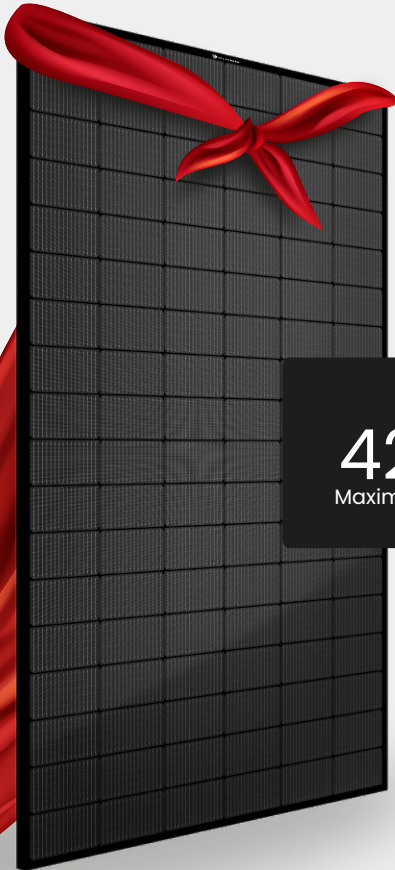
[WWW.HEROPV.COM](http://WWW.HEROPV.COM)



