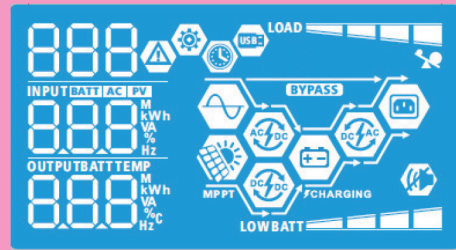


Axpert VM III TWIN Off-Grid Inverter

20220001 P1.9.5-23.0

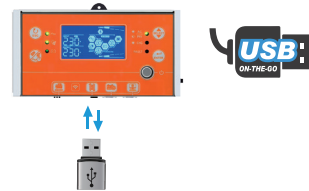


LCD Display Panel

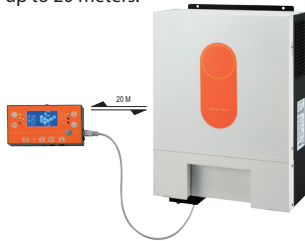


- Dual outputs for smart load management**
 There are two outputs available. The second output can be scheduled on/off, setting cut-off voltage or SOC and discharging time via LCD setting. It facilitates users smart load control.
- Maximum PV input current 27A**
 Designed with 27A PV input current, Axpert VM III TWIN is compatible to the market trend of increased Imp in solar panel.
- Wide PV input voltage range 60VDC ~ 450VDC**
 Now, Axpert VM III TWIN allows wide PV input voltage range from 60VDC to 450VDC. This features allow less solar panel required in the system and save space.

- Supports USB On-the-Go function**
 VM III TWIN series supports USB On-the-Go function to facilitate data upload/download.



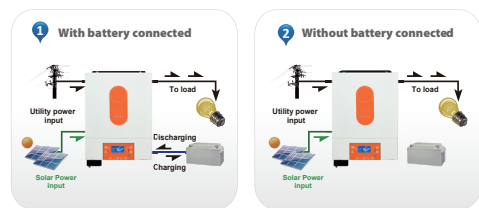
- Detachable LCD control module with various communications**
 This detachable LCD control module can be turned to remote panel. Users can install the LCD panel in accessible area away from inverter up to 20 meters.



- Reserved communication port (RS-485, CAN-BUS or RS-232) for BMS**
 This third generation inverter is reserved communication port for BMS. For the detailed information, please contact sales directly.

- Battery equalization extends lifecycle**
 This inverter charger is built in battery equalization function. This function will help remove sulfation to optimize battery performance and even extend lifecycle.

- Battery independency**
 Inverter can keep supplying power to the loads from PV energy or the grid without battery connected.



- Integrated WiFi interface with Mobile App**
 VM III TWIN series is integrated WiFi interface ready for mobile monitoring. Mobile monitoring can be carried out through mobile applications in both iOS and Android. Users can track the history of the unit information such as energy generation and change parameter settings timely.



- User-friendly LCD operation**
 Users can easily set up or change the charging current, output source and charger source prioritization through LCD control panel to optimize inverter performance.



- Replaceable fan design**
 VM III TWIN series is designed with replaceable fan. It will simplify the maintenance and reduce the maintenance cost.



Axpert VM III TWIN Off-Grid Inverter Selection Guide

MODEL	Axpert VM III TWIN 4K	Axpert VM III TWIN 6K
RATED POWER	4000VA/4000W	6000VA/6000W
INPUT		
Voltage	230 VAC	
Selectable Voltage Range	170-280 VAC (For Personal Computers) 90-280 VAC (For Home Appliances)	
Frequency Range	50 Hz/60 Hz (Auto sensing)	
OUTPUT		
AC Voltage Regulation (Batt. Mode)	230VAC \pm 10%	
Surge Power	8000VA	12000VA
Efficiency (Peak)	90% ~ 93%	
Transfer Time	10 ms (For Personal Computers) 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
BATTERY		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
SOLAR CHARGER & AC CHARGER		
Solar Charger type	MPPT	
Maximum PV Array Power	5000W	6000W
MPP Range @ Operating Voltage	60 ~ 450 VDC	60 ~ 450 VDC
Maximum PV Array Open Circuit Voltage	500 VDC	500 VDC
Maximum PV Input Current	27A	
Maximum Solar Charge Current	120A	120A
Maximum AC Charge Current	100A	100A
Maximum Charge Current	120A	120A
PHYSICAL		
Dimension, D x W x H (mm)	115 x 300 x 435	
Net Weight (kgs)	9	10
Communication Interface	USB/RS232/RS485/WiFi/Dry-contact	
OPERATING ENVIRONMENT		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	

Product specifications are subject to change without further notice.

