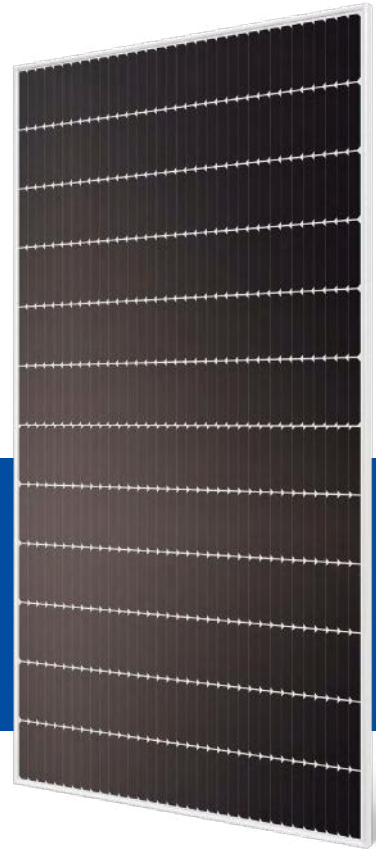


HYUNDAI SOLAR MODULE

VI
SERIES

PERC Shingled

HiE-S475VI HiE-S480VI HiE-S485VI



Shingled
Technology



For Utility-Scale
Applications



More Power
Generation
In Low Light



M6 PERC Shingled

M6 PERC Shingled Technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.



Anti-LID / PID

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



Mechanical Strength

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow and strong wind.



Reliable Warranty

Global brand with powerful financial strength provide reliable 25-year warranty. (Europe and Australia only)



Corrosion Resistant

Various tests under harsh environmental conditions such as ammonia and salt-mist passed.



UL / VDE Test Labs

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

Hyundai's Warranty Provisions



- 25-Year Product Warranty (Europe and Australia only)
- On materials and workmanship



- 25-Year Performance Warranty
- Initial year: 98.0%
- Linear warranty after second year: with 0.55%p annual degradation, 84.8% 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



Electrical Characteristics

		Mono-Crystalline Module (HiE-S ___ V)		
		475	480	485
Nominal Output (P _{mpp})	W	475	480	485
Open Circuit Voltage (V _{oc})	V	46.5	46.6	46.6
Short Circuit Current (I _{sc})	A	13.10	13.16	13.22
Voltage at P _{max} (V _{mpp})	V	38.7	38.8	38.8
Current at P _{max} (I _{mpp})	A	12.27	12.37	12.50
Module Efficiency	%	20.3	20.5	20.7
Cell Type	-	PERC Mono-Crystalline Silicon Shingled		
Maximum System Voltage	V	1,500		
Temperature Coefficient of P _{max}	%/°C	-0.34		
Temperature Coefficient of V _{oc}	%/°C	-0.27		
Temperature Coefficient of I _{sc}	%/°C	0.04		

*All data at STC (Standard Test Conditions). Above data may be changed without prior notice.

*Tolerance of P_{max}: 0~+5W

*Performance deviation of V_{oc} [V], I_{sc} [A], V_m [V] and I_m [A]: ±3%.

Mechanical Characteristics

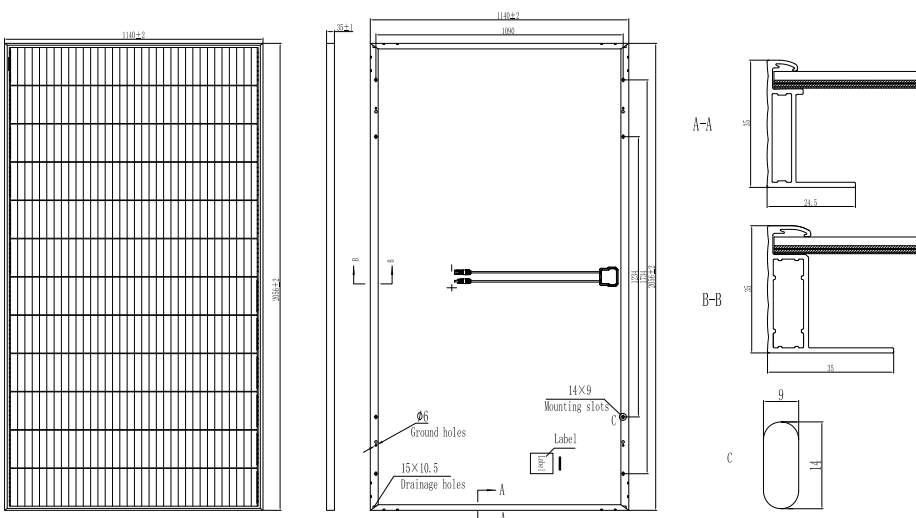
Dimensions	2,056 × 1,140 × 35mm (L × W × H)		
Weight	25kg		
Solar Cells	408 cells, PERC Mono-crystalline Shingled (166 × 166mm)		
Output Cables	Length 1,200mm, 1×4mm ²	Connector	Compatible with MC4
Junction Box	Rated current : 20A, IP67, TUV&UL		
Construction	Front Glass : White toughened safety glass, 3.2mm Encapsulation : EVA (Ethylene-Vinyl-Acetate)		
Frame	Anodized aluminum		