# HERO® FULL-BLACK PRO 420Wp BIFACIAL DOUBLE GLASS MODULE

MODULE TYPE: **420-S2 PRO2**

MODULE POWER: **420Wp**



**420Wp**  
Maximum Power Output

**21.5%**  
Maximum Module Efficiency

**-1.00%** 1st-year Degradation

**-0.40%** Annual Degradation

**30**  
YEAR

Materials and  
workmanship warranty

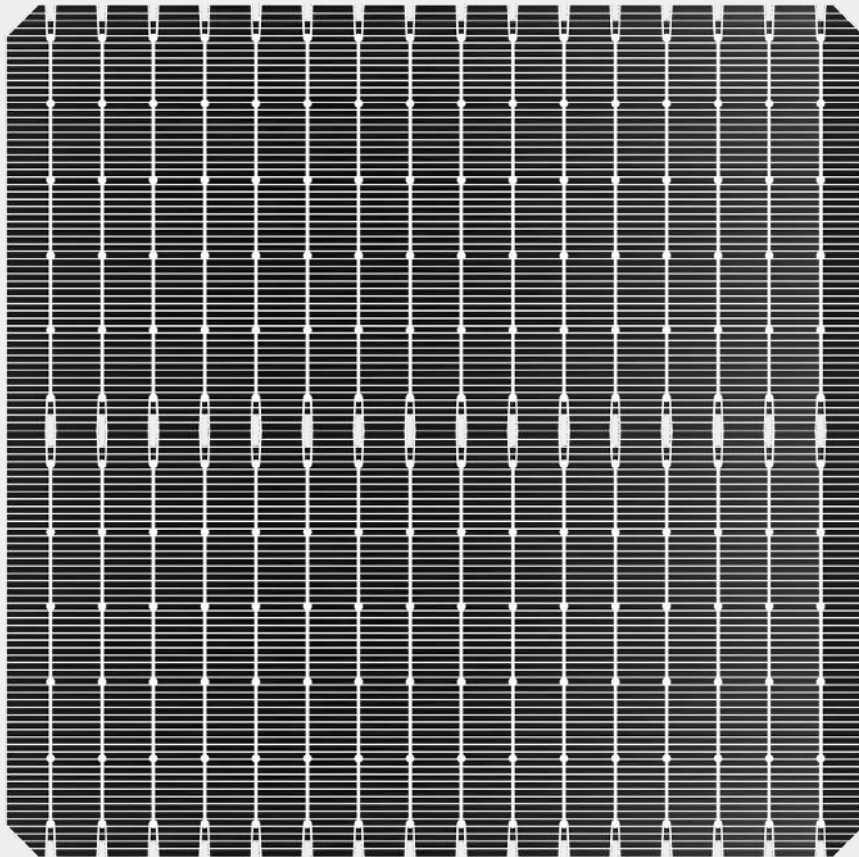
**30**  
YEAR

Linear power  
warranty

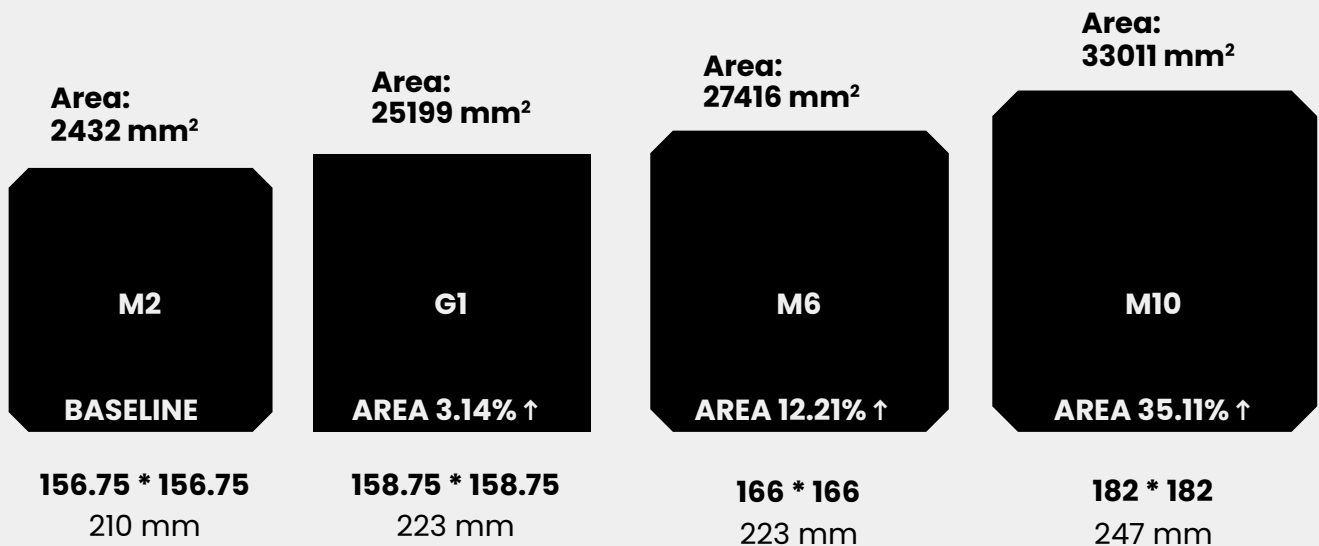




SOLARHERO



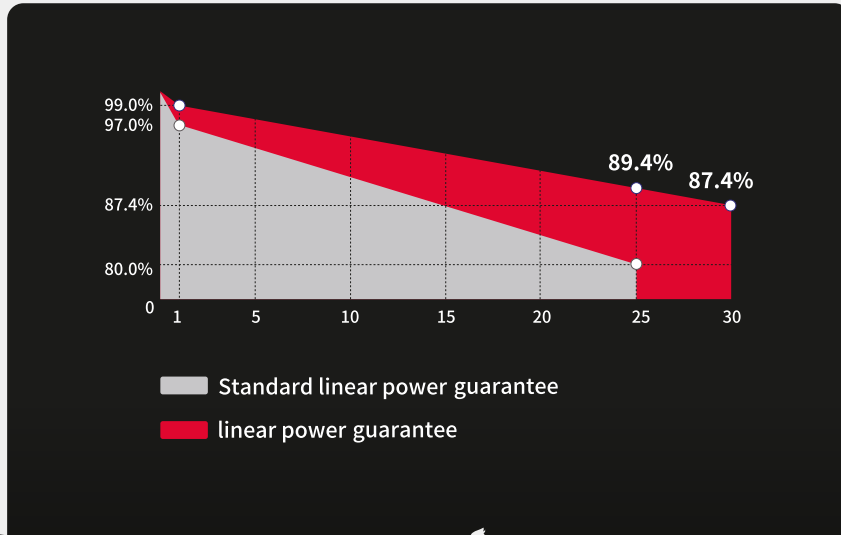
M10



N-type cells have many advantages, they are resistant to light induced degradation due to the presence of phosphorus instead of boron within the silicon. This immunity leads to a longer carrier lifetime of the cell and a more efficient, powerful system.

