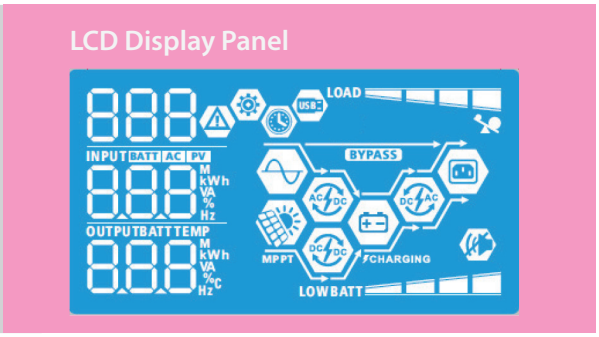
Axpert VM III TWIN Off-Grid Inverter



• 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

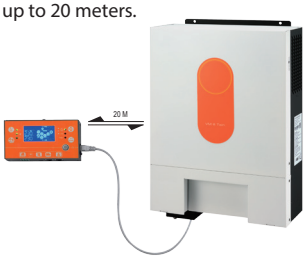
Designed with 27A PV input current, Axpert VM III TWIN is compatible to the market trend of increased Imp in solar panel.

• 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.

• 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.

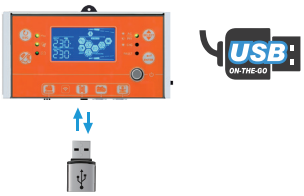


• Integrated WiFi interface with Mobile App

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.

• Supports USB On-the-Go function

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



• Reserved communication port (RS-485, CAN-BUS or RS-232) for BMS

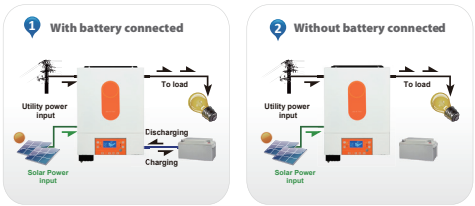
This third generation inverter is reserved communication port for BMS. For the detailed information, please contact sales directly.

• 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.



• 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 ± 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.

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Solar
JinKO
Building Your Trust in Solar

Tiger Neo N-type 54HL4-(V)

410-430 Watt

MONO-FACIAL MODULE

N-Type

Positive power tolerance of 0~+3%

IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System

ISO14001:2015: Environment Management System

ISO45001:2018
Occupational health and safety management systems

Key Features

SMBB Technology

Better light trapping and current collection to improve module power output and reliability.

Hot 2.0 Technology

The N-type module with Hot 2.0 technology has better reliability and lower LID/LETID.

PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.

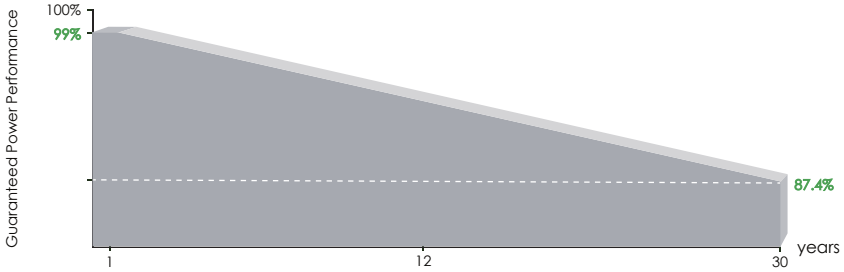
Enhanced Mechanical Load

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).

Durability Against Extreme Environmental Conditions

High salt mist and ammonia resistance.

