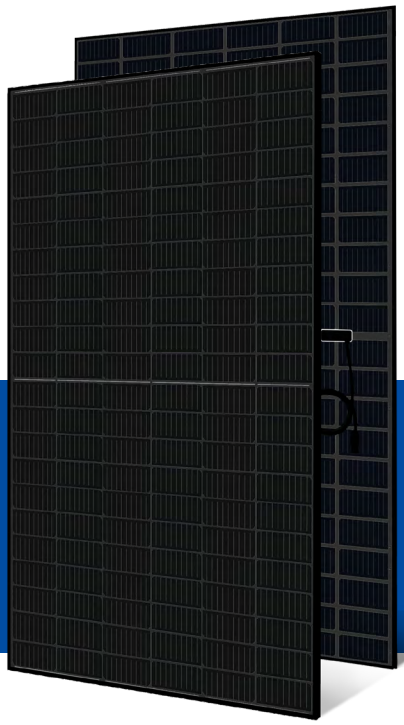
HYUNDAI SOLAR MODULE

25 YR WARRANTY
Product & Performance

YH SERIES

Dual Black Max

HiS-S385YH(BK) HiS-S390YH(BK) HiS-S400YH(BK)
HiS-S405YH(BK) HiS-S410YH(BK) HiS-S430YH(BK)



Bifacial Cells
132

More Power Generation In Low Light

UL 1,500V
IEC 1,500V
Saves BOS Costs

All black Module For Sleek Design (Black Meshed T-Back sheet)

Maximized Power Generation

Increased total power output through capturing light from both the front and back of Bifacial solar modules. Back side power gain up to 25% of the front output depending on PV system design.

Half-Cut & Multi-Wire Technology

9 Wires

Improved current flow with half-cut technology and 9 thin wiring technology allows high module efficiency of up to 20.5%. It also reduces power generation loss due to micro-cracks.

Anti-LID / PID

Both LID(Light Induced Degradation) and PID(Potential Induced Degradation) are significantly reduced to ensure higher actual yield during lifetime.

Mechanical Strength

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow(5,400Pa) and strong wind(4,000Pa).

UL / VDE Test Labs

Hyundai's R&D center is an accredited test laboratory of both UL and VDE.

Reliable Warranty

HYUNDAI

Global brand with powerful financial strength provide reliable 25-year warranty.

Hyundai's Warranty Provisions

25 YEARS
- 25-Year Product Warranty
  - Materials and workmanship

25 YEARS
- 25-Year Performance Warranty
  - Initial year : 98.0%
  - Linear warranty after second year: with 0.54%p annual degradation, 85.0% is guaranteed up to 25 years

About Hyundai Energy Solutions

Established in 1972, Hyundai Heavy Industries Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, Hyundai Heavy Industries is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HHI, Hyundai Energy Solutions has strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

Certification

UL US LISTED E325005

· UL61730 certified by UL, Type 1(for Fire Class A)

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Electrical Characteristics

		Mono-Crystalline Type(HiS-S____YH(BK))					
		385	390	395	400	405	410
Nominal Output (Pmpp)	W	385	390	395	400	405	410
Open Circuit Voltage (Voc)	V	44.5	44.8	45.0	45.3	45.6	45.9
Short Circuit Current (Isc)	A	11.04	11.11	11.18	11.25	11.33	11.40
Voltage at Pmax (Vmpp)	V	37.1	37.3	37.5	37.7	37.9	38.1
Current at Pmax (Impp)	A	10.40	10.47	10.54	10.61	10.69	10.76
Module Efficiency	%	19.3	19.5	19.8	20.0	20.3	20.5
Cell Type	-	Mono crystalline, 9busbar					
Maximum System Voltage	V	1,500					
Temperature Coefficient of Pmax	%/K	-0.347					
Temperature Coefficient of Voc	%/K	-0.268					
Temperature Coefficient of Isc	%/K	+0.032					

*All data at STC (Measurement tolerances Pmpp ±3%; Isc ; Voc ±3%). Above data may be changed without prior notice.