# Product and Quality Certifications

- IEC 61215, IEC 61730
- IEC 62716, IEC 61701: Ammonia, Salt mist corrosion test
- IEC TS 62804-1, IEC 60068-2-68:PID test, Dust and Sand test



## Key Features



### High Efficiency

Module efficiency leading in industry, up to 22.0%



### Double Sided Power Generation

Bifaciality is up to 80%, up to 30% more energy yield than conventional modules



### Excellent Appearance and Performance

Both side cell, symmetrical design, low risk of micro-crack



### Better Temperature Coefficient

Higher power output even under low-light environments like on cloudy or foggy days



### High Reliability

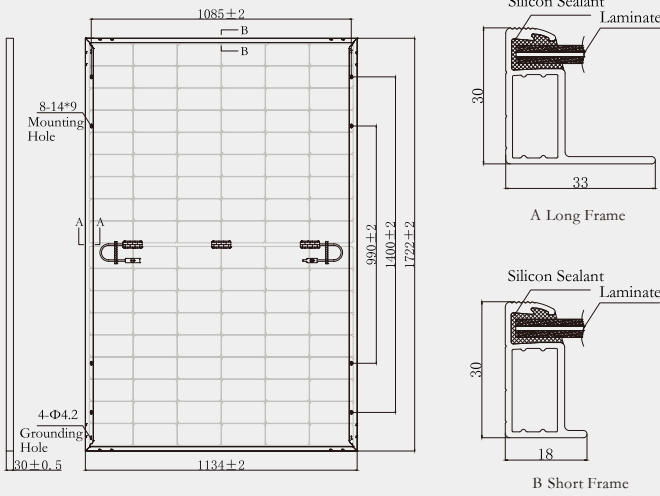
30 years warranty



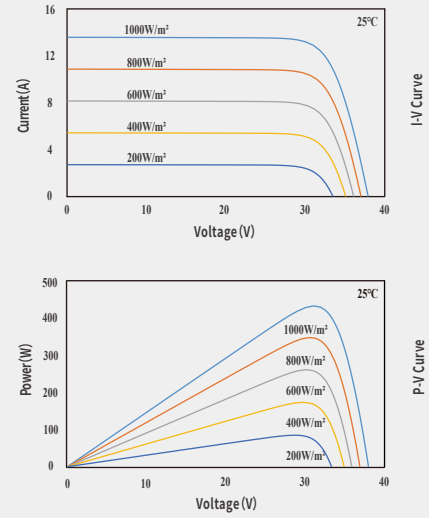
### Extensive Application Scenes

More extensive application scenes, such as BIPV, snow field, vertical installation, high humidity, strong wind and desert region

## ENGINEERING DRAWING (MM)



## CHARACTERISTIC CURVES



## ELECTRICAL PROPERTIES (STC\*)

Testing condition	Front Side
Nominal Max. Power(Pmax/Wp)	420
Open Circuit Voltage(Voc/V)	38.48
Short Circuit Current(Isc/A)	13.78
Operating Voltage(Vmp/V)	32.02
Operating Current(Imp/A)	13.12
Efficiency(%)	21.5

STC \* : Irradiance = 1000 W/m<sup>2</sup>, Cell Temperature = 25°C, AM = 1.5

## MECHANICAL PARAMETERS

Cell Size	N Type 182mm*91mm(TOPCon Cells)
Module Size	1722×1134×30mm
Glass Thickness	2.0mm
Module Weight	23.7Kg
Output Cable	4mm <sup>2</sup> , cable length 300mm (can be customized)
Connector	MC4 compatible
Junction Box	IP68, 3 bypass diodes
Frame	Anodized aluminium alloy

## ELECTRICAL PROPERTIES (NMOT\*)

Nominal Max. Power(Pmax/Wp)	313.0	316.0	319.0	322	325.0
Open Circuit Voltage(Voc/V)	36.37	36.40	36.46	36.52	36.82
Short Circuit Current(Isc/A)	11.10	11.11	11.11	11.12	11.20
Operating Voltage(Vmp/V)	29.82	30.05	30.28	30.51	30.83
Operating Current(Imp/A)	10.50	10.52	10.54	10.56	10.54

