

Axpert VM 4 TWIN Off-Grid Inverter

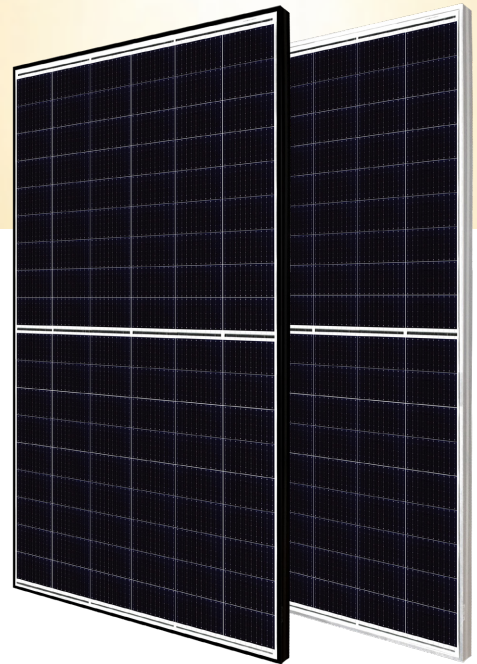


- Dual output for smart load management
- Maximum PV input current 27A
- Wide PV input voltage range 60VDC~450VDC
- Customizable status LED ring with RGB lights
- Touchable button with large 4.3" colored LCD
- Built-in Wifi for mobile monitoring (Android/iOS App available)
- Supports USB On-the-Go function
- Data log event stored in the inverter
- Reserved communication port (RS485, CAN-BUS or RS232) for BMS
- Battery independent design
- Battery equalization extends lifecycle
- Enhanced charging power
- Built-in anti-dust kit

Axpert VM 4 TWIN Off-Grid Inverter Selection Guide

MODEL	Axpert VM 4 TWIN 4K	Axpert VM 4 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)	119 x 313.6 x 457.5	
Net Weight (kgs)	10	12
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.



HiHero

N-type Heterojunction Technology

420 W ~ 445 W

CS6R-420 | 425 | 430 | 435 | 440 | 445H-AG

MORE POWER



Module efficiency up to 22.8%, maximize the use of rooftop space



No B-O LID, excellent anti-LeTID & anti-PID performance. Low power degradation, high energy yield



Leading temperature coefficient (Pmax): -0.26%/°C, increases energy yield in hot climate



Better shading tolerance

MORE RELIABLE



Minimizes micro-crack impacts



Heavy snow load up to 5400 Pa, enhanced wind load up to 2400 Pa*



Industry Leading Product Warranty on Materials and Workmanship*



Linear Power Performance Warranty*

**1st year power degradation no more than 1%
Subsequent annual power degradation no more than 0.35%**

*According to the applicable Canadian Solar Limited Warranty Statement.

MANAGEMENT SYSTEM CERTIFICATES*

ISO 9001: 2015 / Quality management system
ISO 14001: 2015 / Standards for environmental management system
ISO 45001: 2018 / International standards for occupational health & safety
IEC 62941: 2019 / Photovoltaic module manufacturing quality system

PRODUCT CERTIFICATES*

IEC 61215 / IEC 61730 / CE / MCS / UKCA
IEC 61701 / IEC 62716
Take-e-way



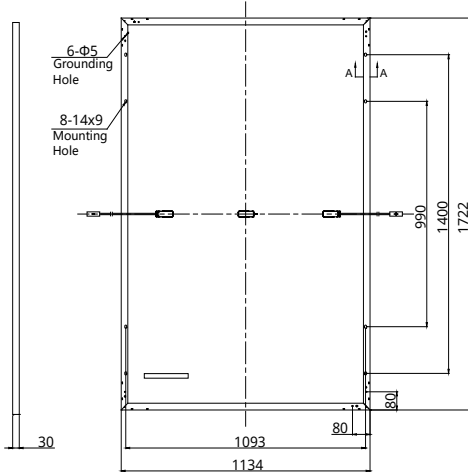
* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your Product and applicable in the regions in which the products will be used.

CSI Solar Co., Ltd. is committed to providing high quality solar photovoltaic modules, solar energy and battery storage solutions to customers. The company was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey. Over the past 22 years, it has successfully delivered over 88 GW of premium-quality solar modules across the world.

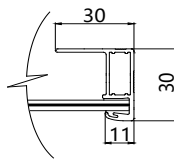
* For detailed information, please refer to the Installation Manual.

