



INV056

# APOLLO MATRIX

5.0S

5KW

## OVERVIEW

Apollo Matrix is an all-in-one solar hybrid inverter combining an inverter charger, an MPPT solar charge controller and a high-speed automatic transfer switch in one enclosure, designed for various applications, including off grid and residential ESS applications, to ensure the most efficient energy consumption even in an extremely complicated system. Its high surge capability makes it capable to deal with the initial currents of the high-demanding appliances, such as air conditioner, water pump, washing machine, freezer etc.

It's capable to expand system capacity up to 45kW with 9 units in parallel and three-phase operation. It supports feeding energy back into the grid for residential ESS application. In an off-grid application, thanks to its power assist and power control function, it works well with poor generators. Apollo Matrix can automatically adjust its charging current by taking loads into account to protect the generator from overload. Once the temporary peak power appears, it can also discharge the battery to supply power to compensate the insufficient part of the generator.

## FEATURES & BENEFITS

- All-in-one design for easy installation
- Transformer based low frequency battery inverter, reliable for heavy loads running
- Maximum self-consumption, no more worries about rising electricity prices
- Peak shaving: discharging batteries at peak hours, to reduce your electricity bills
- "Time of use" function, support 8 different time periods for charging and discharging battery
- AC coupling possibility to update existing solar system to energy storage system
- Compatible with mainstream lithium battery brands
- Feed-in-tariff (optional): feeding overproduced energy to the grid and get paid
- Ensure uninterruptible operation during weak solar generation or grid failure in 0-2ms
- Support max. 9 units paralleled and three-phase application
- Two AC outputs for load management
- Flexible and smart management of various power sources including PV, grid, batteries and generator
- Local monitoring and control on E4 LCD monitor
- Remote monitoring and control on NOVA Web or APP anywhere anytime via Wi-Fi communication

## HYBRID INVERTERS

<b>APOLLO MATRIX</b>		<b>5.0S</b>	
Product Code		INV056	
Power Assist		Yes	
Feedback to Grid		Yes	
AC inputs		Input voltage range:175~265 VAC, Input frequency:45~65Hz	
AC input Current		50A (transfer switch)	
<b>INVERTER</b>			
Nominal battery voltage (V)		48	
Input voltage range (V)		42~68	
Output		Voltage: 220/230/240 VAC $\pm$ 2%, Frequency: 50/60 Hz $\pm$ 0.1%	
Harmonic distortion		<2%	
Power factor		1	
Cont. output power at 25°C (VA)		5000	
Max. output power at 25°C (W)		5000	
Peak power (5 sec) (W)		15000	
Maximum efficiency		96%	
Zero load power (W)		18	
<b>CHARGER</b>			
Charge voltage 'absorption' (VDC)		57,6	
Charge voltage 'float' (VDC)		55,2	
Battery types		AGM / GEL / OPzV / Lead-Carbon / Flooded / Traction / Lithium	
Battery Charge current (A)		70	
Temperature compensation		Yes	
<b>SOLAR CHARGE CONTROLLER</b>			
Max output current (A)		90	
Maximum PV power (W)		6000	
PV open circuit voltage (V)		150	
MPPT voltage range (V)		65~145	
PV short circuit current (A)		54	
Charge voltage 'absorption' (V)		57,6	
Charge voltage 'float' (V)		55,2	
MPPT charger maximum efficiency		98%	
MPPT efficiency		99,50%	
Protection		a) output short circuit, b) overload, c) battery voltage too high, d) battery voltage too low, e) temperature too high, f) input voltage out of range	
<b>GENERAL DATA</b>			
AC Out Current (A)		AC Out1 Current: 50 AC Out2 Current: 32	
Transfer time		<0ms(<15ms in Weak Grid Mode)	
Remote on-off		Yes	
Programmable relay		2x	
Protection		a) output short circuit, b) overload, c) battery voltage too high, d) battery voltage too low, e) temperature too high, f) input voltage out of range, g) input voltage ripple too high, h) Fan block	
ComSync Communication Port		For parallel and three phase operation	
ComMON Communication Port		For remote monitoring and system integration	
Operating temperature range		-20 to +65°C	
Storage temperature range		-40 to +70°C	
Relative humidity in operation		95% without condensation	
Altitude (m)		2000	
<b>MECHANICAL DATA</b>			
Dimension (mm)		570*310*154	
Net Weight (kg)		32	
Cooling		Forced fan	
Protection index		IP21	
<b>STANDARDS</b>			
Safety		EN-IEC 62477-1, EN-IEC 62109-1, EN-IEC 62109-2	
EMC		EN61000-6-1, EN61000-6-2, EN61000-6-3, EN61000-3-11, EN61000-3-12	
Grid Regulation		NRS 097-2-1:2017, NTS 2.1 (A)*, RD 1699*	
Warranty		4 Years + 1 Year*	

\*Add 1 year to your warranty when you link your product to the NOVA App