HYUNDAI SOLAR MODULE

HG SERIES

G12 PERC Shingled

HiE-S435HG HiE-S440HG HiE-S445HG



Shingled
Technology



For Both Residential
& Commercial
Applications



More Power
Generation
In Low Light



G12 PERC Shingled

G12 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. (Australia and Europe 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**
• On material and workmanship
Australia and Europe Only



• **25-Year Performance Warranty**
• Initial year: 98.0%
• Linear warranty after second year:
with 0.55%p annual degradation,
84.80% 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



HYUNDAI
ENERGY SOLUTIONS

Electrical Characteristics

		Mono-Crystalline Module (HiE-S__HG)		
		445	440	435
Nominal Output (Pmpp)	W	445	440	435
Open Circuit Voltage(Voc)	V	43.8	43.7	43.6
Short Circuit Current (Isc)	A	13.01	12.90	12.79
Voltage at Pmax (Vmpp)	V	36.4	36.3	36.2
Current at Pmax (Impp)	A	12.23	12.13	12.02
Module Efficiency	%	21.4	21.1	20.9
Cell Type	-	PERC Mono-Crystalline Silicon Shingled		
Maximum System Voltage	V	1,500		
Temperature Coefficient of Pmax	%/°C	-0.34		
Temperature Coefficient of Voc	%/°C	-0.27		
Temperature Coefficient of Isc	%/°C	0.04		

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

*Tolerance of Pmax:0~+5W.

* Performance deviation of Voc [V], Isc [A], Vm[V] and Im[A]: ±3%.

Mechanical Characteristics

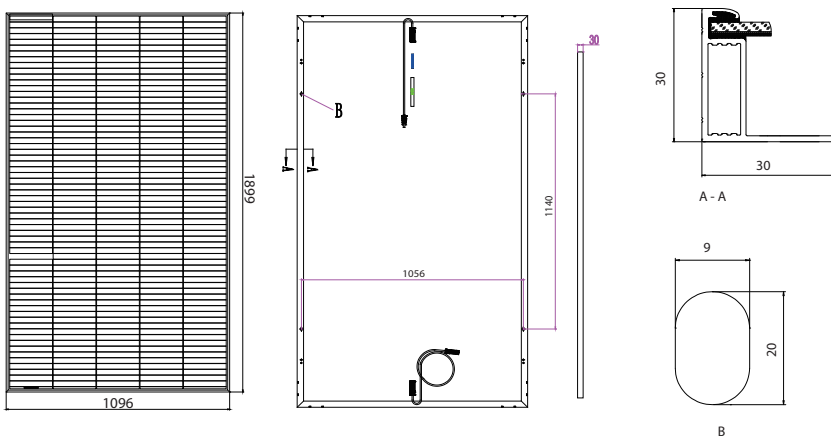
Dimensions	1,899 × 1,096 × 30 mm (L × W × H)		
Weight	21.8kg		
Solar Cells	320 Cells, PERC Mono-crystalline Shingled (210 × 210mm)		
Output Cables	4mm ² , +500mm/-1100mm(Vertical), +220mm/-180mm(Horizontal)	Connector	Stäubli : MC4-Evo2
Junction Box	IP68, TUV&UL, two diodes		
Construction	Front Glass: Tempered glass, 3.2mm Encapsulation: EVA (Ethylene-Vinyl-Acetate)		
Frame	Anodized Aluminum		

