

# Axpert VM II Off-Grid Inverter

## Operation without battery



- Pure sine wave solar inverter
- Output power factor 1
- High PV input voltage range
- Battery independent design
- Built-in 100A MPPT solar charger
- Battery equalization function to optimize battery performance and extend lifecycle
- Built-in anti-dust kit for harsh environment
- Dual outputs selected as either programmable output or generator input

## Axpert VM II Off-Grid Inverter Selection Guide

MODEL	Axpert VM II 3000-24	Axpert VM II 5000-48
Rated Power	3000VA / 3000W	5000VA / 5000W
<b>INPUT</b>		
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)	
<b>OUTPUT</b>		
AC Voltage Regulation (Batt. Mode)	230VAC $\pm$ 5%	
Surge Power	6000VA	10000VA
Efficiency (Peak)	90% ~ 93%	
Transfer Time	10 ms (For Personal Computers) ; 20 ms (For Home Appliances)	
Waveform	Pure sine wave	
Dual Outputs	Yes	
<b>BATTERY</b>		
Battery Voltage	24 VDC	48 VDC
Floating Charge Voltage	27 VDC	54 VDC
Overcharge Protection	33 VDC	63 VDC
<b>SOLAR CHARGER &amp; AC CHARGER</b>		
Maximum PV Array Open Circuit Voltage	500 VDC	500 VDC
Maximum PV Array Power	4000 W	5000 W
MPP Range @ Operating Voltage	120~450 VDC	120~450 VDC
Maximum Solar Charge Current	100 A	100 A
Maximum AC Charge Current	100 A	100 A
Maximum Charge Current	100 A	100 A
<b>PHYSICAL</b>		
Dimension, D x W x H (mm)	100 x 300 x 440	
Net Weight (kgs)	9	10
Communication Interface	USB/RS232	
<b>ENVIRONMENT</b>		
Humidity	5% to 95% Relative Humidity (Non-condensing)	
Operating Temperature	-10°C to 50°C	
Storage Temperature	-15°C to 60°C	

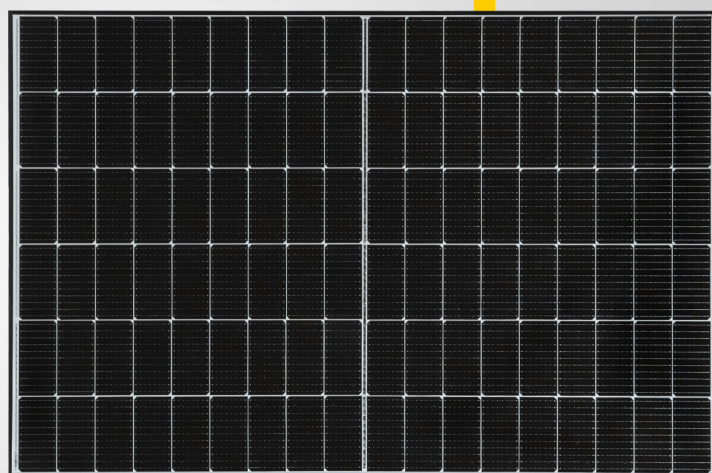
Product specifications are subject to change without further notice.



## Moduli fotovoltaici MONOCRISTALLINO



**TIER 1**  
BloombergNEF  
\*Q4 2022



**CERTIFICATO  
DI PROVA**  
della protezione  
anticendio

**Mono S4** **MBB**  
Modulo a mezza cella  
produzione di energia efficiente



### **Mono S4** - Halfcut

405 W • 410 W

- Modulo a mezza cella
- Alta efficienza, alta sicurezza, alta affidabilità
- Prestazioni eccellenti anche in condizioni di scarsa luminosità
- Resistente alle influenze ambientali: Resistenza all'ammoniaca e alla nebbia salina
- Multi-Busbar tecnologia
- Utilizzo dell'area 209.72 W/m<sup>2</sup> a 410 W
- Garanzia tedesca



# Mono S4 - Halfcut


## Dati elettrici sotto STC (Standard Test Conditions: 1000 W/m<sup>2</sup>, 25 °C, AM 1.5)

Potenza nominale	$P_{max}$	405 W	410 W
Limiti di selezione della capacità		0/+3 %	0/+3 %
Tensione	$U_{MPP}$	30,91 V	31,09 V
Tensione a circuito aperto	$U_{OC}$	37,21 V	37,33 V
Elettricità	$I_{MPP}$	13,11 A	13,20 A
Corrente di corto circuito	$I_{SC}$	13,98 A	14,06 A
Efficienza		20,74 %	21,00 %

## Dati di temperatura

Campo di temperatura di esercizio		- 40° C ~ + 85° C
Campo di funzionamento Umidità dell'aria		45 ± 3° C
Coefficiente di temperatura potenza	$T_k (P_{MPP})$	- 0.330 %/°C
Coefficiente di temperatura Tensione	$T_k (U_{OC})$	- 0.246 %/°C
Coefficiente di temperatura corrente	$T_k (I_{SC})$	0.0448 %/°C