NMOT \* : Irradiance = 800W/m<sup>2</sup>, Ambient Temperature = 20°C, AM = 1.5, Wind Speed = 1 m/s  
Test condition is based on the front side

## TEMPERATURE COEFFICIENTS

Short Circuit Current(Isc)	+0.045%/°C
Open Circuit Voltage(Voc)	-0.250%/°C
Nominal Max. Power(Pmax)	-0.300%/°C
NMOT	42±2°C

## BACK POWER GAIN

Power Gain	10%	15%	20%	25%	30%
Nominal Max. Power(Pmax/Wp)	473.0	494.5	516.0	537.5	559.0
Open Circuit Voltage(Voc/V)	38.60	38.60	38.70	38.70	38.70
Short Circuit Current(Isc/A)	15.18	15.87	16.56	17.25	17.94
Operating Voltage(Vmp/V)	32.68	32.68	32.78	32.78	32.78
Operating Current(Imp/A)	14.47	15.13	15.74	16.40	17.05

## OPERATING PARAMETERS

Max. System Voltage	DC1500V
Power Tolerance	5%*
Operating Temperature	-40°C ~ +85°C
Max. Fuse Rated Current	30A
Front Static Load	Snow load 5400Pa, Wind Load 2400Pa
Packing Specification	36pcs/Pallet; 216(20GP); 936(40HQ)

Measurement tolerance of the rated power 3% depending on equipment.  
The specifications and average values can vary slightly.  
A possible light-induced degradation after commissioning is not taken into account.



Product Service

# CERTIFICATE

No. Z2 118630 0001 Rev. 01

**Holder of Certificate:** **SOLAR HERO GmbH**  
Rheinpromenade 11  
40789 Monheim am Rhein  
GERMANY

**Certification Mark:**



**Product:** **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 701262219901-01

**Valid until:** 2028-01-15

**Date,** 2023-03-22

( Zhulin Zhang )

ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ CERTIFICADO ◆ CERTIFICAT



# CERTIFICATE

No. Z2 118630 0001 Rev. 01

## Model(s):

All electrical data is shown as relative to this test conditions:  
front side irradiance 1000 W/m<sup>2</sup>, 25 °C, AM 1.5

SOLARHERO xxx-S1 (xxx=385-415, in steps of 5)

SOLARHERO xxx-S1 PRO1 (xxx=385-415, in steps of 5)

SOLARHERO xxx-S1 PRO2 (xxx=385-415, in steps of 5)

SOLARHERO xxx-S1-B (xxx=410-465, in steps of 5)

SOLARHERO xxx-S1-B PRO (xxx=410-465, in steps of 5)

SOLARHERO xxx-S2 (xxx=400-435, in steps of 5)

SOLARHERO xxx-S2 PRO1 (xxx=400-435, in steps of 5)

SOLARHERO xxx-S2 PRO2 (xxx=400-435, in steps of 5)

SOLARHERO xxx-S2-B (xxx=530-585, in steps of 5)

SOLARHERO xxx-S2-B PRO (xxx=530-585, in steps of 5)

xxx is standing for rated output power at STC.

## Parameters:

Safety Class:	Class II
Max. System Voltage:	1500V DC
Test Laboratory:	Yangzhou Opto-Electrical Product Testing Institute No.10 West Kaifa Road, Yangzhou, 225009 Jiangsu P.R.China
Construction:	Framed or Frameless, with Junction box, cable and connector.
Fire Safety Class:	Class C according to UL790

## Tested according to:

IEC 61215-1:2016  
 IEC 61215-1-1:2016  
 IEC 61215-2:2016  
 IEC 61730-1:2016  
 IEC 61730-2:2016  
 EN 61215-1:2016  
 EN 61215-1-1:2016  
 EN 61215-2:2017  
 EN IEC 61730-1:2018  
 EN IEC 61730-1:2018/AC:2018-06  
 EN IEC 61730-2:2018  
 EN IEC 61730-2:2018/AC:2018-06





SH SOLARHERO

