



Sinus A & Series

Uninterruptible Power Systems
On-Line "Double Conversion" Technology
1 phase in-1 phase out, 1kVA to 3kVA



- Online double conversion technology
- Input power factor correction PFC (>0,99)
- Pure sinewave output less than 3% THD
- Wide input voltage / Frequency range
- Smart RS-232 communication port
- Internal SNMP Slot Card Option
- Management software compatible
- Overload & short circuit protection
- Cold start (DC power on)
- Smart battery management
- Compact size, light weight & low noise

SINUS eco SERIES SPECIFICATIONS

MODEL	SES 210	SES 220	SES 230
INPUT			
Power(kVA)	1	2	3
Voltage Range	110VAC - 300VAC (@ 0% to 25% Load) 140VAC - 300VAC (@ 25% to 50% Load) 160VAC - 300VAC (@ 50% to 100% Load)		
Frequency	45Hz - 65Hz		
Power Factor	≥0.99 (@full linear load)		
OUTPUT			
Output Power Factor	0,7		
Voltage	220V / 230V / 240VAC		
Voltage Regulation	<±1% (till low battery warning signal)		
Frequency (Synchronized range)	3Hz or 1Hz (selectable)		
Frequency (Battery Mode)	50 / 60Hz±0.1%		
Harmonic Distortion	<3% (@full linear load), <6% (@full non-linear load)		
Crest Factor	3:1		
Output Waveform	Sinusoidal		
Overload Capacity	100% to 105% : Continuous / 106%-120% : 30 seconds / 121%-150% : 10 seconds / >150% : transfer to bypass		
Line Mode efficiency	±>86%	±>87%	±>88%
Battery Mode efficiency	±>85%	±>86%	±>87%
Transfer Time (AC to DC)	0ms		
Outlets	3pcs IEC320 - C13 (10Amp)	6pcs IEC320 - C13 (10Amp)	6pcs IEC320 - C13 (10Amp)
BATTERY			
Type	Maintenance-free lead acid batteries		
Recharge time (up to 80 %)	5hours		
Voltage	24VDC	48VDC	72VDC
Quantity	2 pcs 12V 7ah	4 pcs 12V 7ah	6 pcs 12V 7ah
Back Up Time	Full Load	3min	
	Half Load	10min	
Cold Start	YES		
DISPLAY			
LED Display	Normal Mode, Battery Mode, Bypass Mode, Self-Test, Weak-Bad Batery, Site Wiring Fault, Fault, Overload, Load/Battery Level		
ALARMS			
Battery	Buzzer Sound once every 1.5secs		
Low Battery	Buzzer Sound once every 0.2secs		
Overload	Buzzer Sound once every 3secs		
Normal alarm	Buzzer Sound once every 3secs		
Fault	Countinous Buzzer Sound		
PROTECTION			
Short Circuit	Bypass Mode: Fuse, Normal Mode: Output Breaker / Electronic Circuit, Battery Mode: Output Breaker / Electronic Circuit		
Battery	Battery Discharge Management		
EPO	UPS shuts down immediately		
Over Temperature	Normal Mode: Transfers to Bypass Mode, Battery Mode: UPS shuts down immediately		
COMMUNICATION			
Interface(Communication Ports)	RS-232		
Monitoring and Management Software	standard		
Options	Dry Contact Board, USB Board, SNMP Card		
ENVIRONMENT			
Temperature	0°C - 40°C		
Humidity	0% - 90% (without condensation)		
Noise Level(1m Distance)	<50dBA		
Protection Class	IP20		
PHYSICAL SPECIFICATIONS			
Net Weight (kg)	12	22	27
Dimensions(mm) WxDxH	144x360x220	152x438x322	190x438x322
STANDARDS			
Standards	EN 62040-1-1 (safety), EN 62040-2(EMC)		