ENGINEERING DRAWING (mm)

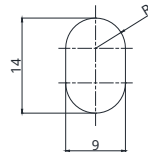
Rear View



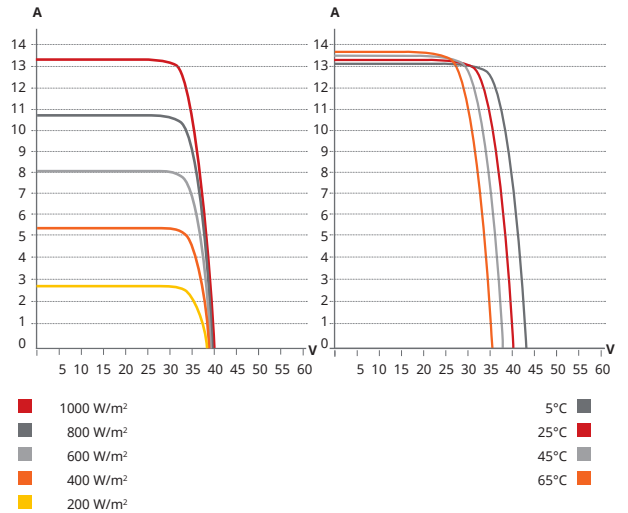
Frame Cross Section A-A



Mounting Hole



CS6R-425H-AG / I-V CURVES



ELECTRICAL DATA | STC*

CS6R	420H-AG	425H-AG	430H-AG	435H-AG	440H-AG	445H-AG
Nominal Max. Power (Pmax)	420 W	425 W	430 W	435 W	440 W	445 W
Opt. Operating Voltage (Vmp)	33.7 V	33.7 V	33.8 V	33.8 V	33.9 V	33.9 V
Opt. Operating Current (Imp)	12.48 A	12.62 A	12.76 A	12.89 A	13.02 A	13.15 A
Open Circuit Voltage (Voc)	40.1 V	40.1 V	40.1 V	40.2 V	40.2 V	40.3 V
Short Circuit Current (Isc)	13.28 A	13.33 A	13.38 A	13.43 A	13.48 A	13.53 A
Module Efficiency	21.5%	21.8%	22.0%	22.3%	22.5%	22.8%
Operating Temperature	-40°C ~ +85°C					
Max. System Voltage	1500V (IEC) or 1000V (IEC)					
Module Fire Performance	CLASS C (IEC61730)					
Max. Series Fuse Rating	25 A					
Application Classification	Class A					
Power Tolerance	0 ~ + 10 W					

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL DATA | NMOT*

CS6R	420H-AG	425H-AG	430H-AG	435H-AG	440H-AG	445H-AG
Nominal Max. Power (Pmax)	321 W	325 W	329 W	332 W	336 W	340 W
Opt. Operating Voltage (Vmp)	32.3 V	32.3 V	32.3 V	32.4 V	32.4 V	32.5 V
Opt. Operating Current (Imp)	9.95 A	10.06 A	10.17 A	10.27 A	10.37 A	10.47 A
Open Circuit Voltage (Voc)	38.1 V	38.1 V	38.2 V	38.2 V	38.3 V	38.3 V
Short Circuit Current (Isc)	10.70 A	10.74 A	10.78 A	10.82 A	10.86 A	10.90 A

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

MECHANICAL DATA

Specification	Data
Cell Type	HJT cells
Cell Arrangement	108 [2 X (9 X 6)]
Dimensions	1722 X 1134 X 30 mm (67.8 X 44.6 X 1.18 in)
Weight	23.0 kg (50.7 lbs)
Front Glass	2.0 mm heat strengthened glass with anti-reflective coating
Back Glass	1.6 mm heat strengthened glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4 mm ² (IEC)
Cable Length (Including Connector)	Portrait: 350 mm (13.8 in) (+) / 250 mm (9.8 in) (-); landscape: 1100 mm (43.3 in)*
Connector	T6 or MC4 or MC4-EVO2 or MC4-EVO2A
Per Pallet	35 pieces
Per Container (40' HQ)	910 pieces

* For detailed information, please contact your local Canadian Solar sales and technical representatives.

TEMPERATURE CHARACTERISTICS

Specification	Data
Temperature Coefficient (Pmax)	-0.26 % / °C
Temperature Coefficient (Voc)	-0.24 % / °C
Temperature Coefficient (Isc)	0.04 % / °C
Nominal Module Operating Temperature	41 ± 3°C

PARTNER SECTION



* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. CSI Solar Co., Ltd. reserves the right to make necessary adjustment to the information described herein at any time without further notice. Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.

CSI Solar Co., Ltd.

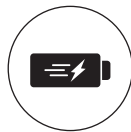
199 Lushan Road, SND, Suzhou, Jiangsu, China, 215129, www.csisolar.com, support@csisolar.com

LIO II-4810 is Lithium-ion battery module specially designed for energy storage system with 48V system

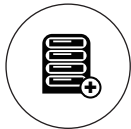
- Lithium Iron Phosphate (LFP) cell guarantees safety and reliability
- Easy to install on the floor
- Suitable for wide range of inverters with 48V system



Compact size and Lightweight
Built-in Lithium Iron Phosphate (LFP) cell with less space and weight.



Fast charging
Battery module can be fully charged in shorter time.