Installation Safety Guide

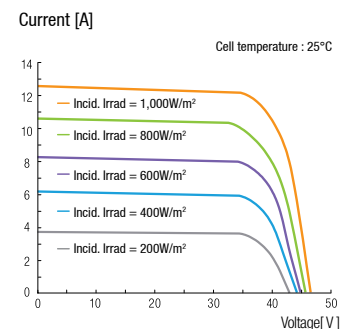
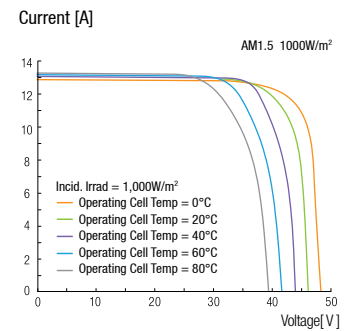
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temperature	42.3 ± 2°C
Operating Temperature	-40 ~ 85°C
Maximum System Voltage	DC 1,500 / 1,000 (IEC)
Maximum Reverse Current	20A
Maximum Surface Load Capacity	Front 5,400 Pa Rear 2,400 Pa

Module Diagram (unit : mm)

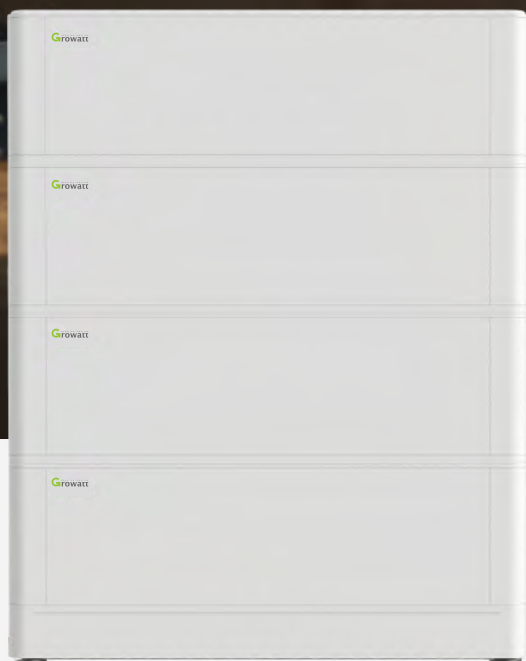


I-V Curves



ARK LV Battery System











- Flexible capacity options, 2.56kWh to 25.6kWh
- Excellent safety of cobalt free LiFePO4 battery
- Easy installation with modular and stacked design
- Long lifespan, 10 years warranty
- Remote firmware upgrade



P O W E R
- I N G O
T O M O -
R R O W O

Growatt powering tomorrow

www.ginverter.com

Datasheet	ARK 2.5L	ARK 5.1L	ARK 7.6L	ARK 10.2L	ARK 12.8L	ARK 15.3L	ARK 17.9L	ARK 20.4L	ARK 23.0L	ARK 25.6L
System Demo										
Battery Module	ARK 2.5L-A1 (2.56kWh, 51.2V, 30kg)									
Number of Modules	1	2	3	4	5	6	7	8	9	10
Energy Capacity	2.56kWh	5.12kWh	7.68kWh	10.24kWh	12.8kWh	15.35kWh	17.92kWh	20.48kWh	23.04kWh	25.64kWh
Dimension (W/D/H)	650/260/170mm	650/260/340mm	650/260/510mm	650/260/680mm	650/260/850mm	650/260/1020mm	650/260/1190mm	650/260/1360mm	650/260/1530mm	650/260/1700mm
Weight	30kg	60kg	90kg	120kg	150kg	180kg	210kg	240kg	270kg	310kg
Max Charge/Discharge Current	25A	50A	75A	100A	100A	100A	100A	100A	100A	100A
General										
Battery Type	Cobalt Free Lithium Iron Phosphate (LFP)									
Nominal Voltage	51.2V									
Operating voltage Range	47.2 - 56.8V									
IP Protection	IP65									
Installation	Wall-mounted or Floor installation* ¹									
Operation Temperature	-10~45°C* ²									
Features										
DoD	90%									
Cycle Life	>6000									
BMS Monitoring Parameters	SOC, System voltage, current, cell voltage, cell temperature, PCBA temperature measurement									
Communication Port	CAN									
Warranty	10 Years									
Certification	IEC62619 (Cell&Pack), CE, CEC, RCM, UN38.3									

*1 Floor installation requires extra base (W/D/H=650/260/110 mm)

*2 The performance will be limited when the temperature is below 0°C

* ARK series battery has an EU model and a General model, the storage inverters sold in European countries only work with EU model ARK battery.