LINEAR PERFORMANCE WARRANTY

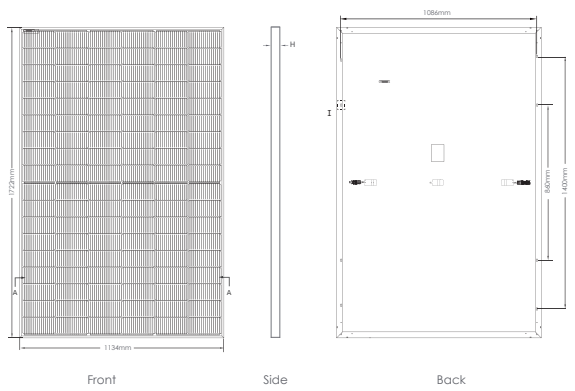


15 Year Product Warranty

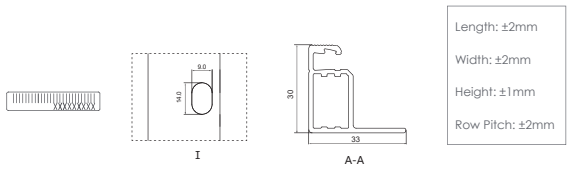
30 Year Linear Power Warranty

0.40% Annual Degradation Over 30 years

Engineering Drawings



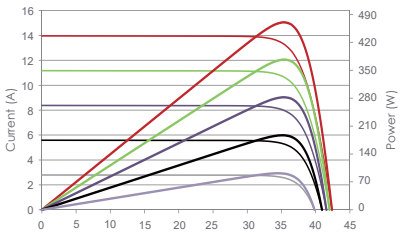
Front Side Back



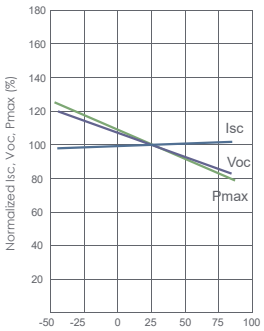
Length: ±2mm
Width: ±2mm
Height: ±1mm
Row Pitch: ±2mm

Electrical Performance & Temperature Dependence

Current-Voltage & Power-Voltage Curves (430W)



Temperature Dependence of Isc,Voc,Pmax



Packaging Configuration

(Two pallets = One stack)

36pcs/pallets, 72pcs/stack, 936pcs/ 40'HQ Container

Mechanical Characteristics

Cell Type	N type Mono-crystalline
No. of cells	108 (6×18)
Dimensions	1722×1134×30mm (67.79×44.65×1.18 inch)
Weight	22 kg (48.50 lbs)
Front Glass	3.2mm,Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TUV 1×4.0mm² (+): 400mm , (-): 200mm or Customized Length

SPECIFICATIONS

Module Type	JKM410N-54HL4 JKM410N-54HL4-V		JKM415N-54HL4 JKM415N-54HL4-V		JKM420N-54HL4 JKM420N-54HL4-V		JKM425N-54HL4 JKM425N-54HL4-V		JKM430N-54HL4 JKM430N-54HL4-V	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	410Wp	308Wp	415Wp	312Wp	420Wp	316Wp	425Wp	320Wp	430Wp	323Wp
Maximum Power Voltage (Vmp)	31.13V	29.06V	31.32V	29.21V	31.51V	29.34V	31.70V	29.50V	31.88V	29.63V
Maximum Power Current (Imp)	13.17A	10.61A	13.25A	10.68A	13.33A	10.76A	13.41A	10.83A	13.49A	10.91A
Open-circuit Voltage (Voc)	37.73V	35.84V	37.92V	36.02V	38.11V	36.20V	38.30V	36.38V	38.49V	36.56V
Short-circuit Current (Isc)	13.91A	11.23A	13.99A	11.29A	14.07A	11.36A	14.15A	11.42A	14.23A	11.49A
Module Efficiency STC (%)	21.00%		21.25%		21.51%		21.76%		22.02%	
Operating Temperature(℃)	-40℃~+85℃									
Maximum system voltage	1000/1500VDC (IEC)									
Maximum series fuse rating	25A									
Power tolerance	0~+3%									
Temperature coefficients of Pmax	-0.29%/℃									
Temperature coefficients of Voc	-0.25%/℃									
Temperature coefficients of Isc	0.045%/℃									
Nominal operating cell temperature (NOCT)	45±2℃									