Additional Power Gain from rear side		385	390	395	400	405	410
5%	W	399	404	410	415	425	431
15%	W	437	443	449	454	466	472
25%	W	475	482	488	494	506	513

Mechanical Characteristics

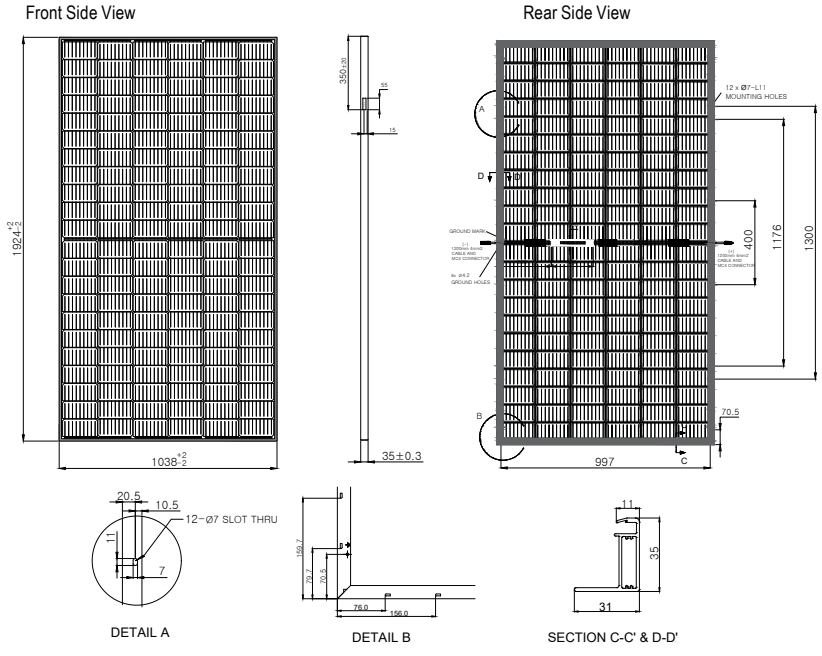
Dimensions	1,038 mm (W) x 1,924 mm (L) x 35 mm(H)
Weight	Approx. 21.1 kg
Solar Cells	132 half cut bifacial cells (2 parallel x 66 half cells in series)
Output Cables	Cable : 1,200mm / 4mm² Connector : MC4 genuine connector
Junction Box	IP68, weatherproof, IEC certified (UL listed)
Bypass Diodes	3 bypass diodes to prevent power decrease by partial shade
Construction	Front : 3.2mm, High Transmission, AR Coated Tempered Glass Encapsulant : EVA I Back Sheet : Black Meshed Transparent Backsheet
Frame	Anodized aluminum alloy type 6063

Installation Safety Guide

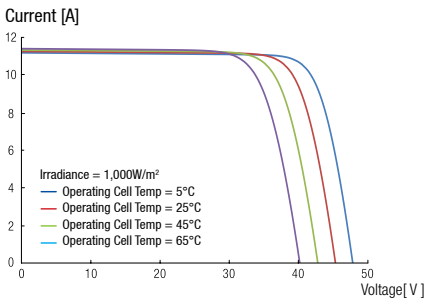
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

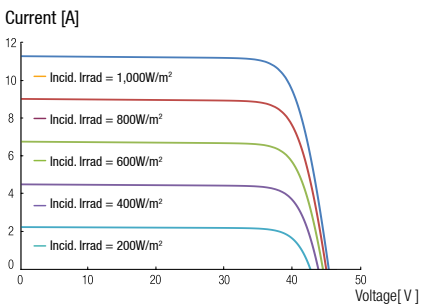
Nominal Operating Cell Temperature	45.5°C ± 2
Operating Temperature	-40°C ~ +85°C
Maximum System Voltage	DC 1,500V
Maximum Reverse Current	20A
Maximum Test Load	Front 5,400 Pa (113psf) Rear 4,000 Pa (84psf)

Module Diagram (unit : mm)



I-V Curves





HYUNDAI ENERGY SOLUTIONS