Installation Safety Guide

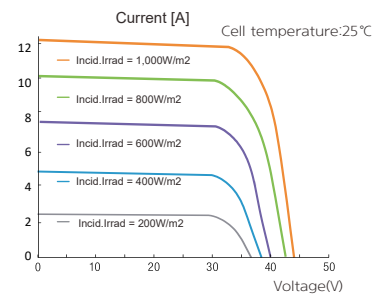
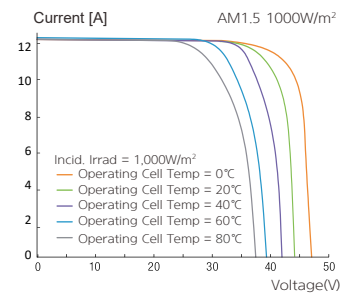
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temperature	42.3°C (±2°C)
Operating Temperature	-40 ~ 85 °C
Maximum System Voltage	DC 1,500 / 1,000 (IEC)
Series Fuse Rating [A]	25
Maximum Surface Load Capacity	Front 5,400 Pa Rear 2,400 Pa

Module Diagram (Unit: mm)



I-V Curves



Manufactured in China

HYUNDAI
ENERGY SOLUTIONS



Sales & Marketing
sales@hyundai-es.co.kr

Printed Date : 06/2022

US5000

Batteria al litio in bassa tensione

US5000 - Moduli da 4,8 kWh

La batteria al litio US5000 di Pylontech può essere utilizzata per supportare un'elevata potenza per vari tipi di apparecchiature e sistemi.

La batteria US5000 dispone di un BMS integrato che ha funzioni di protezione tra cui sottoscarica, sovraccarica, sovracorrente e controllo della temperatura delle celle.

Specifiche tecniche:

- Funzione **Soft-Start** in grado di ridurre la corrente di picco quando l'inverter si accende con la sola batteria;
- La **struttura molecolare** interna delle batterie LiFePO4 è **più stabile** e **più sicura**;
- **Profondità di scarica** (DOD) del 95%, disponibile per gli inverter allineati all'ultimo protocollo Pylontech;
- **Doppia protezione attiva a livello BMS**;
- Possibilità di collegare in parallelo più moduli batteria per espandere la capacità e la potenza;
- Possibilità di operare in diverse condizioni di temperatura;
- **Garanzia 10 anni.**

Dimensioni:

Larghezza: 442 mm

Altezza: 161 mm

Profondità: 420 mm

Peso: 39,7 kg



Dati tecnici

Batteria al Litio

Modello	US5000
DATI ELETTRICI	
Tecnologia cella	Li-ion (LFP)
Tensione nominale [V]	48
Capacità nominale [kWh/Ah]	4,8 / 100
Profondità di scarica DoD [%]	95
Capacità utilizzabile [kWh/Ah]	4,56 / 95
Corrente nominale raccomandata [A]	80*
Configurazione [max. moduli in un gruppo batteria]	16 pz
Tensione di carica [V]	52,5 ~ 53,5
Tensione di scarica [V]	43,5 ~ 53,5
BUS	
Bus di comunicazione	RS485, CAN
DIMENSIONI E PESI	
Larghezza [mm]	442
Altezza [mm]	161
Profondità [mm]	420
Peso [kg]	39,7
VARIE	
Temperatura di esercizio in carica [°C]	0 ~ 50
Temperatura di esercizio in scarica [°C]	-10 ~ 50
Temperatura di stoccaggio [°C]	-20 ~ 45
Classe di protezione	IP20
Vita operativa a 25 °C	15+ anni
Cicli di funzionamento	>6000 25°C
Certificati trasporto merce pericolosa	TÜV / CE / UN38.3 / UL / UN 3480
Normativa EMC	IEC62619, IEC63056, UL1973, UL9540A, IEC61000-6-2, IEC61000-6-3, UN38.3, GR-1089, UN 3480, GB/T 2423

*: La corrente massima di lavoro raccomandata è riferita alla temperatura della cella della batteria compresa tra 10 ~ 40°C. Se al di fuori di questa temperatura può causare una diminuzione della corrente di funzionamento.