

Model # APS120K3

Magnizon APS-K3 series solar inverter is a three phase inverter, range from 80KVA to 200KVA. These inverters are smart multifunctional intelligent power supply, which consists of built-in MPPT solar controller, charger, rectifier, inverter, static transfer switch, main control circuit and display alarming circuit. User can set different inverter work mode according to users' actual applications.



Applications:

- Solar power stations
- Home solar power systems
- Industrial Solar power storage
- DC wind turbine stations
- Banking & commercial applications
- Telecom applications

Key features:

- ❖ Pure sine wave output
- ❖ Built-in MPPT Solar controller
- ❖ Adopt 4 layer PCD and SMD technology
- ❖ Can choose the AC charger from front panel
- ❖ **With Two charging mode:** AC charging mode and solar charging mode, solar charging priority
- ❖ **Can Choose Two work mode:** Solar-Grid-Battery, Solar-Battery-Grid, can choose from LCD display
- ❖ **High efficiency IGNT inverter technology:** Advanced 6th generation low-exhaust and big power IGBT with excellent high speed switch features, high voltage feature and large current features. Drives by electric voltage, only need small control power. 6th generation with lower saturation voltage, the inverter has high efficiency, low temperature, high reliability
- ❖ **Intelligent detecting function:** This system microprocessor can continually on-line detect power status, breaker status and all the working status of the circuit.
- ❖ **Excellent load feature:** It is completely capable to load from 0-100% while no need to change to bypass, which make sure the output reliable.
- ❖ **Intelligent communication-URL based remote monitoring and operation:** With RS232 and RS485 standard collocation, optional SNMP and dry contact
- ❖ **Perfect protection:** Input/output over/low voltage protection, input surge protection, phase sequence protection, battery over charge/discharge protection, short circuit protection, over-temperature protection and so on, as well as alarm function.
- ❖ **Selectable battery inspection module:** Can test the single parameter and display on the LCD, battery failure will immediately alarm and inform the administrator.
- ❖ **High-powered dynamic feature:** Adopt kinds of feedback control such as instantaneous control mode and virtual value, not only reach the high dynamic adjustment, but also reduce the output voltage distortion.

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Specifications:

Model	APS120K3
Capacity (KVA)	120KVA
Power (Watts)	96KW
Grid (AC Input)	
Max input current (A)	241
Type	Three Phase (3P+N+G)
Line-Neutral voltage	220/230/240VAC±25% (100/110/120VAC is optional)
line-line voltage	380/400/415VAC±25% (200/208/220VAC is optional)
Input frequency	50/60Hz±5%
Charge voltage	407V±1%
Charge current	ON or OFF, Can adjust through panel switch
PV	
PV1	300VDC~600VDC (15pcs 24vdc solar panel in series, then through combiner box parallel)
PV2	300VDC~600VDC (single group 15pcs 24vdc solar panel in series, or through combiner 2 pcs in parallel)
Charge current	20A (max), need more, can add external 20A charge module
Battery	
Type	Maintenance free lead-acid battery (other type battery need customize)
Battery voltage	360Vdc (2V battery 180pcs in serial or 12V battery 30pcs in serial)
Battery capacity	According to backup time
Battery low voltage protection	>315V
Inverter (Output)	
Inverter output waveform	Pure sine wave, THD<3% (linear load)
Line-Neutral Voltage	220/230/240VAC±2% (100/110/120VAC is optional)
Line-line Voltage	380/400/415VAC±2% (200/208/220VAC is optional)
Frequency	50/60Hz±0.5%
Dynamic feature	Inverter output transient dynamic range less than±5%, recovery time <20mS
Crest factor	03:01
Overload protection	(Inverter output)125% overload, delay 1mins protect, 150% overload, immediate protect
Inverter efficiency	>90% (100% load)
System Parameters	
Transfer time	<0.5ms (inverter--bypass)
Protection	Output short circuit, overload, overvoltage, under voltage, over temperature etc protection, have audible and visual alarm
Display	LCD display input and output voltage, output current, the inverter voltage, frequency, output current, battery voltage, PV voltage, PV charging current, temperature mode, flowcharts, current work status, event record and system information

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Operating environment	Temperature 0-40°C
Relative humidity	30%-95%
Work sequence	Solar-Grid-Battery or Solar –battery-Grid, Can choose one of the mode via LCD panel
Operation altitude (max)	<1000 meters (per increase 100 meters power decrease 1%, at most 4000 meters)
Computer communicate interface	RS232/RS485
Standards	ISO9001:2015, ISO14001:2015, CE/EMS/IEC
Cooling method	force-air cooling
Size W×D×H (unit: mm)	980*800*1800
Weight (kg)	937

Operational Modes:

- ❖ **PV-Grid-Battery:** Magnizon APS-K3 series solar inverter is designed for real-time load sharing function between solar & utility. Solar power priority mode, PV power supply power to inverter via built-in MPPT controller and then the output will be pure sine wave AC power to support load via inverter meanwhile MPPT controller will also charges battery. When solar power is not enough, then utility power will support power to load. If there is no grid power available, then it will uses the battery. In this way, we can maximum use solar power and utility power, hence reduce battery discharge time and extend battery lifespan.
- ❖ **PV-Battery-Grid (Maximum use of solar power under the stable environment of utility power):** Solar power supply power to inverter via MPPT controller and then output pure sine wave AC power to load via inverter, meanwhile charge battery. When the solar power is not enough, to maximum use solar power, the battery will supply power to load. When the battery is discharged t a value, the utility power will supply power to load. The users can maximum use solar power, reduce grid power supply and save electricity.

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