*STC: Irradiance 1000W/m² Cell Temperature 25℃ AM=1.5

NOCT: Irradiance 800W/m² Ambient Temperature 20℃ AM=1.5 Wind Speed 1m/s

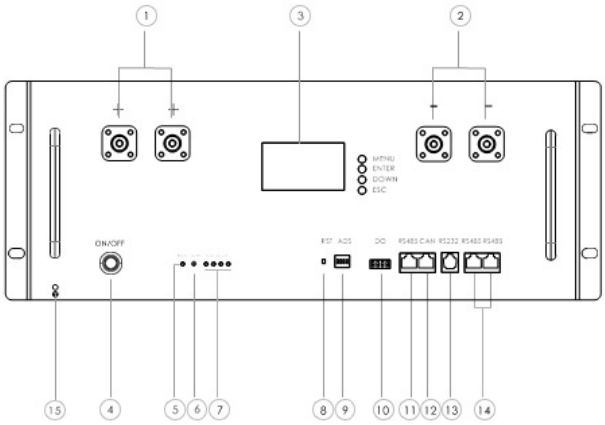
Battery Pack Parameters

No.	Items	General Parameter		Remark
1	Combination method	15S		
2	Nominal Voltage	48V		
3	Rated Capacity	Typical	100Ah	
		Minimum	100Ah	
4	Energy	4800Wh		
5	Factory Voltage	48~51V		Mean Operation Voltage
6	Voltage at end of Discharge	37.5~42V		Discharge Cut-off Voltage
7	Voltage at end of Charge	52.5~55.5V		Charge Cut-off Voltage
8	Standard charge	Constant Current 20A Constant Voltage see No.7 0.02CA cut-off		Charge time : Approx 5~6 h
9	Limiting current	20A		BMS Limited (Charge current is ≥100A to open the current Limit)
10	Standard discharge	Constant current：20A end voltage see NO.6		
11	Maximum Continuous Charge Current	100A		50°C≥T≥5°C
12	Maximum Continuous Discharge Current	100A		55°C≥T≥0°C
13	Operation Temperature Range	Charge:0~55℃		60±25%R.H. No matter what mode the battery is in, once the temperature is found to exceed the absolute temperature range, stop charging or discharging immediately
		Discharge:-20~60℃		
14	Storage Temperature Range	Less than 6 months: -10~35℃		60±25%R.H. at the shipment state
		Less than 3 months: -10~45℃		
		Less than 1 months: -20~55℃		
15	Dimensions(W*D*H)	442*480*178mm		Include case
16	Net Weight	46Kg		Include case
17	Internal Impedance	≤45mΩ		Internal resistance measured at AC 1KHz after 50% charge. The measure must uses the new batteries that within one week after shipment and cycles less than 5 times.

Battery Management System

Function		
	Cell over-charge voltage	Cell charge low temperature
	Cell over-discharge voltage	Cell charge over temperature
	Pack over-charge voltage	Cell discharge low temperature

Alarm	Pack over-discharge voltage	Cell discharge over temperature
	Over-current charge	Environment low temperature
	Over-current discharge	Environment over temperature
	Mos over temperature	
Protection	Cell over-charge voltage	Cell charge over temperature
	Cell over-discharge voltage	Cell discharge low temperature
	Pack over-charge voltage	Cell discharge over temperature
	Pack over-discharge voltage	Environment low temperature
	Over-current charge	Environment over temperature
	Over-current discharge	Short circuit
	Mos over temperature	Fault
	Cell charge low temperature	
Others	Cell balance function	
	Communicate function	
	Total capacity function	
	Storage history function	
	Current limiting function	
	Dry contact function	



No.	Items	Description
1	+ Power terminal	Power cable terminals: one connect to equipment, the other one paralleling to other battery module for capacity expanding
2	– Power terminal	
3	LCD Screen	Display the battery's data
4	Power Switch	To turn ON/OFF while battery
5	Working indicator light	Display state information
6	ALM alarm indicator light	Red-trouble-light on
7	Capacity volume indicator	Display the battery's capacity
8	Reset Key	Sleep /Activation /Reset
9	ADS Dialer	4 ADD switches, to definite different address code for each battery module when multiple modules are cascaded, up to 15 addresses.
10	Dry Contact Terminal	1/2 Normally open, closed during fault protection; 3/4 Normally open, closed when a low battery alarm
11	RS485	RJ45 Port,used to connect to the inverter's RS485 port

12	CAN	RJ45 Port,used to connect to the inverter's CAN port
13	RS232	RJ11 Port,used battery condition monitoring or manufacturer to debug or service
14/15	RS485	RJ45 Port,used communication in parallel
16	Grounding Point	Safety