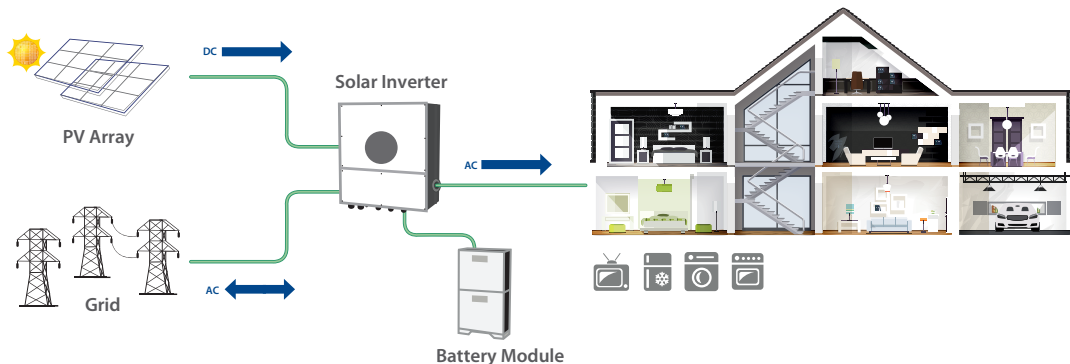


Modular design for easy scalable
Battery module can be easily stacked and added for energy expansion.

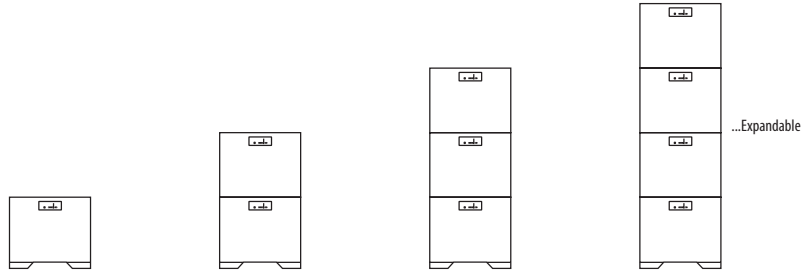


Maximum Lifecycle
8000 cycles is for 60% DOD with >50% capacity
2000 cycles is for 90% DOD with >80% capacity

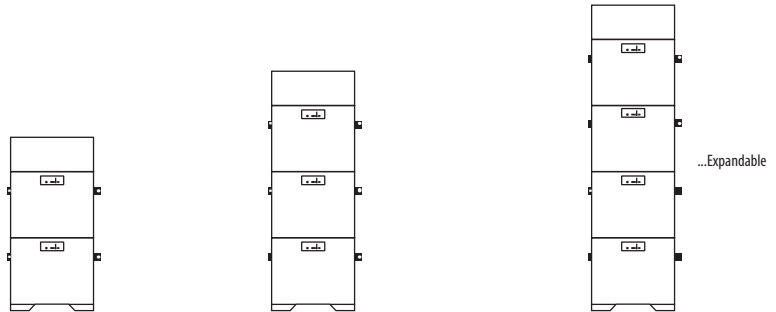
System Diagram



Technical Selection Guide



Battery Module	LIO II-4810 (5 kWh, 51.2V)			
Battery Cell Technology	Lithium Iron Phosphate			
Applicable Inverter Rating	≤ 5.6 kW			
Number of Module	1	2	3	4
Usable Energy	5 kWh	10 kWh	15 kWh	20 kWh
Rated Discharging Current	150 A	150 A	150 A	150 A
Peak Discharging Current	192 A, 1 min	192 A, 1 min	192 A, 1 min	192 A, 1 min
Nominal Voltage	51.2 V	51.2 V	51.2 V	51.2 V
Operating Voltage	40 -56 VDC	40 -56 VDC	40 -56 VDC	40 -56 VDC
Charging Current	100A Max, 30A Default	100A Max, 30A Default	100A Max, 30A Default	100A Max, 30A Default
Dimension, D x W x H (mm) without feet	185 x 540 x 420	185 x 540 x 840	185 x 540 x 1260	185 x 540 x 1680
Net Weight (kg)	48	96	144	192



Battery Module	LIO II-4810 (5 kWh, 51.2V)		
Battery Cell Technology	Lithium Iron Phosphate		
Applicable Inverter Rating	6 kW ~ 12 kW		
Number of Module	2	3	4
Number of PDU Module	1	1	1
Usable Energy	10 kWh	15 kWh	20 kWh
Rated Discharging Current	300 A	300 A	300 A
Peak Discharging Current	384 A, 1 min	384 A, 1 min	384 A, 1 min
Nominal Voltage	51.2 V	51.2 V	51.2 V
Operating Voltage	40 - 56 VDC	40 - 56 VDC	40 - 56 VDC
Dimension, D x W x H (mm) without feet	185 x 540 x 1040	185 x 540 x 1460	185 x 540 x 1880
Net Weight (kg)	102	150	198

General Specification

Operation Temperature	Charge	0°C~50 °C
	Discharge	0°C~50 °C
Storage Temperature (At 50% SOC and specified temp, recoverable capacity in % vs time / 50%)	< 18 months:	-20°C~25 °C
	< 3 months:	25°C~45 °C
	< 1 months:	45°C~60 °C
	20°C ± 5 °C is the recommended storage temperature	
IP Protection		IP20
Communication		RS485 port (RJ45), CAN
Certifications		UN38.3, IEC 62619

Product specifications are subject to change without further notice.