## Ulteriori dettagli

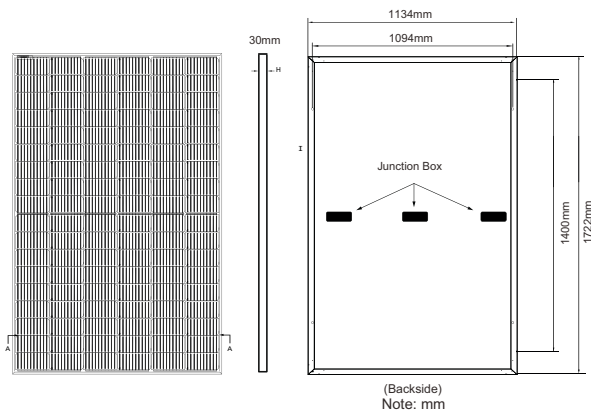
Numero di celle	108 mezza celle monocristalline (6 x 18)	
Dimensione della cella	182 x 91 mm	
Dimensione del modulo	1722 x 1134 x 30 mm	
Telaio del modulo	Lega di alluminio anodizzato	
Max. tensione di sistema	1500 V	
Capacità di carico della corrente inversa	25 A	
Copertura in vetro	3.2 mm	
Peso del modulo	21.2 kg	
Collegamento del modulo e cavo	MC4 o simile, 4.0 mm <sup>2</sup> , lunghezza del cavo: (+) ≥ 1200 mm, (-) ≥ 1200 mm	
Scatola di giunzione	IP68	
Protezione antigraffio	Palle di ghiaccio con Ø max. 25 mm e velocità fino a 23 m/s	
Carico di neve	5400 Pa $\hat{=}$ 550 kg/m <sup>2</sup>	

15 anni di garanzia sul prodotto, 25 anni di garanzia lineare sulle prestazioni secondo le nostre condizioni di garanzia aggiuntive per i moduli fotovoltaici della linea di prodotti „Mono S4“, che saremmo lieti di inviarvi..

Le differenze di colore sono possibili nei moduli All Black a causa della tolleranza del rivestimento antiriflesso.

Con riserva di errori e modifiche tecniche con eventuali certificazioni successive corrispondenti. Fig. simile.

### Mono S4 HC V XXX (modulo a mezza cella)



**Nota:**  
Osservare la parità!

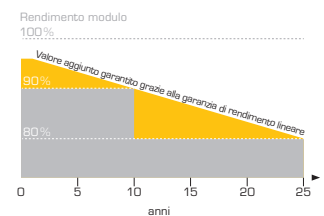
Valid as of: 15.11.2022 / Document No.: 0920-M9-3-4-53-1

## Pesi e misure Sistemi di imballaggio

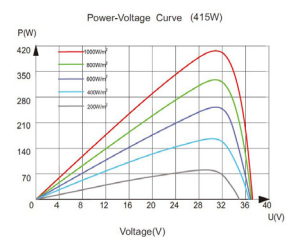
<b>LKW</b>	
Dimensioni pallet (L/W/H)	177/114/125 cm
Peso pallet	ca. 785 kg
Moduli per pallet	36
Moduli per camion	1008

## Spedizione

Dimensioni pallet (L/W/H)	177/114/125 cm
Peso pallet	ca. 785 kg
Moduli per pallet	36
Moduli per contenitore [40' HC]	936



■ Garanzia lineare sul rendimento  
■ Garanzia scaglionata secondo gli standard commerciali



Il vostro rivenditore specializzato:

**Solar Fabrik GmbH**  
Hermann-Niggemann-Str. 7  
63846 Laufach  
Germania

Telefono: +49 (0)6093 20770-0  
Fax: +49 (0)6093 20770-99  
E-Mail: info@solar-fabrik.de  
Internet: [www.solar-fabrik.de](http://www.solar-fabrik.de)

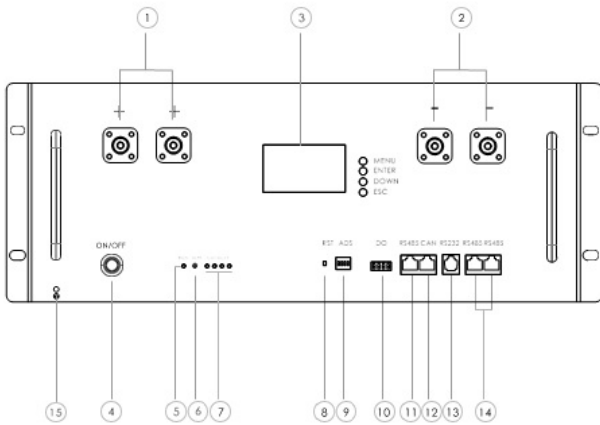
# Battery Pack Parameters

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°C	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°C	
14	Storage Temperature Range	Less than 6 months: -10~35°C	60±25%R.H. at the shipment state
		Less than 3 months: -10~45°C	
		Less than 1 months: -20~55°C	
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